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TERMS OF TRADE AND FOOD SURPLUSES

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In recent months the magnitude of the food problem has assumed serious proportions. It is quite interesting to note that the Agricultural Production Team[1] in 1959 unwittingly called its report as "India's Food Crisis and Steps to Meet It." Even after six years of its publication the prophecy of the Team seems to be realistic. Even though the Ford Foundation Team termed it as crisis, it was aware of the gravity of events that were to follow in later years.

Some disjointed attempts have been made to evolve a national food policy during the last 2-3 years but they have proved fruitless. In fact a realistic food policy seems to have eluded the Government. Under the present context it almost becomes indispensable to evolve a long-term food policy so that both the increase in the population could be fed and the tempo of development could be maintained. The future seems to be one that of supply lagging considerably behind demand. Unless concerted efforts are made to increase the supply of foodgrains, the future seems to be bleak. This situation could be visualised from the recommendations made by the Agricultural Prices Commission.[2]

Food policy falls into two categories, *viz.*, direct and indirect. The direct measures suggested for increasing the agricultural production are mainly technological, institutional and organizational.[3] But one of the indirect measures is to manipulate the terms of trade against agriculture to mobilize agricultural surpluses from within the existing agricultural production so that it may be diverted to consumption and development purposes. An attempt is made in the present article to analyse terms of trade as an instrument of food policy to augment foodgrains to feed the mounting population.

Perhaps, one of the most effective methods of augmenting agricultural surpluses, in an economy like India is by way of making terms of trade adverse to agriculture. That is to deliberately fashion the price policy in such a way that the terms of trade move against agriculture so that for realizing the same money income the total quantum of marketed surplus has to be increased.

TRENDS IN THE SECTORAL TERMS OF TRADE

At this stage we may analyse how the terms of trade have been moving during the period 1952-53 to 1960-61. The significant feature of price analysis that is relevant here, is the terms of trade between the agricultural and non-agricultural

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* A more detailed examination is contained in my Doctoral thesis entitled 'Agricultural Surpluses and Economic Development' prepared under the guidance of Prof. M. L. Dantwala in the Department of Economics, University of Bombay.

1. Report on India's Food Crisis and Steps to Meet It, Agricultural Production Team of the Ford Foundation New Delhi, 1959.
2. Report on Minimum Prices for Kharif Cereals for May-July 1965-66 Season, Agricultural Prices Commission, Government of India, 1965.
3. M. L. Dantwala ; India's Food Problem, Bombay, 1961, p. 27.

sectors of the economy. It may be noted that the terms of trade can either relate to the relative factoral terms of trade or to the commodity terms of trade. Here we have used the commodity terms of trade of agricultural sector.

In the course of our study of terms of trade, the group of manufactures in the wholesale price index (1952-53 = 100) has been taken to represent the non-agricultural sector. On the other hand, in the agricultural sector, price indices for cereals and food articles have been taken. Table I[4] shows the ratios of prices between agricultural groups and manufactures for the period 1952-53 to 1960-61.

TABLE I—RATIOS OF PRICES OF GROUPS OF AGRICULTURAL COMMODITIES TO PRICES OF MANUFACTURES (1952-53 TO 1960-61)

(Base year 1952-53 = 100)

Year	Ratios of Indexes of Prices	
	Cereals to Manufactures	Food Articles to Manufactures
1952-53	100.0	100.0
1953-54	97.6	99.8
1954-55	80.2	94.0
1955-56	76.2	86.9
1956-57	90.3	96.2
1957-58	93.4	98.4
1958-59	98.7	106.2
1959-60	93.1	106.5
1960-61	83.9	96.8

Source : Based on Economic Adviser's Index Numbers of Wholesale Prices, Government of India, New Delhi.

During the period under study the ratio of prices for different groups of agricultural commodities in relation to those of manufactures was falling except in the case of raw materials to manufactures. That is to say, the price ratio which was favourable in general for the commercial farmer was not so in the case of the farmer producing cereals.

In the agricultural sector, the ratio between the prices of cereals to manufactures fell sharply in 1954-55, 1955-56, and even during 1960-61 it was lower by 16.1 per cent than the base year 1952-53. In the second category of goods, namely food articles, the ratio to manufactures fell down sharply in 1955-56 by 13.1 per cent and rose by 6.5 per cent in 1959-60 and declined to 96.8 in 1960-61 which is less by 3.2 per cent compared to the base year.

