Resource Flows between Agriculture and Non-Agriculture in India, 1950-1970

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While some development economists argue that a progressive decline in the share of agriculture in the national product and the labour force is concomitant to economic growth, others question whether agriculture does at all possess the capacity to surrender its resources, or whether such transfer of resources from agriculture may not blight agricultural and even non-agricultural growth.

This paper attempts to establish the-direction of resource flows between the agricultural and non-agricultural sectors that have actually taken place in India in the 1950s and the 1960s. Section I sets out the concepts used and defines the limits of the paper's focus. Section II presents estimates of such resource flows as have taken place and Section III briefly considers their implications for economic development. Its conclusions are that financial flows into agriculture by way of government expenditure were necessary to create capital-intensive development in agriculture; these, in turn, have led to a savings potential in this sector which yet needs to be tapped.

QUANTITATIVE studies of economic growth have shown that the process of development is accompanied by a progressive decline in agriculture's share of the national product and the labour force. Several writers have commented on the importance of an 'agricultural surplus' for such a structural transformation. The term 'agricultural surplus[1] has been used, however, to denote two concepts: (i) *marked surplus* and (ii) *surplus in investible resources.* The role of the marketed surplus (the physical excess of agricultural output over agriculture's requirements) in the expansion of non-farm output and employment is evident enough. In addition, there has been the view that the agricultural sector should transfer to the non-agricultural sectors the surplus of investible resources generated in agriculture. For instance, Kuznets has said:

> One of the crucial problems of modern economic growth is how to extract from the product of agriculture :i surplus for the financing of capital formation necessary for industrial growth without at the same time brightening the growth of agriculture, under conditions where no easy *quid pro quo* for the surplus is available in the country [Kuynets (1961)].

However there is no *a priori* reason to expect that, at the relevant stages of development, agriculture will possess the capacity to loan or surrender resources. The possibility that the transfer of resources from agriculture may, indeed, blight agricultural growth has also been sometimes suggested, [Oshima (1965), Nicholls (1963) and Vakil and Brahmananda (1956)].

Ishikawa [1967] has argued even more explicitly that, at least in the case of contemporary Asian developing countries, significant resource flows into agriculture are likely to be necessary to finance capital-intensive investments needed to introduce technical change in agriculture and hence increase agricultural productivity and output. Similarly Mellor, who argues that in the long run "the process of economic transformation will proceed more rapidy if a net transfer of income and savings can be made from the agricultural sector to the other sectors of the economy", concedes that "Although a relative decline of agriculture and the growth of the non-agricultural sector is inevitable in development, it does not follow that maximising the short-run outflow of capital from agriculture will maximise economic development. Development of agriculture can materially contribute to overall economic development and it requires a major in Mow of certain forms of capital". (See Mellor (1971) and Mellor (1967)].

In fact, it has been argued that, in certain context, resource transfers from agriculture may be injurious even to non-agricultural growth. [Mundle (1977a)]. Briefly, the thesis is that the 'drain' of resources from agricultuie hampers capitalist development in agriculture and the differentiation of the peasantry, limiting thereby the growth of the market for industrial goods in the agricultural sector.

(Hourly, therefore, there are several dimensions to intersectoral resource (lows. Our locus is limited. The objective of this paper is to establish the direction of resource Hows between agriculture and non-agriculture in the 1950s and the 1960s. There has been only one previous attempt — that of Mundle [1977] — to measure the intersectoral resource flows over this period, Mundle's method of estimation, the data used and hence his results have been questioned by us. [Mody (1979) and (1980)]. Here we present estimates based on an alternative methodology. The estimates are in a disaggregated form since, in the analysis of the resource flows, it seems more meaningful to discuss the various components rather than the aggregate.

Section I of the paper briefly outlines the concepts used in this paper. Section 11 contains the estimates of the resource flows. The implications of the intersectoral resource flows for the agricultural and non-agricultural sectors are discussed in the concluding section.

I

Before proceeding to the empirical analyj s, it is necessary to clarify certain conceptual categories. We discuss below the issues relating to:

(1) the demarcation of the agricultural sector;
(2) the alternative measures cf intersectoral resource Mows;
(3) the incorporation of the terms of trade changes into resource flow measures.

(1) *Defining the agricultural sector:*

Agricultural households (cultivating as well as wage-earning) are typically also engaged in non-agricultural production activities within the household, The segregation of the agricultural production activities and the non-agricultural production activities of a household can only be an artifical exercise. For this reason, especially in the literature on Japan the agricultural sector is often regarded as all-inclusive of the diverse activities of the 'agricultural' households, and is referred to as the 'farm' sector. Thus, the agricultural sector comprises all farm households. This concept of the 'agricultural' sector or the 'farm' sector (with a qualification discussed in the next paragraph) has been adopted

TABLE 1: CHANGE IN FINANCIAL ASSETS (NOT INCLUDING CURRENCY), CHANGE IN FINANCIAL LIABILITIES, NET INFLOW OF CAPITAL TRANSFERS AND NET INFLOW OF FUNDS INTO THE AGRICULTURAL SECTOR

(*Rs crore*)

	Change in Financial Assets (not including currency) (1)	Change in Financial Liabilities (2)	Net Inflow of Capital Transfers (3)	Net Inflow of Funds into Agricultural Sector (4) = (1)-(2)-(3)
	Self-Employed Farmers			
1962	63.00	128.01	22.73	87.74
1968-69	26.86	500.22	—3.36	470.00
1969-70	461.53	641.64	—41.28	138.83
1970-71	148.73	640.62	—64.42	429.49
	Agricultural Wage Earners			
1962	7.1	44.26	1.87	46.13
1968-69	17.26	198.48	7.26	198.48
1969-70	15.75	150.72	—	134.97
1970-71	11.19	188.05	24.63	201.49
	All Farm Sector Households			
1962	63.00	172.27	24.60	133.87
1968-69	34.12	698.70	3.90	668.48
1969-70	477.28	792.36	—11.28	273.80
1970-71	157.92	828.67	—39.79	630.96

Notes : (I) The estimate of the change in financial assets of agricultural wage earners was not available for 1962. It is assumed to be negligible in the calculations.

(2) The estimate for 1968-69,1969-70,1970-71 are based on a survey conducted over three years. The large change in the financial assets holding in the second year of the survey is accounted for by a sharp rise in deposits (in commercial banks, co-operative societies *etc).* According to the Survey report : "This could be due to some reporting errors or it could also be that rural household decided to keep larger amounts as deposits with banks in that year". NCAER (1975), p 59.

Source. National Council of Applied Economic Research (1965) : "All India Rural Household Survey", Volume II, and National Council of Applied Economic Research (1975) : Changes in Rural Income in India, 1968-69,1969-70, 1970-71.

