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A NOTE ON THE CONSISTENCY OF PAKISTAN'S
COTTON CLOTH STATISTICS FOR RECENT YEARS

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A NOTE ON THE CONSISTENCY OF PAKISTAN'S COTTON CLOTH STATISTICS FOR RECENT YEARS

Stephen R. Lewis, Jr.

This brief note is written in the hope that some further light can be shed on the cotton textile situation in Pakistan, since available (and widely used)¹ data appear to be internally inconsistent. The growth of apparent consumption of cloth in the domestic economy (derived from data on production and exports) combined with data on growth of population and per capita income and changing relative prices imply negative elasticities of demand with respect to either price and per capita income (or both) which are clearly outside reasonable range for these behavioral parameters. The most likely explanation for the inconsistency is that the cotton textile production figures are currently being underestimated, and that the growth rate of cotton textile output is also being underestimated. Since cotton textiles make up about one quarter of value added in large scale manufacturing industries in Pakistan, the effect of a substantial understatement in the growth of the cotton textile industry on the growth rate of manufacturing could be quite marked. There has been a very good performance rate in cotton textile exports in the past several years, both with respect to the rate of increase in exports and the rising share of cotton textile production that is exported. It is this very promising improvement in export performance that led to the questions raised here.

1. See, for example, Q. K. Ahmad's study of the Export Bonus Scheme [1], or Durrani's recent paper on export trends and projections [3]. A. R. Khan's earlier excellent study [4] also used the same sources for data up to 1960.

The basic data relating to the cotton cloth industry in Pakistan since 1959/60 are given in Table I. Some aggregate data for the economy of Pakistan are given in Table II. Expenditure elasticities of demand for cotton textiles have been given in several sources,² and while there is a substantial variation (0.75 to 1.40) among the estimates, they are all clearly greater than 0.5, and they average around unity, which is consistent with international comparative data on cloth and clothing consumption.³ Population has increased about 20 percent during the 1960's. Income per capita has increased about 25 percent (in real terms). On the basis of the income elasticities given above, one would expect consumption of cloth per capita to have risen between 15 and 40 percent, and total cloth consumption domestically to have risen by between 35 and 60 percent, if domestic relative prices of cloth had remained constant. Instead, apparent domestic consumption fell by almost 20 percent, and domestic consumption per capita fell about 25 percent.⁴

The falling domestic consumption could have been consistent with rising relative prices domestically (and with the stated objective of fiscal

2. See M.I. Khan [6], A.N.M. Azizur Rahman [10], or Tims [11], for examples.

3. See data given by Kuznets [7].

4. The apparent absorption figures omit an adjustment for imports and for inventory changes. Imports of cotton cloth have been minuscule throughout the last decade. There would have to have been a pronounced trend in inventory disinvestment over an eight year period, and this is not consistent with the data on stocks of (excisable) cotton textiles given by the CSO Statistical Bulletin up to 1967.

and exchange rate policy with regard to cotton cloth: to raise excise duties on domestic consumption and to raise exchange rates to exporters in order to divert production to exports). Instead, however, the domestic absolute price of cotton cloth was almost constant, and the relative price fell substantially (almost twenty-five percent). Any assumption one would make about the price elasticity of demand for cotton textiles would surely be positive^(i. e. the demand curve would be downward sloping) and probably close to unity. If such were the case, the observed price behavior would imply an additional increase in consumption of twenty percent or more above that implied by population and per capita income statistics. In other words, the introduction of the price data tend to make the production and export statistics more, rather than less, inconsistent.

It is possible that there had been substitution of rayon and other artificial silk textiles for some higher grades of cotton cloth, thus making the cotton cloth statistics alone consistent with observed data. However, the data given in Table III for rayon and artificial silk fabrics do not help very much, since the large percentage increase in rayon cloth production only replaced a small part of the reduction of^{apparent} cotton cloth absorption domestically, and there has been a reduction in the price of rayon cloth both relative to all goods and relative to cotton textiles over the 1960's. Also, given a high income elasticity of demand for rayon textiles, one would expect a high rate of increase in the domestic absorption of rayon textiles as per capita incomes increased, even if relative prices had remained constant.