For a correct appraisal, a brief analysis of the price variations during the decade under study becomes all the more relevant. During the First Five-Year Plan period the prices of agricultural commodities, especially cereals, were falling. It was mainly due to the bumper crops resulting from favourable climatic conditions. The price level at the end of the year 1955-56 was 13 per cent below the level at the beginning of the First Plan period, though it may be pointed out that this latter level marked the end of the post-Korean inflationary rise. But the general price level at the end of 1955-56 was slightly lower than the pre-Korean War level.[5] After 1955-56, the prices showed an upward trend reaching the highest

4. Data for commercial crops have not been given separately.
5. Report on Currency and Finance for the Year 1955-56, Reserve Bank of India, Bombay, 1956, p. 19.

level in 1958-59. The increase in prices during this period was due to the rise in money incomes resulting from the huge investment and decline in agricultural production due to the failure of monsoons. However, the price movements during this period have been irregular and at times characterized by wide fluctuations.

During the Second Plan period (1956-57 to 1960-61) the general level of prices recorded a rise of 30 per cent as compared to a decline of 18.4 per cent during the First Plan. Except for a negligible decline of 0.2 per cent during 1957-58, there were price increases during the remaining four years, the rise being 7.6 per cent in 1956-57, 6.6 per cent in 1958-59, 5.8 per cent in 1959-60 and 7.2 per cent in 1960-61.[6] The general trend, therefore, of the prices of non-agricultural commodities was to share the benefits of rise in prices but not the fall in prices with the agricultural goods. And this had been a very significant factor underlying the terms of trade becoming unfavourable to the latter sector during the decade under study.

TERMS OF TRADE OF AGRICULTURISTS

The analysis of terms of trade based on wholesale prices of agricultural and industrial commodities may not fully bring into effect the changes in terms of trade of agriculturists with any degree of certainty. The terms of trade of agriculturists can more precisely be shown by the indices of prices received and paid by them : and such studies have been made in some States in India, namely, Punjab, Assam, etc., but no comprehensive study has been made on an all-India basis.

At the outset a clarification regarding the connotation of this ratio should be made. This ratio is an indirect measure of the relative benefits of cultivation to agriculturists.[7] This is because the ratio represents the variations of the prices, of agricultural commodities marketed by the agriculturists *vis-a-vis* the cash expenses incurred by them. Table II shows the parity between the prices received and paid by the farmers in Punjab for the period 1952-53 to 1960-61.

TABLE II—INDEX NUMBERS OF THE TERMS OF TRADE OF THE FARMERS IN THE STATE OF PUNJAB (1952-53 TO 1960-61)

(Base year 1952-53 = 100)*

Year (Financial) April to March	Index Numbers of		
	Prices received	Prices paid	Ratio of prices received to prices paid
1952-53	100	100	109
1953-54	108	99	109
1954-55	92	94	97
1955-56	87	87	100
1956-57	109	98	111
1957-58	104	103	100
1958-59	125	117	107
1959-60	113	115	98
1960-61	114	115	99

Source : The Board of Economic Inquiry, Punjab : Index Numbers of Parity between Prices Received and Paid by the Farmer in the Punjab, 1960-61.

* Base shifted from August 1939 = 100 to 1952-53 = 100.

6. Report on Currency and Finance for the Year 1960-61, Bombay, 1961, p. 25.
7. R. N. Poduval, "Prices, Trade and Marketing of Agricultural Commodities in India" in Studies in Indian Agricultural Economics (Ed.), J. P. Bhattacharjee, Bombay, 1958, p. 58.

The ratio of prices received to prices paid by the farmers, as shown in Table II, during 1954-55, 1959-60 and 1960-61 was unfavourable to farmers. These figures also show that the prices received by farmers varied greatly when compared to those actually paid by them.

The extent of fall and rise between the two sets of periods, *viz.*, 1952-56 and 1956-61, respectively in different indices and ratios may be seen in Table III.

TABLE III—VARIATIONS IN PRICES AND TERMS OF TRADE OF AGRICULTURE AND THE FARMERS

(1952-53 = 100)

Item	Order of fall between 1952-53 and 1955-56 in per cent	Order of rise between 1955-56 and 1960-61 in per cent
Cereals	−24	34.1
Cereals/Manufactures ratio	−23.8	10.1
Farmer's terms of trade in Punjab	No fall	—1.0 (fall)

Source : Based on Tables I and II.