TABLE 2: CHANGES IN FINANCIAL ASSETS (INCLUSIVE OF CURRENCY), CHANGES IN FINANCIAL LIABILITIES, NET INFLOW OF CAPITAL TRANSFERS AND NET INFLOW OF FUNDS INTO THE AGRICULTURAL SECTOR

(*Rs crore*)

	Change in Financial Assets (inclusive of of currency)	Change in Financial Liabilities	Net Inflow of Capital Transfers	Net Inflow of Funds into the Agricultural Sector
	All Farm Households			
1962	102.30 (39.30)	172.27	24.60	94.57
1968-69	48.74 (19.88)	698.70	3.90	653.96
1969-70	681.82 (220.29)	792.36	—41.28	69.26
1970-71	227.60 (80.87)	828.67	—39.79	561.28

Notes : (1) Figures in parenthesis are not acquisition of currency holdings.

(2) As in Table 1, Net Inflow of Funds into the Agricultural sector=Change in Financial Assets-Change in Financial Liabilities-Net Inflow of Capital Transfers.

Source : Same as Table 1 : for adjustment made for currency holdings see text.

in our empirical estimates. It should be noted that the above demarcation of the agricultural sector leads neither to a purely geographical division (urban-rural) nor to a purely industrial division (agricultural production non-agricultural production).

By implication, the government belongs to the non-agricultural sector. The tax paid by the farm households is, therefore, an outflow of resources which contributes to the funds at the command of the government. The government, however, uses a part of its funds for expenditure which directly benefits farm households — such as expenditure on irrigation projects, extension services, etc. Though this expenditure does not strictly flow into farm *households,* we consider it a flow of resources into agriculture.

(2) Alternative approaches to resource flow measurement ;

Two approaches have been followed in measuring resource flows between agriculture and non-agriculture: the balance of trade (or the commodity-surplus) approach and the savings-investment approach.

The resource transfer from agriculture measured by the balance of commodity trade account [R (I)] is:

$$R(I) \quad E - M \qquad (1)$$

where E is agriculture's export of goods and non-factor services and M is agriculture's corresponding import. The trade balance is financed by a net flow of factor service payment, unilateral transfers and the change in financial assets, i e,

E-M Net factor service payments 4- Net unilateral transfers + Net change in financial assets (2)

According to the savings-investment account [R (II)], the resource transfer from agriculture is equal to the net unilateral transfers from agriculture plus the net increase in the financial assets of the agricultural sector.

The difference between the two accounts, therefore, clearly lies in the inclusion or non-inclusion of the inter-sectoral flow of factor service payments. We have followed the savings-investment approach. The Hows on government account and on private account have been computed separately. According to the concepts outlined above, the flows on government account correspond almost entirely to unilateral transfers. It should be noted that our estimate of resource outflow from agriculture, on government account, includes the direct as well as the indirect tax burden of the agri-eultural sector. Indirect taxes affect relative prices and, therefore, do not strictly form a part of the unilateral transfers defined in equation 2; rather the resource flows on account of indirect tax changes are reflected in terms of trade changes (see below). However, since the terms of trade changes capture only the effect of *changes* in indirect taxation and since indirect tax flows form an important part of the flows on government account, we have thought it correct to show it as a unilateral transfer on

TABLE 3 : NET INFLOW OF FUNDS INTO THE AGRICULTURAL SECTOR AS A PROPORTION OF PRIVATE GROSS DOMESTIC CAPITAL FORMATION IN AGRICULTURE

(*Rs crore*)

	Net Inflow of Funds into Agricultural Sector	Private Gross Domestic Capital Formation in Agriculture		(1)÷(2) Per Cent	(1)÷(3) Per Cent
		CSO Estimate	NCAER Estimate		
	(1)	(2)	(3)	(4)	(5)
1962	94.57	222	582	42.4	16.3
1968-69	653.86	652	911	100.3	69.5
1969-70	69.26	787	1052	8.8	6.6
1970-71	561.28	935	1613	60.0	34.8

Notes : 1) Net Inflow of funds into the agricultural sector is from Table 2.
2) The CSO estimate of capial formation for 1962 is an average of the estimates for 1961-62 and 1962-63.
3) For 1962, the NCAER estimate of GDCF in agriculture was not available. The estimate shown in the Table was arrived at by multiplying the gross capital formation in the rural sector by the ratio of the net capital formation in the households of self-employed farmers to the net capital formation in the rural sector. The capital formation in agricultural labour households was assumed to be negligible. For the other years estimates of GDCF of all farm households was available.

Source : Column (1) from Table 2; Column (2) from CSO, National Account Statistics; and Column (3) from same as Table 1.

TABLE 4 : INCREASES IN ASSETS AND LIABILITIES OF FARM HOUSEHOLDS AND ENTIRE HOUSEHOLD SECTOR

(*Rs crore*)

	Increases in Financial Liabilities of Farm Households	Increase in Financial Liabilities of Entire Household Sector	Increase in Financial Assets of Farm Households	Increases in Financial Assets of Entire Household Sector
	(ECAER)	(RBI)	(NCAER)	(RBI)
	(1)	(2)	(3)	(4)
1962	172.27	181.25	102.3	693.8
1968-69	698.70	568.8	48.74	1356.6
1969-70	792.36	695.3	681.82	1530.5
1970-71	878.67	574.3	227.6	1932.2

Note : The RBI estimates for 1962 are averages of the estimates for 1961-62 and 1962-63.

Sources : Columns (1) and (3) from Table 2; Columns (2) and (4) from *Reserve Bank of India Bulletins*, March 1967, July 1969, February 1972, May 1973 and August 1975.

government account. The flows on private account correspond to the net change in financial assets plus the residual unilateral transfers.

The reasons for not including factor income payments have been discussed by us elsewhere, [Mody (1979) and Mody (1980)]. However, even if a case can be made for including inter-sectoral factor income flows, it does not appear that our conclusion that resource flows have been into the agricultural sector will be altered. There exists extremely limited evidence on intersectoral factor payments. Ishikawa [1967] finds that, in 1931-32. there was a net inflow of factor incomes into the farm sector. Moreover, the net factor income inflow into the farm sector in 1951-52 formed only 8 per cent of the net resource flow (measured by the balance of trade approach) into the farm sector. There does not seem reason to suggest that, since the early 1950s, the direction of net factor income flows has been reversed, or that the net factor income flow has become a significant component of the total net resource flows.

(3) Terms of trade changes and resource transfers:

Both the accounts discussed above are valued at current prices, and so record only the visible resource transfers. The effect of the agricultural non-agricultural terms of trade are not captured by these accounts. A change in the terms of trade against agriculture implies a forced income transfer from agriculture; conversely, a term of trade change in favour of agriculture results in a rise in its real income. Hence the estimates of the intersectoral terms of trade are also presented.

As discussed above, we give in this section:

(1) the capital flows on private account;
(2) the flows on the government account;
(3) the estimates of terms of trade

(I) Capital flows on private account:

Changes in financial assets and liabilities are flow variables. They may be estimated indirectly by finding the difference between the relevant stocks at two points of time, or directly by tracking the actual flows over the time period. The National Council of Applied Economic Research (NCAER), which has conducted over the sixties a series of household surveys on rural income, savings, and investment, has followed the latter procedure. The Reserve Bank of India IRIJP. however, estimates in its decennial household surveys the values of financial stocks as well. The direction and magnitude of the flow of funds between the agricultural and the non-agricultural sectors are discussed on the basis of the estimates of these two agencies.

