

Agricultural Prices in Pakistan: A Multimarket Analysis

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This paper attempts to analyse the effects of changes in agricultural prices on different segments of the society. Taking the cases of two major crops; namely wheat and rice, and of agricultural inputs in general, it works out the 'own-price effects' and 'cross-price effects' of price changes on producers, consumers, and the government in Pakistan.¹ In this way the paper provides a broad (multimarket) framework which could be used to evaluate the government's agricultural price policy.²

The paper is divided into three sections. Section I discusses the methodological framework. The empirical analysis is provided in Section II. Section III deals with some tentative conclusions inferable from this study.

I. METHODOLOGICAL FRAMEWORK

Assumptions³

The following assumptions have been made about the agricultural marketing arrangements in the country to keep the analysis within manageable limits.

(1) Procurement prices of wheat, cotton, and rice are in general less than those prevailing in the domestic (open) and international markets.

(2) The government releases its wheat stock to the open market through mills at prices slightly higher than the procurement price but bears most of the handling charges. Rice and cotton are procured mainly for export purposes. Their local

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¹'Own price effects' (OPE) represent changes in the supply of and demand for a commodity in response to the changes (made) in its price. 'Cross-price effects' (CPE), on the other hand, are similar changes in supply of and demand for other commodities than the one whose price is changed.

²See Thobani (1979) for somewhat limited treatment of this problem. See Braverman (1984) for justification of using a multimarket framework for studying changes in agricultural prices.

³See Mohammad and Tahir (1989) for necessary details of these assumptions.

consumption is not subsidised. If the total stocks are not exhausted in a year, they become part of the buffer stock.

(3) Most of the agricultural inputs are subsidised either directly or indirectly.⁴

(4) Farmers keep a portion of their production for domestic consumption and sell the rest to the open market or the government. The proportion retained by them for domestic consumption remains unchanged despite changes in procurement prices and input subsidies. Consequently, an increase in procurement price or input subsidy leads to an increase in marketable surplus and *vice versa*.

(5) Prices of inputs are administratively controlled.

(6) Since most of the inputs are not good substitutes, cross-price effects of changes in their prices are ignored. The effects of inputs, which are complementary, are reflected in changes in cropped area and yield and hence in the supply of a commodity.

(7) Open markets are perfectly competitive. Accordingly, any change in supply and demand will fully reflect itself in the equilibrium price. Official prices are however, changed by administrative decisions. [This is basically a simplifying assumption. With some modifications the element of imperfections in the market can be accommodated in this model].

THEORETICAL FRAMEWORK

The paper uses traditional supply-and-demand-curves to calculate the gains and losses to different economic agents in the society in terms of consumer's surplus or producer's surplus. Wherever possible, direct estimates of revenue changes have also been worked out.

A brief description of the methods used is given below.⁵

1. Effect of an Increase in Procurement Price (ΔPP) on Producer

Own Price Effect: Using supply-of-marketable-surplus curve (SS) in Figure 1, we note that *OPE* of ΔPP is equal to area 2 + 3. This area can be measured as:

$$\Delta PS = Q_1 PP + 1/2 \Delta PP \Delta Q \quad \dots \quad (1)$$

$$\text{where } \Delta Q = e^s \frac{\Delta PP}{PP} \cdot Q_1$$

(by definition of the elasticity of supply with respect to output price e_i^s)

⁴ This is a debatable assumption. However, we use it to simplify our analysis.

⁵ See Mohammad and Tahir (1989) for details.