Though the ratio between cereals to manufactures during 1952-53 to 1955-56 declined by 23.8 per cent, the farmer's terms of trade were not affected during the same period in Punjab. The fall in the ratio of cereals to manufactures was more pronounced than the fall in the ratio of industrial raw materials to manufactures. On the other hand, during the period of rising prices (1955-56 to 1960-61), the ratio of cereals to manufactures increased by 10 per cent while the farmer's terms of trade declined by 1.0 per cent.[8] Even though no proper relationship may be brought forth between the parity of individual States and the all-India prices, still the above analysis points out that variations in the prices of agricultural commodities result in very small changes in the agricultural producer's parity ratio. Of course, the two situations are not strictly comparable. And yet we have mentioned the Punjab case to illustrate how the ratio of terms of trade at the farmer's level could be more meaningfully compiled. For the present problem this ratio is more relevant than the sectoral ratio calculated earlier.

It may be pointed out that the prices-paid index of agriculturists consists of family and farm expenditures, each forming 64 and 36 per cent of the total weights respectively. In the family expenditures, the manufactured goods form only 48 per cent, *i.e.*, 31 per cent of the weights given to the price-paid index, but in the farm expenditures they account just 4 per cent, *i.e.*, 1 per cent of the weights given to the price-paid index. Hence it may be noted that in the prices-paid index for Punjab, the manufactured goods form nearly 32 per cent. This shows to what extent the farmers rely on the manufactured sector. Tables I and II show that the implicit weight of the manufactured sector was 1 in the former table as against 0.32 in the latter table.

This gives a partial explanation regarding the relatively less sensitiveness of the agriculturist's terms of trade as compared to the ratio of the wholesale prices of agricultural and manufactured commodities. Further, the general condition

8. See footnote 4.

as shown by the yearly parity index did not indicate a correct picture of the parity of the agriculturists, inasmuch as a large quantum of agricultural goods are disposed by the agriculturists during a period of three to six months after the harvest when the index invariably declines. Strictly speaking, only the parity index for the *rabi* marketing season, namely, for the period May to July would realistically represent the terms of trade of the agriculturists in Punjab. Despite these factors it may be pointed out that both the diverse and quite opposite changes of the parity ratio and the terms of trade were due to changing weights used in building up of these indices.[9]

It may be pointed out that a large part of agricultural production is meant for subsistence and not for sale and a major part of the effective demand of the agriculturist is channelled towards the goods which the farmer himself produces. Naturally, such a subsistence-oriented economy is not fully affected by the variations of the sectoral terms of trade. But later, when the subsistence-oriented production is replaced by production for the market and also as the agriculturist relies more and more on the market goods for satisfying his requirements, terms of trade begin to assume greater importance in the economy.

CONCLUSION

It is obvious that in India there were no deliberate efforts during the decade of planning to influence the terms of trade between agriculture and industry in any particular direction. This period can, therefore, hardly provide any empirical evidence for assessing the desirability, far less the effectiveness of using the terms of trade as an instrument of mobilizing foodgrains. The analysis of the data has revealed that while during periods of rising prices, perhaps the agricultural sector has shared the benefits along with the non-agricultural sector and during periods when the prices of agricultural commodities were declining the prices of non-agricultural commodities not following suit, the terms of trade have moved against agriculture. This is not the place to discuss the desirable lines on which a price policy should be pursued either for the economy as a whole or for the agricultural sector in particular. In the absence of the full data on marketed surpluses, it is also not possible to demonstrate concretely the precise co-relation between the movement in the terms of trade and the quantum of marketed surplus. All that one can, therefore, say is that in the context of an integrated price policy, perhaps by a suitable manipulation of terms of trade between the two sectors it may be possible to influence the quantum of marketed surplus. How far such policies are feasible in Indian conditions? What are the operational problems involved, if this policy is to be implemented ? Whether the existence of a substantial section of subsistence agriculture would nullify the effect of such a policy even if implemented? It is, however, beyond the scope of this article to attempt to answer these and allied questions.

9. For the statistical method used see the Board of Economic Inquiry, Punjab, *Op. cit.*, 1960-61.