Capital flows 1902 1971

NCAER

The NCAER categories corresponding to the farm sector are those 'self-employed in agricultural and allied pursuits' and 'agricultural wage earners'. The changes in assets and liabilities and the net inflow of capital transfers with respect to the two groups of households as well as all farm households are shown in Table 1. The financial assets covered are: deposits with commercial banks, co-operatives and companies; provident fund contributions; insurance premia; small savings instruments; and shares and securities of companies, co-operatives, the government and the Unit Trust. It will be noticed that all these financial *assets* represent claims on the non-agricultural sector. While no breakdown of financial liabilities is available, it is assumed that intra-farm sectoral borrowings are not included in them.

The figures shown in Table 1 seem to indicate that there has been a net resource flow into the farm households

TABLE 5 : PROPORTION OF FINANCIAL ASSETS AND LIABILITIES OF CULTIVATORS AND AGRICULTURAL LABOURERS

(per cent)

	Proportion Held by Cultivators	Proportion Held by Agricultural Labourers	All Farm Households
Financial Assets	97.8	2.2	100
Financial Liabilities	95.0	5.0	100

Source : Reserve Bank of India (1977) : All India Debt and Investment Survey, 1971-72

during the 1960s, These figures, however, need an important qualification. The changes in financial assets do not include changes in currency holdings. Since currency stocks held by the farm households represent a claim on the non-agricultural sector, additions to currency holdings by the farm households represent a resource flow to the non-agricultural sector. The RBI estimates for entire household sector show that the currency holdings of this sector have been increasing during the 1960s.[1] Presumably, therefore, the currency holdings of the farm households have also been increasing. There is no clear basis for the allocation of the household sector's addition to currency holdings between its agricultural and non-agricultural components. For 1962, however, the NCAER has estimated, on the basis of assumptions not clearly spelt out, that savings in the form of increase in currency stock constituted about 30 per cent of the change in the financial assets of the rural sector.[2] If this proportion is assumed to hold good for the farm households for 1962 as well as for the other years, the agricultural sector is still a deficit sector in all the four years (see Table 2).[6]

The significance of the inflows may be gauged by comparing them with the private capital formation in agriculture. Estimates of private capital formation in agriculture differ widely. The CSO and NCAER estimates of private capital formation and the value of the net inflow of funds, adjusted for changes in currency holdings, are presented in Table 3. The net inflows form a very large proportion of the CSO estimates of capital formation, except in 1969-70. In fact, in 1968-69, the inflows exceed capital formation, indicating the possibility of negative savings by the farm households. The inflows are a smaller but significant proportion of the NCAER estimates of capital formation.

There is reason, however, to suspect the NCAER estimates of financial liabilities. In Table 4 are shown the increases in assets and liabilities of the farm households as estimated by the NCAER, and the increase in assets and liabilities *of* the entire household sector as estimated by the RBI The NCAER estimates, as pointed out above, are based on household sample surveys. The RBI estimates of the household sector's assets and liabilities are derived from a number of sources, which include RBI surveys of the deposits and advances of commercial banks, statistical tables relating to the Co-operative Movement in India, RBI studies on financial and investment companies, combined finance and revenue accounts of the Central and state governments, etc. By difinition, farm households are a part of the household sector. Table 4, however, shows an odd relationship, *vis,* that the increase in liabilities of the farm households exceeds the increase in liabilities of the entire household sector in some years. If true, this would imply a large flow of funds — from the non-agricultural component of the household sector to farm households. There is no evidence of this. The basic raw materials for the RSI estimates are what Rudra describes as statistics of Type 1, i e, statistics which are "the result of actual direct measure, there being no approximations involved, whether of the random variety or of any of the non-random varieties" [Rudra (1972)]. Subjectively assumed allocation and blowing-up ratios are of course, liable to introduce errors in the RBI estimates [Rudra (1972)]. These errors cannot, however, explain the NCAER eetimates of increase in the liabilities of the farm households exceeding the RBI estimates of increase in the. liabilities of the entire household sector. It appears, therefore, that the NCAER has overestimated the borrowings of the farm households. On the other hand, the increases in assets of tike farm households as estabasted by the NCAER are, as they should be, lower than the increases in assets of the household sector (see Table 4). While this does not rule out the possibility of overestimation or underestimation of the NCAER estimates of changes in financial assets, the chances are that the errors are small. We *may* infer, therefore, that, since the NCAER has apparently overestimated the increase in liabilities and since the margin of error in the case of the increase in assets is small, the NCAER date exaggerate the net inflows into the agricultural sector. The RBI Debt and Investment Survey data, discussed below, confirm this overestimation. but still show a net inflow of funds into the agricultural sector.

RBI DEBT AND INVESTMENT SURVEYS

The RBI Debt and Investment Surveys provide more or less comparable data on the financial assets and liabilities of rural households for the years 1961-62 and 1971-72. The rural households have been classified as cultivators and non-cultivators, With the non-cultivators comprising agricultural labourers, artisans, professionals, etc. According to this classification, the categories corresponding to farm-sector households arc cultivator households and agricultural labour households. The assets and liabilities of the agricultural labour households have, however, been separately tabulated only for 1971-72. For this reason, the analysis below is restricted to cultivators. This limitation is unlikely to bias our results. For, *as* may be seen from Table 5, in 1971, the financial assets and liabilities of the agricultural labour households formed but a miniscule proportion of the financial assets and liabilities of farm households.[5]

We discuss below first, the level and pattern of financial liabilities and assets, and then, the direction and magnitude of the capital flows on tha private account

(a) *Liabilities :* The agencies supplying credit to rural households have been classified into 11 categories : (1) government departments! (2) co-operative institutions, (3) commercial banks, (4) insurance banks, (3) provident fund bodies, (6) professional moneylenders, *{7)* agricultural moneylender,. (8) landlords, (?) traders, (10) relatives and friends, and (11) others.

All borrowings from government through various departments and through the Khadi and Village Industries board were classified under 'Government'. Borrowings from different types of co-operative institutions such as primary credit societies, marketing societies, central banks and land development banks are Included under 'co-operatives''

TABLE 6 : CASH DEBT OWED BY CULTIVATORS TO DIFFERENT CREDIT AGENCIES (SURVEY ESTIMATES)

Credit Agency	Proportion of Households Reporting Cash Debt Per Cent		Proportion of Debt Owed to Different Credit Agencies Per Cent		Debt Owed to Different Credit Agencies (Rs crore)	
	1962	1971	1962	1971	1962	1971
I (1) Government	6.4	4.3	5.5	7.1	131.2	234
(2) Co-operatives	12.2	9.8	9.9	22.0	236.3	724
(3) Commercial Bank	0.4	0.5	0.4	2.4	9.0	79
(4) Insurance	NA	Neg	NA	0.1	NA	3
(5) Provident Fund	NA	0.1	NA	0.1	NA	3
Total from the external modern sector			15.7	31.7	376.5	1043
II (1) Professional Moneylender	12.1	6.8	14.9	13.1	354.2	431
(2) Trader	7.9	5.2	7.2	8.4	171.9	276
(3) Others	14.6	1.5	7.7	2.6	182.1	86
Total from the external traditional sector			29.8	24.1	708.2	793
III (1) Landlord	0.9	4.5	0.9	8.1	20.2	266
(2) Agricultural monylender	35.0	11.5	47.1	23.0	1120.6	756
(3) Relatives and friends	9.5	8.8	6.4	13.1	151.9	431
Total from internal sources			54.4	44.2	1292.7	1453
Total (I+II+III)	66.7	44.4	100	100	2377.4	3289

Source : Reserve Bank of India (1977) : 'Indebtedness of Rural Households and Availability of Institutional Finance'.