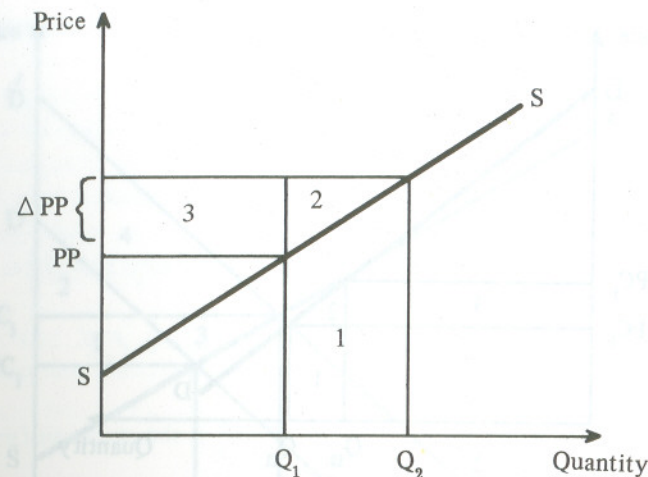


Fig. 1.

Cross-price Effects: These effects are in the form of changes in the production of other commodities when the *PP* of a given commodity changes. They can be worked out by keeping the price of *other commodities* constant and shifting their supply curves to the left or right, depending on the nature of inter-crops relationships. They can be expressed as:⁶

$$\Delta PS_j = \frac{1}{2 e_j^s} \left[Q_{j2}^2 - Q_{j1}^2 \right] \frac{PP_j}{Q_{j1}} \quad \dots \quad (2)$$

where Q_{j2} is determined by using the formula for 'cross-price elasticity of supply' for the *i*th and *j*th commodities; and e_j^s is the own price elasticity of supply of *j*th commodity.

2. Effect of an Increase in Procurement Price Accompanied by an Increase in Consumer Price on the Consumer

Own-price Effect: Increase in the government's issue price (P_g) is most certainly passed on to the consumer by mill-owners and other marketing channels through which the government's stocks are brought into the market. This means an increase in the average price faced by the consumer. As a result, other things being equal, consumer surplus (CS) would decline by area 2 + 3 in Figure 2. This change in CS can be measured as

⁶ For proof see Mohammad and Tahir (1989).

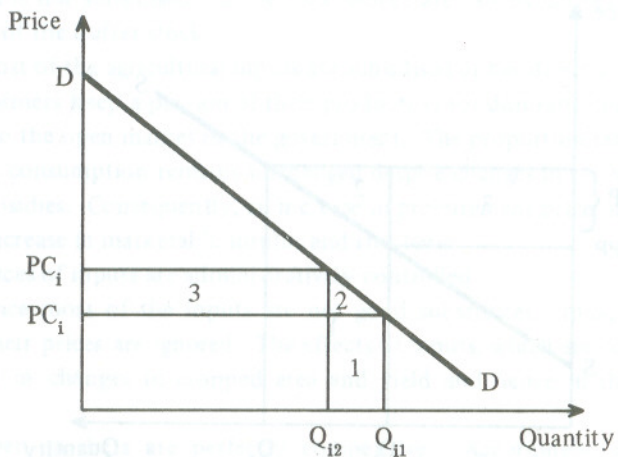


Fig. 2.

$$\Delta CS_i = \Delta PC_i Q_{i2} + \frac{1}{2} \Delta PC_i \Delta Q_i \dots \dots \dots (3)$$

where $\Delta Q_i = \frac{d}{i} \frac{\Delta PC_i}{PC_i} \cdot Q_{i1}$

(by definition of the elasticity of demand, e_i^d)

Cross-price Effects: These effects are in the form of changes in quantitative demand for and prices of other commodities as a result of the increased price of the *i*th commodity.

In Figure 3, a rightward shift in the demand curve for the *j*th (substitute) good indicates both loss and gain to the consumer. The net gain can be measured with the help of Expression 4.

$$\Delta CS_j = \frac{1}{2 e_{ji}^d} \left[Q_{j2}^2 - Q_{j1}^2 \right] \frac{PC_j}{Q_{j1}} \dots \dots \dots (4)$$

where $\Delta Q_j = (Q_{j2} - Q_{j1}) = e_{ji}^d \frac{\Delta PC_i}{PC_i} Q_{j1}$

(by definition of e_{ji}^d) and PC_j is the price paid by the consumer for *j*th good.

3. Effect on Government Revenue

As a result of an increased *PP* and P_g , the government revenue may change for the following reasons:

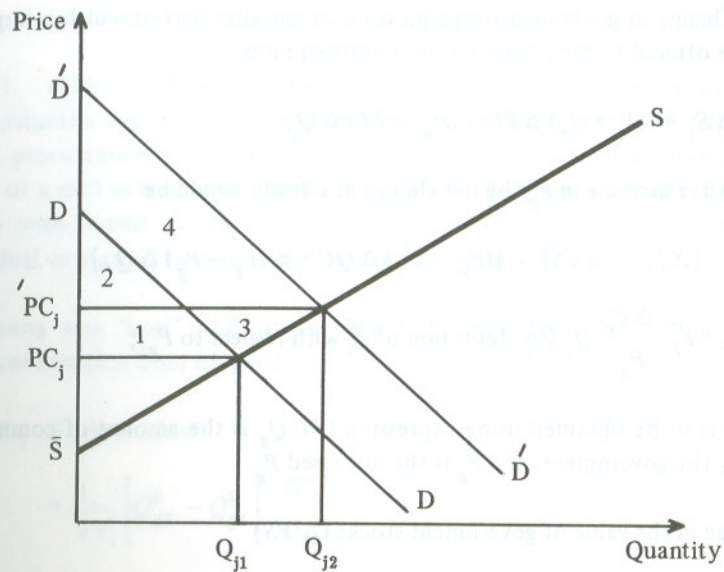


Fig. 3.

(a) Owing to an increased availability of marketable surplus the need to import a commodity such as wheat may become less than before. Reduction in imports of wheat would reduce the amount of subsidy *p* and to the consumer, as the import price (*pw*) of wheat has been generally more than its procurement prices. An increased issue price would also reduce consumption and, therefore, the subsidy paid to the consumer.

(b) If an announcement to increase *PP* is accompanied by an increase in P_g then the government will gain through the enhanced value of its existing stock as new *PP* can be effective only in the next crop season.

(c) An increase in P_g may, however, increase the government's budgetary allocation for wage indexation as it is likely to increase the cost of living.

(d) An increase in PC_i by increasing the demand for substitutes, may result in less availability of those goods for export purposes. If exports are profitable, then this would reduce government revenue from its exports.

(e) An increase in *PP* of exportable items such as rice and cotton, could reduce the profit from their exports (or increase the losses if the government is already making losses from their exports).

Only some of the less obvious measures to capture the above-stated changes in the government revenue are elaborated below.

1. Change in government subsidy for a commodity part of which is imported and which is offered to the consumer on subsidised rates

$$(a) \Delta S_1 = (Q_g + Q_c) \Delta PP - (P_w - PP) \Delta Q_g \quad \dots \quad (5)$$

(b) After increase in P_g the net change in subsidy would be

$$\Delta S_2 = [\Delta S_1 - \Delta CS] - [(P_w - P'_g) \Delta QC + \frac{1}{2} (P'_g - P_g) \Delta Q_c] \quad \dots \quad (6)$$

where $\Delta Q_c = e_i^d \frac{\Delta P_g}{P_g} Q_c$ (by definition of e_i^d with respect to P_g);

ΔCS is to be obtained using expression (3); Q_g is the amount of commodity procured by the government; and P_g is the increased P_g .

2. Change in the value of government stocks (ΔVS)

$$\Delta VS = \Delta P_g S_t \quad \dots \quad (7)$$

where ΔP_g = change in issue price and ' S_t ' is the stock of a commodity held by the government.

3. Increase in the cost of indexation will be worked out by first calculating the effect of an increase in the issue price on the cost of living index, and then applying the same rate of indexation as applied by the government in the 1987-88 budget.

Other effects on government revenue were calculated by using simple arithmetic. In most cases, first the effect of a change in PP or P_g is worked out on the quantity of a given commodity, and then the relevant conversion factor (price, tax rate or exchange rate) is used to get the figures in rupee terms.