TABLE 7 : PROPORTION OF HOUSEHOLDS REPORTING DEBT ACCORDING TO CREDIT AGENCY AND ASSET SIZE GROUP

Asset Size Group (Rs)	Proportion of Households in the Size Group Per Cent	Proportion of Households Reporting Debt from : Co-operatives	Landlords	Agricultural Monylenders
			Per Cent	
		June **1962**		
0-500	6.5	3.4	2.0	38.6
-1000	9.7	4.9	1.3	37.0
-2500	24.8	8.3	0.9	35.6
-5000	23.3	12.4	0.6	35.0
-10000	18.6	16.0	0.7	34.5
-20000	10.7	19.9	0.8	33.4
20000 and above	6.4	23.3	0.8	29.4
All asset groups	100	12.2	0.9	35.0
		June **1971**		
0-500	2.0	1.8	8.4	10.3
-1000	3.7	1.8	6.9	13.0
-2500	12.8	3.4	6.6	12.5
-5000	18.2	6.5	4.9	12.1
-10000	23.1	8.6	4.2	11.8
-15000	12.7	11.4	3.7	11.5
-20000	7.6	12.9	3.5	10.6
-30000	8.3	16.1	3.1	10.9
-50000	6.4	19.1	2.8	10.1
-100000	3.9	21.4	2.8	8.6
1 lakh and above	1.3	23.2	2.4	6.5
All asset groups	100	9.8	4.5	11.5

Source : Reserve Bank of India (1965): All-India Rural Debt and Investment Survey, 1961-62, (mimeo); and RBI (1977); All India Debt and Investment Survey.

An agriculturist moneylender was defined as one whose income was derived mainly from agriculture and allied activities and to whom money-lending was a subsidiary source of income. On the other hand, the professional moneylender was one for whom moneylending was the principal source of income. Borrowings from persons who were, in the main, traders Were treated as: borrowings from traders. Loans from landlords to their own tenants were classified under the head 'landlord'. Loans advanced by landlords to persons other than their own tenants were classified under 'agriculturist moneylender', 'professional moneylender', etc, depending upon the occupation of the landowner' , Loans from relatives and friends related only to interest-free leans given by them; loans bearing interest from a relative or friend were classified as from one or the, other appropriate agency according to the business of, the relative or friend. The agency 'others' was a residual category arid included agencies not specified and also covered unpaid bills of grocers, other shopkeepers etc. (RBI (1977)1.

in the following analysis, we distinguish between the intrasectoral flow of funds and the intersectoral flow of funds. For this purpose, it is necessary to distinguish between the internal *und* external sources of credit to the cultivator households. The external sources have been further classified into the modern financial sector and the traditional sector. The credit agencies which match our classification are :

External'-Modern Sector : government, co-operatives, commercial banks. Insurance and provident fund bodies;

External- Traditional Sector: professional moneylenders, traders, and others;

haemal Sources : agriculturist moneylender, landlords, and relatives and Mends.

It will, of course, be noticed that 'others' and 'relatives and friends' are ambiguous categories. For want of suitable indicators, however, it has not been possible to split the credit from these sources.

PATTERN OF LIABILITIES, 1962-71

Between 1962 and 1971, there has been a shift in sources of credit to cultivator households. The proportion of debt owed to the modern financial sector has risen from 15.7 per cent to 31.7 per cent (see Table 6). While the share of the traditional external sector has fallen slightly from 29.8 per cent to 24.1 per cent, there has been a perceptible decline in the importance of the internal sources of credit, their share in the debt oustanding of cultivators falling- from 54.4 per cent to 14.2 per cent The increased share of the modern financial sector is a reflec-

TABLE 8 : PROPORTION OF OUTSTANDING CREDIT ACCORDING TO ASSET SIZE-GROUP AND CREDIT AGENCY

Asset Size Group Rs	Proportion of Households in Asset Size-Group Per Cent	Proportion of Credit Obtained from: Co-operatives (Per Cent)	Landlords (Per Cent)	Agricultural Moneylenders (Per Cent)
		June 1962		
0-500	6.5	2.8	1.5	59.4
-1000	9.7	2.9	1.1	57.0
-2500	24.8	5.4	0.9	51.8
-5000	23.3	3.4	0.6	48.5
-10000	18.6	9.5	0.8	48.7
-20000	10.7	11.2	1.1	45.2
20000 and above	6.4	15.1	0.8	41.5
All asset groups	100	9.9	0.9	47.1
		June 1971		
0-500	2.0	2.5	17.8	34.4
-1000	3.7	4.2	18.9	34.4
-2500	12.8	5.0	15.8	28.7
-5000	18.2	8.6	11.0	29.0
-10000	23.1	13.4	9.5	26.0
-15000	12.7	18.3	8.4	27.5
-20000	7.6	21.4	7.6	23.3
-30000	8.3	26.9	6.3	22.0
-50000	6.4	28.6	5.5	20.9
-100000	3.9	33.1	7.0	16.2
1 lakh and above	1.3	34.3	5.4	14.9
All asset groups	100	22.0	8.1	23.0

Source : Same as Table 7.

tion largely of the growth in importance of the co-operatives as a source of credit. Among the internal credit agencies, the decline in the share of the agricultural moneylender ha: been the most pronounced. Although the share of the internal sources in the total credit has declined, the share of the landlords and of relatives and friends has risen.

In the case of landlords and agricultural moneylenders the changed share in the volume of credit is reflected also in the proportion of households reporting credit from these agencies. Thus, in 1962 35 per cent of the households reported cash debt to agricultural moneylenders. In 1971, the proportion had fallen to 11.5 per cent. On the other hand, the proportion of households reporting cash debt to landlord, rose from 0.9 per cent to 4.5 per cent between 1962 and 1971. The proportion of households reporting debt to co-operatives has, however, fallen slightly from 12,2 per cent to 9.8 per cent — despite the growth in the share of credit from the co-operatives. This picture is borne out even if we examine the asset-groupwise changes in the proportion of households reporting debt to co-operatives, landlords, and agricultural moneylenders (see Table 7).[6]

It appears, therefore, that the growth in importance of co-operative credit has not been accompanied by a larger proportion of the cultivator households benefiting from it. Rather, there has been a shift in the composition of credit of the larger asset size-groups to a greater reliance on co-operative credit and a reduced dependence on agricultural moneylenders (see Table 8). There has been a shift also in the case of all asset groups to increased dependence on credit from landlords (see Table 8). This, however, is an intrasectoral shift which does not affect the intersectoral flow of funds.

LEVEL OF LIABILITIES 1962-1971

Table 6 gives the survey estimates of the debt owed by cultivator households to different credit agencies. From these estimates it *is* possible to obtain a measure of the change in liabilities between 1962 and 1971. For measuring capital flows it is necessary to guard against differential baises in the estimates at the two time points. There is no way to cross-checking the level of debt owed to all the different credit agencies. Some rough checks have been possible only in the case of co-operative and commercial bank credit.

The entire credit, extended by the Primary Agricultural Credit Societies (PACSs) and the Primary Land Development Banks (PLDBs) and the credit extended by Central. Land Development Banks (CLDBs) to 'individuals', may be taken to be the direct finance of the co-operatives to cultivator households. The co-operative loans outstanding under these three categories (as shown in the accounts of the co-operatives) are shown in Table 9. The 1962 survey estimate is quite close to the figure derived from the accounts of the co-operatives but the 1971 estimate is almost half of the loans outstanding according to the accounts.

Similarly, the commercial bank direct finance to agriculture in 3961 is, in close agreement with the survey estimate, while the 1971 survey has underestimated the advances of commercial banks (see Table 9).

For measuring, therefore, the change in liabilities of the cultivator households the actual estimates, i e, as given in their accounts, have been used for the co-operatives and the commercial banks.[7] In the case of all other credit agencies, the survey estimates have been used. The changes in liabilities are shown in Table 10.

Financial Assets: Financial assets have been broadly classified in the Debt and Investment Surveys as deposits, shares and cash dues receivable. The deposits include : (1) deposits with commercial banks, (2) deposits in post offices, (3) holdings of government securities, (4) National Savings certificates, (5) Treasury Savings Deposits certificates, (6) deposits with co-operative institutions, (7) cash certificates of commercial banks, (8) deposits with non-banking companies, (9) deposits with individuals, (10) insurance premia, (11) provident fund contributions, (12) annuity deposits and (13) chit funds. The investment in shares comprises: (1) shares of co-operative institutions, (2) commercial bank shares, (3) company shares and (4) units of the Unit Trust of India. Other claims of the households which do not conform to the categories enumerated, but which are repayable in cash are classified as 'cash dues'.

The coverage of the financial assets was widened for the 1971 survey by including items such as annuity deposits, deposits with non-banking companies, insurance premia, chit funds, and units of the Unit Trust of India, These items accounted for 17 per cent of the financial assets in the form of deposits and shares (i c, financial assets excluding cash dues) in 1971 |Kelkar and Subramaniam (1977)],

Given the form of data availability, a clear distinction cannot be made between financial assets representing claims within the agricultural sector and

TABLE 9 : CO-OPERATIVE AND COMMERCIAL BANK DIRECT FINANCE TO AGRICULTURE

(*Rs crores*)

Co-operative Direct Finance to Agriculture : Loans Outstanding on June 30						Commercial Bank Direct Finance to Agriculture : Loans Outstanding		
	PACSs	PLDB	CLDB	Total	Survey Estimate		Actual	Survey Estimate
1960	177	19	10	206		March 1956	15.6	
1961	218	24	13	255		April 1961	5.5	6.0
1962	247	35	14	296	236	March 1966	4.6	
1963	294	51	19	364		June 1967	9.5	
1964	343	69	23	427		June 1968	9.5	
1965	361	93	28	282		June 1970	240.4	
1966	427	124	42	593		June 1971	263.3	79.0
1967	477	155	55	687				
1968	534	204	79	817				
1969	619	285	117	1021				
1970	711	366	146	1223				
1971	784	448	187	1419	724			
1972	857	563	223	1643				

Note .The survey estimate of commercial bank direct finance for 1961 refers to June 1961 and not April 1961.
Sources : 1) RBI ; Statistical Tables Relating to the Co-operative Movement in India; various issues.
2) RBI : Statistical Tables Relating to Banking in India; various issues.

TABLE 10: CHANGE IN LIABILITIES OF THE FARM HOUSEHOLDS 1962-1971

(*Rs crores*)

Changes in Debt Outstanding to:	
I External credit agencies	
(1) modern financial sector	1486
(2) traditional sector	85
(3)	
II Internal credit agencies	6160
All credit agencies	1731

Source : See Text.

those representing claims on the non-agricultural sector. In a rough way, however, we can say that 'cash dues', deposits with individuals' (which consist largely of deposits with moneylenders)[8], and 'other deposits' represent financial claims within the agricultural sector and on the traditional-external sector (professional moneylenders, traders etc).. Of these, the most important is 'cash dues', as may be seen from Table 11.

Cash dues receivable have been underestimated in both 1962 and 1977, since in both years the volume of cash dues receivable is shown to be lower than the credit from agricultural sources (see Tables 6 and 11). Moreover, the underestimation has increased in 1971. According to the survey estimates, the absolute amount of gash dues receivable by cultivator households has declined between 1962 and 1971. The marked decline both-in the proportion of households reporting dues receivable as well as. the decline in the amount of dues receivable has been, attributed to the statutory restrietions on moneylendlna business [Kelkar and Supramaniam (1977)]. The decline in the importance of agricultural moneylenders was observed above. It was pointed out, however, that credit from. landlords and relatives and friends had increased. The net effect of these movements has been an increase in the level of credit from within agricultural sources to cultivator households. One would also, therefore, expect cash dues receivable by cultivator households to go up.

Further, according to the survey estimates, the proportion of households reporting shares in co-operative institutions has come down from 24.4, per cent in 1062 to 17.7-per .cent in 1971, The proportion of households reporting deposits in co-operative societies and banks has also come down from 1.5 per cent to 0.5 per cent over the same: period. In view of the growth of co-operative institutions during this period, it is unlikely that there would have been such a. significant, decline in the proportion of households with shares and deposits in co-operative institutions. There has been some., underreporting against. these items. In Table 12, the diposits in the FACSs and the shares held by the members of the PACSs are compared with the . survey estimates .of shares and deposits in co-operative institutions., ; In bath 3962- and 1971 the financial claims of the, cultivator househoMs on the ...co-operatives .was .underestimated; the extent of underestimation was however, much more in 1971.

. And finally, no estimate, of currency holdings is available, from the Debt and Investment Surveys

In view therefore of the differences in coverage and the shortcomings discursed above, 'the following adjustments have been made in calculating the change in financial assets between 1962 und 1971:

(1.) It is assumed that the assets which have been covered only in 1971 were held in 1962 in the same proportion to total deposits and shares as in 1971.

(2) The increase in cash dues receivable has been assumed to be equal to the increase in the credit originating in the agricultural sector i e, the credit from agricultural moneylenders, landlords and relatives and friends.