Calculations relating to different types of effects of price changes described above have been done for only two commodities; namely wheat and rice. This was done primarily to keep the paper within manageable limits but also because these two commodities have experienced most frequent changes in their 'procurement and issue prices' (Government of Pakistan 1987-88).

Increased Subsidies on Agricultural Input(s)

Changing subsidies on inputs is another policy which the government may use to increase efficiency and income. In Pakistan this has been used in combination with changes in procurement prices. In this paper we try to evaluate this policy

option as an alternative to changes in procurement prices.

1. *Effect on Producer:* The effect on producer's income of an increase in input subsidies comes from a rightward shift in the supply curves of different goods where procurement prices (not the open market prices) remain unchanged. The effect of a shift in the supply curve can be estimated by using 'own-price elasticity of supply with respect to input prices'. The net effect on farmer's income from an individual crop could be estimated through expression (8')

(Assuming area 'bcef' in Figure 4 offsets the area 'PfeP' the net increase in the producer's surplus from i th good)

$$Ps_i = \text{Area 'abcd'} \quad \dots \quad (8)$$

$$= \frac{1}{2} e_i^s \left[Q_{g2}^2 - Q_{g1}^2 \right] \frac{PP}{Q_{g1}} \quad \dots \quad (8')$$

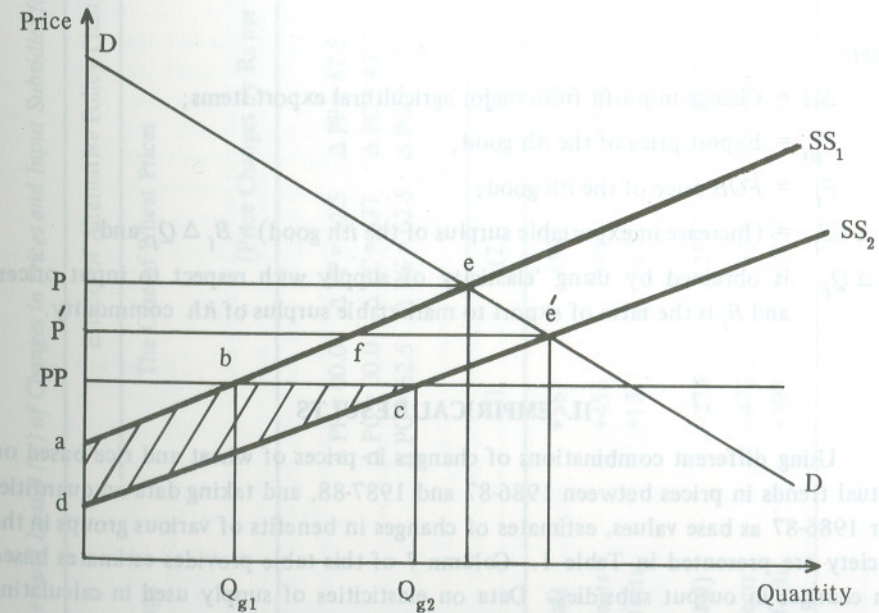


Fig. 4.

⁷ See Mohammad and Tahir (1989) for the proof.

where Q_{g2} is to be found using elasticity of supply with respect to input prices, (e_{ik}^s)

2. *Effect on Consumer:* An increase in input subsidies through increased supplies of different commodities could result in decreased consumer prices. The benefits to the consumer can be worked out by using Equation (3) where Q_i is known and PC_i is obtained using the 'own-price elasticity of demand' formula.

3. *Effect on Government Revenue:* An obvious effect of increased input-subsidies would be to inflate the government bill on production subsidies. However, an increase in production is likely to decrease consumption subsidies as the government might have to import less to meet domestic foodgrain requirements. Similarly, the government could benefit from an increased supply of exportables and from the tax revenue or additional exports made possible by enhanced domestic production. Equation (9) elaborates the effect on the profit earned by government from an increased supply of exports.⁸

$$\Delta \Pi = \sum_{i=1}^n (EP_i - F_i) \Delta ES_i \quad \dots \quad \dots \quad \dots \quad \dots \quad (9)$$

where

$\Delta \Pi$ = Change in profit from major agricultural export items;

E_{pi} = Export price of the i th good;

F_i = FOB price of the i th good;

ΔES_i = (Increase in exportable surplus of the i th good) = $B_i \Delta Q_i$; and

ΔQ_i is obtained by using 'elasticity of supply with respect to input prices' and B_i is the ratio of export to marketable surplus of i th commodity.

II. EMPIRICAL RESULTS

Using different combinations of changes in prices of wheat and rice based on actual trends in prices between 1986-87 and 1987-88, and taking data on quantities for 1986-87 as base values, estimates of changes in benefits of various groups in the society are presented in Table 1. Column 7 of this table provides estimates based on changes in output subsidies. Data on elasticities of supply used in calculating this table were taken from Tweeten (1987). Figures on demand elasticities were however assumed in the light of different studies carried out for Pakistan Alderman

⁸ Calculation of other effects on government revenue requires simple arithmetic and is therefore not explained here. The interested reader may see Mohammad and Tahir (1989).

Table 1

Gains (+) and Losses (-) of Changes in Prices and Input Subsidies for Different Economic Groups in Pakistan, 1987-88

Affected Groups	Effects of Alternative Policy Changes (Rs Million)						
	The Case of Wheat Prices (Price Changes by Rs per tonne)			The Case of Rice Prices		Simultaneous Changes in Wheat and Rice Prices	Increase in Subsidies on Inputs @ 5.5%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Producer (Total)	+587	+587	+587	+881	881	+1372	+3861
Own Price Effects	+456	+456	+456	916	916	+1372	NA
Cross Price Effects	+131	+131	+131	-35	-35	IG	NA
Consumer (Total)	-275	-2522	-2522	+144	118	-565	9601
Own Price Effects	-473	-3249	-3249	-515	-43	-988	NA
Cross Price Effects	+198	+727	+727	+659	+540	+423	NA

Continued—

Table 1 - (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Government (Total)	+218	+218	+2243	-148	+1048	+111	-4398
Subsidies	+76	+76	+1396	-38	-38	+76	-4712
Value of Stocks	-13	-13	-88	-25	-25	+521	-
Cost of Indexation	+158	+158	+954	+363	+363	-38	+132
Others	-3	-3	-19	-448	+748	-448	+182
Foreign Exchange Earnings (Total)	+445	+445	+1113	+75	+108	+643	+1761

(1) Estimates are based on data from Government of Pakistan(1987) and Tweeten (1987).

(2) Figures on quantities and prices used here are presented in Table A1.

(3) Figures reported in this table are based on 'own price elasticity of demand for output (e_i^d) = 0.2 and cross price elasticity (e_{ij}^d) = ranging from 0.075 to 0.15 as well as elasticity of demand for inputs (e_k^d), being equal to 0.25. For other values of elasticities see Mohammad and Tahir (1989).

(4) In the cases of changes in prices of wheat and rice, changes in the consumer's and producer's positions on account of consumption and production of cotton and sugar-cane were also brought into the calculation. In this way 'cross price effects' are based on changes in supply and demand condition for three out of four commodities at one time.

(5) The category of 'others' in government revenue includes changes in 'tax revenue' and 'profit from exports'.

NA: Not applicable.

IG: Ignored for being unclear in direction.