(3) The increase in deposits and shares in co-operative institutions has been assumed to be equal to the increase in deposits and shares held bv members in the PACSs, as reported in the Statistical Tables Relating to the Co-operative Movement in India.

(4) The increase in currency holding has, as above, been assumed to be" 30 per cent of the increase in the financial assets of the modern financial' sector, i e, shares find deposits, excluding 'deposits with individuals' and 'other deposits'.

The change in financial assets calculated on the basis of these assumptions is given in Table 13.

The estimates of the changes in financial assets and liabilities of cultivator households indicate that there has been a net inflow of the order of Rs 829 crore into the farm households between 1962 and 1971 (Table 13). This works out to 16.7 per cent of the CSO's value of private capital formation in agriculture between 1962 and 1971.[9]

Capital Flows : 7952-/962

The basis for estimating the private capital flows during the 1950s is work Following the procedure above, it is possible, however, to draw .rough conclusion about the, direction of the caj?ital flows. Ishikawa has estimated that

TABLE 11 : PROPORTION OF HOUSEHOLDS REPORTING AND AGGREGATE VALUE OF DEPOSITS, SHARES AND CASH DUES (SURVEY ESTIMATES)

(*Rs crores*)

Financial Assets		1962	1971
Deposits	P	NA	6.3
of which	T	127.3	508.2
Deposits in commercial banks	P	0.2	0.6
	T	28.6	104.7
Provident fund	P	NA	1.7
	T		132.5
Insurance premia	P	NA	1.2
	T		92.9
Deposits in post offices	P	0.9	2.0
	T	33.7	69.9
Deposits with individuals	P	Neg	0.6
	T	4.5	24.9
Deposits with 'others'	P	1.1	0.4
	T	32.2	34.7
Deposits in co-operative societies and banks	P	1.5	0.5
	T	10.1	13.3
Shares	P	24.4	17.7
of which :	T	63.88	129.6
Co-operatives	P	24.3	17.6
	T	58.3	121.5
	P	9.7	3.6
Cash dues	T	446.1	273.4
of which :	P	2.2	1.0
Promissory notes	T	134.3	87.7
Unsufructuary mortgages	P	3.6	0.8
of real estate		151.4	61.7
Total		637.3	911.2

Notes : P : Proportion of Households reporting
T : Aggregate value in Rs crores

Sources: G A Kelkar and S Subramaniam (1977) : "Pattern of Assets of Rural Households, 1961-71", RBI Occasional Papers, Volume No 1, June; and N S Krishnamurthy (1977); "Financial Assets of Rural Households", RBI Occasional Papers, Volume 2, No 1, June.

the debt outstanding of the farm sector in 1952 was about Rs 914 crore. The debt outstanding in 1962 was Rs 2,377 crore (see Table 6). The outstanding debt grew, therefore, between 1952 and 1962 by Rs 1,463 crore. We have little idea of the financial, assets (not including currency) held by the i arm sector households in 1962 aimmnting to about Rs 650 crore (see table 11). Even if we make the extreme assumption that the farm sector held no financial assets in 1952, the increase in financial assets (excluding currency) between 1952 and 1962 would be of the order of Rs 650 crore. On-any reasonable assumption about the increase in currency holdings, it appears, there forty that there WAS a net inflow of private capital into the farm sector between 1952 and 1962.. 1962.

In conclusion, both the NCAER's surveys of rural income, savings and investment and t he RRI's Debt and Investment Survey indicates that there was a net inflow of private capital into the farm sector between 1962 and 1971. This inflow measured as a proportion of 'private capital formation in agriculture is by no means insignificant. Further, some tentative estimates for the 1950s also show a net inflow of private capital into the farm sector during this period

(2) Resource flows on government account

There exists considerable literature on resource flows on government- account, Attention has, however, for the most part, been focused on the flow from the agricultural *sector* to the government in the form pf taxes. There have been only a few attempts at measuring the net flow on government acoount The reason proobably is that the estimation of those flows poses some problem. The difficulty arises in determining the sectoral incidence of indirect taxes (and subsidier) and public expenditure. There sectorial allocation of public expenditure on public goods, such as education, health, etc, is especially difficult to decide. The earlier studies on the net-flow on government account have been criticised for having made "widely over-optimistic estimates of the proportion of government spending on roads, schools and hospitals that has been made in the rural areas. The net effect of the qualifiationns that have to be made is to destroy any strong hypothesis that resource transfer of public funds, in the sense of excess of benefit over cost, has been in favour of rural India." [Macrae (1971)'].

For the purpose of this study, therefore,; we have made a first approximation estimate of the resource Hows on government account; the estimate abstracts from the problem of determining; the incidence of public expenditure not unequivocally directed towards the agricultural sector. In Table 35 are presented the resource flows between the agricultural sector and the government during the period 1951-52 throng!) 1968-60.

The estimate of the tax burden on the agricultural sector is from a study by S L Shetty [sec Shetty (1971). This is the most recent and most comprehensive study of agriculture's tax burden. The direct taxes assigned to the farm sector are land revenue and agricultural income-tax. Estate duly Ls distributed between the farm and non-farm .sectors, on the basis of duties derived from farm and non-farm estates. Some broad indicators have been *used* to assign 80 per cent of the stamp registration duties to the non-farm seetor and 20 per cent to the farm sector. The estimates of indirect tax incidence are based on the quinquennial studies of the Taxation Enquiry Commission. It is assumed that the per capita taxes paid by the rural and urban households are applicable to the farm and non-farm households, respectively. Taking the farm and non-farm population estimates for the relevant years, the distribution of the individual indirect tax revenues between the farm and non-farm sectors has been worked out.

The government expenditure in agriculture has been taken to comprise current and capital expenditures of the Central and state governments on agriculture and related activities. The current expenditure includes Central government development expenditure (other than grants to states and Union Territories) on agriculture and allied services and state government development expenditure on agriculture, animal husbandry, co-operation, rural and community development and irrigation. The capital expenditure includes development expenditure on irrigation and navigation and schemes of agricultural improvement and research.[10]

It may be seen from Table 15 that there has been a net inflow into agriculture on the government account right from the First Plan Period (1951-