Table A1

Prices and Quantities for Various Commodities used in Estimating Results in Table 1

	1986-87	1987-88
A. Wheat		
1. Govt. Proc. Prices (Rs/Tonne)	2000.00	2062.5
2. Issue Price to Mills (Rs/Tonne)	1702.09	2080.00
3. Ration Shop Issue Price (Rs/Tonne)	1799.09	*
4. Free Market Retail Price (Rs/Tonne)	2380.00	2527.07
5. Import Price (Rs/Tonne)	3132.00	-
6. AV. Consumer Price (Rs/Tonne)	2090.00	2527.07
7. Total Production (Rs/Tonne)	-	-
8. Marketable Surplus (000 Tonnes)	7214	7238
9. Govt. Proc. (000 Tonnes)	5039	3975
10. Imports (000 Tonnes)	378	351
11. Wheat Stocks (000 Tonnes)	2530	1480
12. Release to the Market (000 Tonnes)	3733	4869
13. Consumption (000 Tonnes)	7592.00	7598.00
B. Rice		
1. AV. Procurement Price of Paddy (Rs/Tonne)	1692.5	1937.5
2. AV. Procurement Price of Rice (Rs/Tonne)	3043.75	3433.0
3. Consumer Price of Rice (Rs/Tonne)	4374.0	4699.2
4. AV. Export Price of Rice (Rs/Tonne)	4156.5	5070.93
5. AV. Cost of Exporting Rice (Rs/Tonne)	3867.5	4256.75
6. Marketable Surplus of Rice (000 Tonnes)	2266.0	2130.0
7. Rice Consumption (000 Tonnes)	1322.9	1353.0
8. Rice Exports (000 Tonnes)	1240.4	1306.6
9. Govt. Stocks (000 Tonnes)	932.0	NA
10. Total Output of Paddy (000 Tonnes)	3486	3271
C. Cotton		
1. Proc. Price (Rs/Tonne)		
(a) AC - 134 NT	11920	12000
(b) Desi	10660	10700
(c) Others (AV)	12896	13000
2. Export Price (Rs/Tonne)		
(a) American	11944.0	NA
(b) Desi	20276	NA
3. AV. Cost of Exporting Rice (Rs/Tonne)	12728	12788
4. Total Output (000 Tonnes)	1309.0	1513.0
5. Domestic Consumption (000 Tonnes)	754	872.0
6. Exports (000 Tonnes)	640.72	NA
7. Existing Stock (000 Tonnes)	NA	NA

Continued -

Table A1 (Continued)

	1986-87	1987-88
D. Fertilizers		
1. Consumption (000 NT)	1784	NA
2. Domestic Production (000 NT)	1212	NA
3. Imports (000 NT)	522	NA
4. Average Sale Price (Rs NT)	2560	NA
5. Import Price		
E. Pesticides		
1. Total use (000 Tonnes)	15815	NA
2. Average Sale Price (Rs Tonne)	102.38	NA
F. Canal Water		
1. Current Supply (Million Hectare)	12.12	NA
2. AV. Water Rate Charged (Rs Hectare)	64.94	NA
G. Commodities		
<i>Electricity</i>		
1. Total Consumption in Agriculture (KWL Million)	3471	
2. AV. Price (Rs/KWL)	20.94	
<i>Deisel</i>		
1. Total Consumption in Agriculture (000 Tonnes)	240.3	
2. AV. Price (Rs/Tonne)	3406.5	
<i>Tubewells</i>		
1. Total Tubewells	242160	
2. AV. Price (Rs per Item)	40000	
<i>Agricultural Credit</i>		
1. Total from Institutional Sources (Rs Million)	15158.9	
2. AV. Mark-up Charged on Agricultural Credit (%)	11.0	

Source: Government of Pakistan (1987)

Notes : (1) The figures indicated as 'averages' are estimated by using suitable heights

*Discontinued in March 1987.

(1988). Fortunately in those cases where estimates were to capture the area along a given curve (supply or demand) results were not sensitive to figures on elasticities. This was so because the major change in the revenue curve came from exogenous changes in prices rather in quantities. However, estimates relating to 'cross-price effects' are significantly influenced by changes in the values of elasticities. This is quite contrary to the findings of an earlier study on the subject for Pakistan.⁹

The salient features of estimates in Table 1 are discussed below.

1. Holding other things constant, the benefits to the producer of an increase in procurement price (PP) of wheat accompanied by an equal percentage increase in 'issue price' (P_g) and 'consumer price' (PC) are more than the loss to the consumer from this price policy. In the case of wheat, this happens because its cross-price elasticities of supply with most other commodities have been observed to be positive (Thobani 1979). Accordingly an increase in its PP enhances the farmer's ability to grow more of the other commodities. However, it is interesting to observe from column 1 that if 'cross-price effects' were ignored then the consumer's loss (of Rs 473 million) would become more than the producer's gains (of Rs 456 million). This shows that the implications of changes in prices cannot be evaluated on the basis of 'own-price effects' alone.

2. Besides the producer, the government could also have benefited from those changes in wheat prices. With P_g equal Rs 62.5 tonne (Columns 1 and 2) the value of its stock could have gone up by Rs 158 million in 1987-88. Similarly, the subsidy to the consumer would have gone down by Rs 76 million. On the other hand, its cost of indexation would have increased by Rs 13 million.

3. Unlike the above-stated hypothetical situation, the actual increase in PC of wheat between 1987-88 and 1988-89 was Rs 437 per tonne and that in PG was equal to Rs 377 per tonne. The effect of those changes on the consumer was enormous; a loss of Rs 2522 million in consumer's surplus, whereas those on the producer were still the same as in Column 1. The real beneficiary of this price increase was the government (Rs 2243 million). In this way, ignoring the distributional aspect the overall effect on society of this policy was still positive (=Rs 308 million). In addition, some beneficial effects on the balance of payments was also expected owing to the saving of foreign exchange to the tune of Rs 1113 million (Column 3).

4. In the case of rice it is interesting to note that the increase in its PP accompanied by an equal percentage increase in P_g and PC benefits the farmer without necessarily hurting the consumer. The loss of the consumer's surplus from rice is more than offset by gains from enhanced consumption of other commodities.¹⁰

⁹See Thobani (1979).

¹⁰This conclusion holds only under certain assumptions. See Mohammad and Tahir (1989)

5. In our calculations when *PP* of rice is increased without taking into account the increase in the export price of rice, then the government becomes a loser. However, if the actual rise in export prices of rice (= Rs 914 per tonne between 1986-87 and 1987-88) is taken into account the government gains from this policy, to the extent of Rs 1048 million. (Column 5).

6. As a result of a simultaneous increase in *PP*, *PC* and *Pg* of wheat and rice, most of the conclusions stated above are reinforced. This can be seen from estimates in Column 6, where 'cross-price effects' on the producer have been ignored for being unclear in their direction. Accordingly if we take the most simple cases of price changes from Columns 1 and 4, (and put them in Column 6) we observe the producer to be gaining much more than the loss to the consumer (Rs 1322 million as opposed to Rs 565 million). On the other hand, even if one ignores the increase in export prices of rice in 1987-88, the government would still benefit to the tune of Rs 111 million as a result of a simultaneous increase in *PP* and *Pg* of wheat and rice. The favourable effect of Rs 643 on the balance of payments might have been the additional benefit of those policies.

7. Column 7 presents estimates based on a 5.5 percent increase in subsidies in all major agricultural inputs. This increase in the rate of subsidies is equal to the weighted average increase in procurement prices of wheat and rice in 1987-88 analysed in Columns 1 to 6. Comparing the two policy options, one finds the benefits of an increase in input subsidies (*IS* policy) on the producer and the consumer to be much more than those of a similar increase in *PP* and *PC* (*PP* policy). From *IS* policy the producer benefits to the tune of Rs 3861 million (as compared to Rs 1372 million from *PP* policy). On the other hand, the consumer is a net gainer to the extent of Rs 9601 million from the *IS* policy whereas it is a net loser of Rs 565 million from *PP* policy. The major loser from the *IS* policy is the government. It has to forego Rs 4397 million if it adopts the *IS* policy. On the other hand, it could gain Rs 643 million from the *PP* policy even by a very conservative estimate.