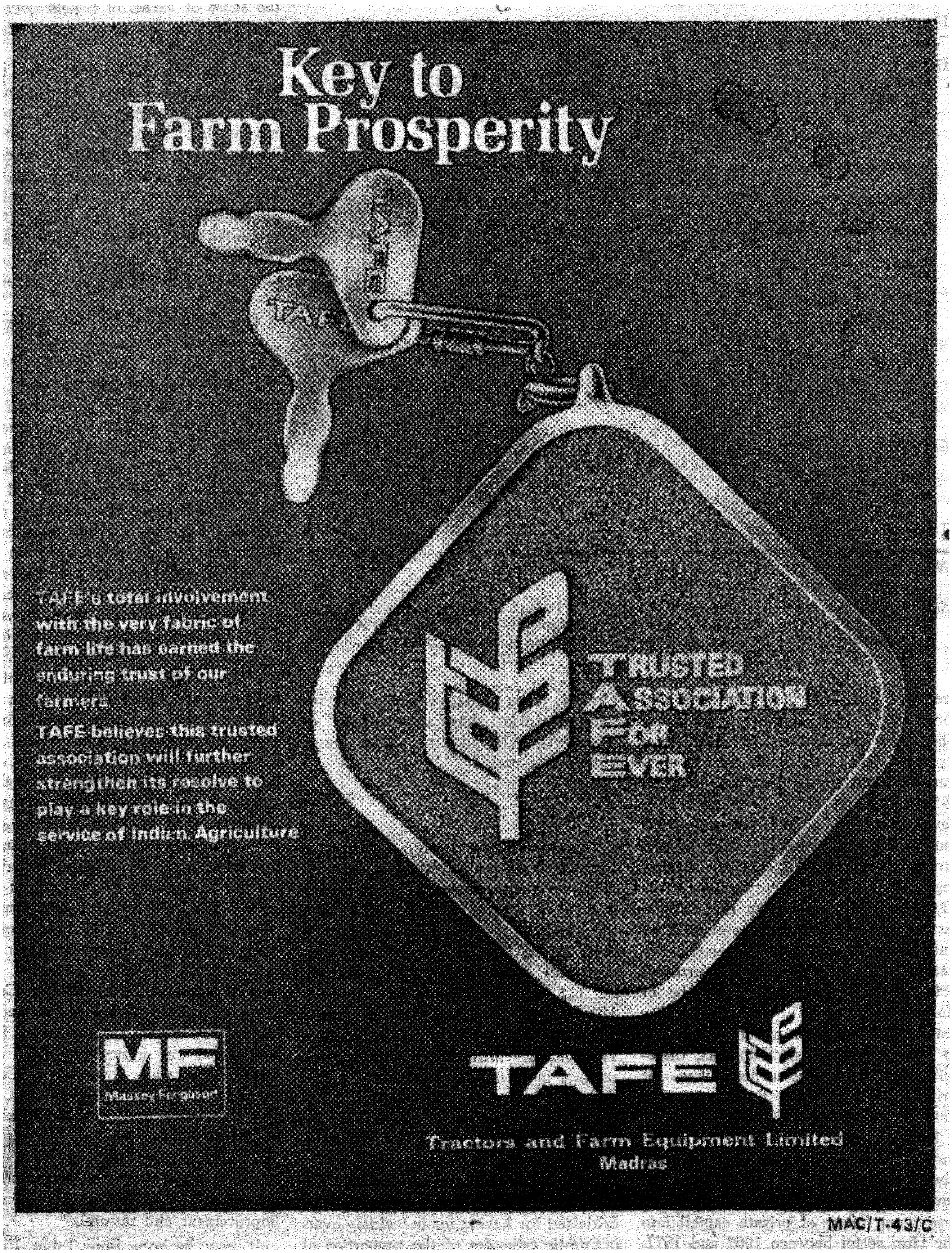
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TABLE 12 : DEPOSITS AND SHARES OF MEMBERS IN PRIMARY AGRICULTURAL CREDIT SOCIETIES AND SURVEY ESTIMATES OF DEPOSITS AND SHARES IN CO-OPERATIVE INSTITUTIONS

	Actual Estimates (PACSs)		Survey Estimates	
	Total Deposits	Shares of Members	Deposits	Shares
1960	11.9	41.8		
1961	14.6	52.0		
1962	17.6	61.8	10.1	58.3
1963	20.3	71.5		
1964	26.1	83.3		
1965	32.6	93.6		
1966	34.5	104.8		
1967	39.1	117.5		
1968	47.2	136.0		
1969	56.8	154.3		
1970	62.5	173.9		
1971	69.5	188.81	13.3	121.5
1972	74.8	203.84		

Note : The shares held by members are arrived at by deducting the share capital held by the government from the total share capital of the PACSs.

Source : RBI Statistical Tables Relating to the Co-operative Movement in India, various issues.

TABLE 13: CHANGE IN FINANCIAL ASSETS HELD BY CULTIVATOR HOUSEHOLDS, 1962-1971

(Rs crore)

Change in deposits and shares	520
Change in cash dues	160
Change in currency holdings	223
Change in all financial assets	903

Source: See Text.

TABLE 14: CHANGES IN FINANCIAL ASSETS AND LIABILITIES AND NET FLOW OF FUNDS INTO FARM HOUSEHOLDS, 1962-71

(Rs crore)

(1)	Change in financial assets	903
(2)	Change in financial liabilities	1931
	Net flow of funds into the farm households [(2) -- (1)]	828

Source: See Text.

52 to 1955-56) to the period of the Annual Plans (1966-67 to 1968-69). The average tax per annum as well as the average public expenditure per annum have increased continuously over this period. The average annual net inflow increased over the first three plan periods, but declined during the next three years due to a sharp rise in the tay burden (which is a reflection of the sharp increase in the indirect tax burden) [Shetty (1971)].

These estimates of resource flow into the agricultural sector, however, underestimate the volume of inflow. Thus, the public expenditure in the agricultural sector on education, health, etc has not been considered. Besides, no allocation of non-development expenditure has been made to the agricultural sector. Further, the various implicit subsidies to the agricultural sector in the form of low water, electricity and interest rates have not been accounted for.

(3) Terms *of trade changes ;*

The longest time-series on the terms of trade between agriculture and non-agriculture has been constructed by Thamrajakshi [see Thamrajakshi (1977)]. Her estimates are reproduced in Table 16. There was no trend in the movement of the terms of trade between the early 1950s and the mid-1960s. Since the mid-1960s, however, the terms of trade have moved steadily in favour of the agricultural sector.

The net barter terms of trade index prior to the mid-sixties fluctuated in a narrow range around 100. Hence resource flows on account of terms of trade changes were not uniformly in any one direction. It is likely, therefore, that the net resource How during this period due to terms of trade changes was not significant. However, since the mid-1960s, there has been a continuous movement of the terms of trade in favour of agriculture, thereby adding to the resource flow into agriculture.

CONCLUSIONS

In our exercise on Indian resource flows we have not estimated the commodity flows (ie, E and N), but only financial flows (ie, receipts, tax payments, government expenditures in agriculture, and changes in the financial assets and liabilities of the agricultural sector).

The data available do not permit an aggregation of the component flows. We were cencerned, therefore, only with identifying the direction of flow of the component elements. We showed that the net financial flows through the 1950s and 1960s were into the agricultural sector. Besides, though there was no significant trend in the terms of trade movements in the 1950s, the terms of trade shifted in favour of agriculture in the 1960s. We were able, therefore, to conclude that during the period under consideration there was resource flow into agriculture on all counts.

Further, we showed that just the capital flows on private account formed a significant proportion of the capital formation in agriculture. When the inflows on the government account and the terms of trade changes are also considered, it appears that the resource flows into agriculture have been of considerable magnitude when seen from the point of view of the agricultural sector. However, since on an average only about 20 per cent of the capital formation is in agriculture, the resource flows when seen from the perspective of the non-agricultural sectors would be much smaller.