In terms of absolute gains to the society the *IS* policy therefore appears superior to the *PP* policy.¹¹

III. CONCLUSIONS

Besides emphasising the importance of using a multimarket framework to evaluate pricing policy options, the paper has two main conclusions to offer.

First, although the increase in *PP* accompanied by an equal percentage increase in *Pg* and *PC* for wheat and rice (individually and collectively) benefits the producer

¹¹This supports Barker and Hayami (1976) and Chaudhry (1984). However we have something to add to it for which please see Section III.

and the government more than the loss to the consumer, it could become a desirable policy option for the society only if income redistribution from the latter to the former groups is considered very desirable. Otherwise in spite of efficiency gains this may not be socially desirable policy option.

Second the *IS* policy, as opposed to the *PP* policy, appears to be more beneficial to the society only if one ignores its effects on the government revenue. However, a country like Pakistan with serious financial constraints is more likely to favour the *PP* policy for two reasons:

- (a) Contrary to the *IS* policy, an increase in procurement prices, besides benefiting the producer raises revenue for the government by enhancing the value of its stocks and by allowing more foreign exchange earnings. This, in a way, has established a vested interest of the government in this policy action; and
- (b) The *IS* policy, as opposed to *PP* policy, affects the government budget directly and on this account has to compete with other heads of expenditure in terms of its social valuation. Due to difficult financial conditions in Pakistan in the last few years it seems that not only the social marginal values of the competing public activities have gone up but also public revenue in general has become more valuable than the money going to other segments of the society. In this situation, the argument in favour of the *IS* policy as opposed to *PP* policy on the basis of their current monetary benefits may not carry much weight.

However the fact that a small increase in input subsidies could provide substantial welfare gains should not be underestimated if one is exploring avenues to promote agricultural development.

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Comments on "Agricultural Prices in Pakistan: A Multimarket Analysis"

This work on the implications of agricultural prices follows Brown, and Cheong and D. Silva's work on Pakistan (Brown 1980). This preceding work has calculated producer's gain, consumer's gain, and the government's gain, given the agrarian price structure over the last two decades. This analysis has been disaggregated to crop level. Faiz and Tahir have repeated this exercise. So the most important general implications of this analysis are already well known.

1. An increase in domestic crop prices for wheat and rice will result in:
 - a. Producer's gain;
 - b. Consumer's loss;
 - c. Government's gain through revenue; and
 - d. Manufacturing's loss through need to raise money wages. Price increases for other crops also lead to manufacturing's loss due to higher input prices and reduced competitiveness. If Faiz and Tahir are doing a general equilibrium analysis they need to take this point into account.
2. An increase in input subsidies for various crops will result in:
 - a. Producer's gain;
 - b. Consumer's gain;
 - c. Government's internal budget deficit. But government's gain from an increase in export revenue; and
 - d. Manufacturing's gain through low real wages. Again Faiz and Tahir need to take this into account.

So price policy leads to an increase in productive efficiency in agriculture. However it's distribution effect can be negative with consumer's loss outweighing producer's gain.

Input subsidy policy leads to an increase in output and profitability in agriculture. It can also increase productive efficiency if the increase in output is greater than the subsidy. And the distribution effect of input subsidies is also positive.

However the state can make a loss if its internal deficit is greater than its export gains.

There is a need for positive effects in both productivity and distribution. And government's gain is also desirable. This means that neither price policy, nor input subsidy policy is desirable on its own. Both policies have to be combined together in some mix.

This is an important corollary to remember these days when the IMF's structural adjustment programme is being applied in Pakistan. The structural adjustment programme has only one priority, which is reduction in the government's budget deficit. Therefore it recommends price policy and removal of input subsidies. Consumers suffer while producers and the government gains. However state policy has to be slightly more welfare oriented than the IMF's policy if it is to survive.

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