How does one interpret the resource flows into agriculture in India in the 1950s and the 1960s? The Ishikawa kind of argument would stress that those were necessary for capital-intensive investments in agriculture (irrigation, drainage, flood control, etc), which, in turn, are a necessary prerequisite to the introduction of technical change and consequent productivity increase, in agriculture. [Ishikawa (1967)].

In addition, it may be argued that the credit flows into agriculture have generated, or helped in the realisation of, a demand for industrial goods. This *is* especially true in the case of fertilisers and agricultural machinery. Moreover, since the chemical and engineering industries have important backward linkages, the increased demand for fertilisers and machinery would have had a significant impact on industrial growth.

The role of credit to agriculture, however, must be viewed *in* conjunction with the savings performance of the agricultural lector. It has been argued that savings depend not only on income levels, but "also on the availability of attractive investment opportunities.[11] Bhalla [1978] however, shows for 1968-09 to 1970-71 at an all-India level that the .savings response of small farmers to increased investment opportunities was

TABLE 15 : NET RESOURCE FLOWS ON THE GOVERNMENT ACCOUNT INTO AGRICULTURE

(*Rs crore*)

	Average Annual Tax Burden on Farm Sector	Average Annual Public Expenditure in the Farm Sector	Average Annual Net Flow of Funds on the Government Account
1951-52 to 1955-56	51.70	98.56	47.46
1956-57 to 1960-61	83.83	186.34	102.51
1961-62 to 1965-66	161.27	342.84	181.57
1966-67 to 1968-69	395.37	469.93	74.56

Notes: (1) For underlying concepts, see Text.
(2) Average Annual Net Flow of Funds on the Government Account into Agriculture = Average Annual Public Expenditure in the Farm Sector- Average Annual Tax Burden on the Farm sector.

Source : S L Shetty : 'An Intersectoral Burden of Tax Burden and Taxable Capacity', *IJAE*, July-September 1971, and Statistical Abstracts (various issues).

TABLE 16 : INDICES OF TERMS OF TRADE OF INDIAN AGRICULTURE

(1960-61 = 100)

Year	Net Barter Terms of Trade	Foodgrains Terms of Trade*	Terms of Trade of all Agricultural Products**	Income Terms of Trade
1951-52	100.82	104.47	116.89	67.07
52-53	99.13	116.84	96.28	72.41
53-54	103.74	112.54	102.83	88.40
54-55	97.02	91.84	95.17	85.99
55-56	94.78	92.02	89.10	88.20
56-57	102.46	109.20	98.16	100.67
57-58	98.4[illegible]	107.11	96.07	92.15
58-59	101.66	113.43	98.37	97.95
59-60	101.68	105.88	98.85	94.43
60-61	100.00	100.00	100.00	100.00
61-62	100.69	98.38	97.64	106.20
62-63	99.39	99.69	95.16	106.17
63-64	97.39	101.59	96.77	108.90
64-65	108.66	118.80	107.88	124.67
65-66	114.47	120.60	110.17	123.95
66-67	123.07	131.81	117.56	129.04
67-68	125.02	148.10	123.74	149.99
68-69	116.27	126.91	122.21	143.62
69-70	125.72	131.05	126.72	167.08
70-71	127.32	125.85	124.20	178.88
71-72	120.08	122.65	119.29	181.31
72-73	118.30	128.2[illegible]	119.23	173.81
73-74	136.98	134.40	134.14	205.11
74-75	133.92	146.78	128.16	
Compound rate of growth (%)	1.43	1.43	1.34	4.53

Notes : Compound growth rates have been worked out by filling the functional form $Y = ab^t$ to the relevant time series.

* Purchased by Agriculture *vis-a-vis* non-agricultural intermediate products purchased by agriculture.

** Prices of foodgrains *vis-a-vis* all non-agricultural products purchased by agriculture.

Source : R Thamrajakshi : 'Price Incentives and Agricultural production', in Douglas. Ensominger (ed) (1977) : "Food Enough or Starvation for Millions", p 379

greater than that of large fanners. This, be says, was due to differential assess to institutional credit, with the large farmers having much easier access. The implication is important: the savings rate of the agricultural sector may be raised if institutional credit to large fanners is rationed. The question of raising the savings rate of the agricultural sector assumes special importance in view of the continuing redistribution of income in favour of the agricultural sector *via* the movement of the terms of trade.

The change in the terms of trade in favour of agriculture is clearly a gain for agriculture. The implications for the non-agricultural sector are, however, more complex. The labour productivity (value-added per worker) in agriculture has been rising continuously in the non-agricultural sectors. To the extent labour productivity is an important determinant of prices, the terms of trade shift in favour of agriculture is only a mechanism of sharing the productivity gains in non-agriculture, and hence cannot be regarded as having an adverse impact on non-agriculture.

The broad conclusion which may be drawn, therefore, is that the inflows on the government account were necessary to create capital-intensive investments in agriculture. There exists, however, a savings potential in agriculture which needs to be tapped. Whether this tapping is done through increased taxation, reduction of credit or turning the terms of trade against agriculture, or whether it is done at all, will remain a political question.

Notes

[This paper forms a part of the author's M Phil dissertation submitted to the Jawaharlal Nehru University. The author is extremely grateful for constant guidance to K N Raj, who supervised the dissertation.]

1 See *Reserve Bank of India Bulletins,* March 1967, July 1967. February 1972, May 1973, and August 1975.

2 National Council of Applied Economic Research, All-India Rural Household Survev, Volume II, 1965,

3 The large change in the financial liabilities of agricultural wage-earner households according to the NCAEB (see Table 1) contradicts the RBI estimates which show that the wage labour households' share in the liabilities of the farm sector is very small. However even if we assume that the change in financial liabilities of the wage labour households as negligible, the farm sector continues to be a deficit sector in all the years.

4 For source, see footnote 1.

5 While not strictly comparable, since they relate to flows and stocks respectively, the NCAER and RRI data differ on this point, especially as far as liabilities are concerned.

6 There has been some underreporting, as is discussed further below, but that is not the whole story.

7 Since the actual estimate for commercial banks for 1962 was not available, the survey estimate has been used. As the 1961 survey and actual estimates are in agreement, it may be assumed that the 1962 survey estimate is also not far off the mark.

8 The term 'individuals' used in the 1971-72 survey had a wider connotation, whereas in the 1961-62 survey it referred to 'money-lenders' only. Sec N S Krishnamurthy and S Subramaniam (1977).

9 The RBI Debt and Investment Survey estimates of the increase in the farm sector's financial claims and liabilities *vis-a-vis* the modern financial sector are consistent with the estimates For the entire financed sector, in as much as they are smaller than the household sector's increases in assets and liabilities.

10 Central government's capital outlay in Agriculture has not been included since the break-up of the expenditure under the head: 'Irrigation and Multi-purpose River Valley Schemes' is not available.

11 See specially Mekinnon (1973).

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