There are a variety of hypotheses about the behavior of the Pakistan

economy (or the statistics purporting to reflect its behavior) that would be consistent with the data presented in Tables I, II, and III. I suspect the most likely hypothesis is that the production statistics are underestimated with respect to both level and rate of increase. In the years before capacity taxation was introduced, there were very real incentives for firms to understate both level and growth^{rate} statistics, and since corporation profits taxes are still levied on net income, which would^{tend to} vary with output,

the incentive for understatement still exists. There is also a probable understatement of output from firms of a size too small to be included in the definition of a large-scale industry, or too small to be subject to excise or sales taxes.^{5&6} In any case, there seems to be a substantial inconsistency in the production and price data (since export data are most likely to be accurate) in the most important manufacturing industry and the second most important export industry in Pakistan, and it would be most useful to planners, analysts, and statisticians if this were cleared up in some way.

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5. Another explanation that would be consistent with the data would be that the production data are correct, but that the increase in real income per capita has all been received by a small group of the very rich, who consume fine cottons and artificial silks, but whose income elasticity of demand for cloth is very low. However, in order for this to be consistent with the data, the poorer sections of the population would have had to suffer declines in their real income (since per capita consumption of cloth has fallen overall), and this is unlikely to have happened during the 1960's, though it may well have happened in the 1950's [2], [5].
 6. Quite possibly, some of the lower level of output is captured in GNP estimates through small-scale industry. However, the estimating procedure for value added in small-scale industry assumes growth rates equal to population growth, which would still leave some growth (or apparent growth, to be consistent with rising income per capita and falling relative prices) unaccounted for.

TABLE I

DATA ON COTTON FABRICS IN PAKISTAN
1959/60 - 1967/8

| | <u>Production</u> <u>'000 Yards</u> | <u>Exports</u> <u>'000 Yards</u> | <u>Apparent</u> <u>Domestic</u> <u>Absorption</u> | <u>Exports</u> <u>% Production</u> | <u>Wholesale</u> <u>Price Index</u> <u>Cotton Cloth</u> | <u>Yards</u> <u>Domestic Absorption</u> <u>Per Capita</u> |
|---------|--|-------------------------------------|---|---------------------------------------|---|---|
| 1959/60 | 607,235 | 35,476 | 571,759 | 5.8% | 100.00 | 5.78 |
| 1960/61 | 683,074 | 60,729 | 623,345 | 8.9 | 99.34 | 6.13 |
| 1961/62 | 706,245 | 43,633 | 662,612 | 6.2 | 101.04 | 6.37 |
| 1962/63 | 726,857 | 112,214 | 614,643 | 15.4 | 98.17 | 5.76 |
| 1963/64 | 741,443 | 143,713 | 597,730 | 19.4 | 95.52 | 5.46 |
| 1964/65 | 763,528 | 195,035 | 568,493 | 25.5 | 96.10 | 5.06 |
| 1965/66 | 691,379 | 196,124 | 495,255 | 28.4 | 98.20 | 4.29 |
| 1966/67 | 738,635 | 211,998 | 526,637 | 28.7 | 102.41 | 4.44 |
| 1967/68 | 782,543 | 281,201 | 501,342 | 35.9 | 104.06 | 4.13 |

Sources: Production: CSO Statistical Bulletin, May 1969

Exports: Economic Survey, 1968/69

Apparent Domestic Absorption: Production minus Exports

Wholesale Price Index: CSO Statistical Bulletin, May 1969, weighted 3:1, West Pakistan: East Pakistan as reflected by weighting in each Province's wholesale price index and the total weights for each province.

Population figures from Table II.

TABLE II

SOME AGGREGATE DATA FOR DEMAND
ANALYSIS IN PAKISTAN
1959/60 - 1967/68

| | <u>Population (millions; mid-year)</u> | <u>GNP per capita 1959/60 Factor Cost</u> | <u>General wholesale Price Index</u> |
|---------|--|---|--|
| 1959/60 | 98.88 | 318 | 100.00 |
| 1960/61 | 101.45 | 326 | 102.99 |
| 1961/62 | 104.09 | 337 | 105.88 |
| 1962/63 | 106.79 | 340 | 104.80 |
| 1963/64 | 109.56 | 359 | 104.62 |
| 1964/65 | 112.41 | 365 | 112.43 |
| 1965/66 | 115.44 | 372 | 117.54 |
| 1966/67 | 118.56 | 381 | 133.88 |
| 1967/68 | 121.76 | 402 | 128.58 |

Sources: Population: CSO Statistical Bulletin, May 1969,
figures attributable to Planning
Commission

GNP per capita: CSO Statistical Bulletin, May 1969

Wholesale price index: CSO Statistical Bulletin, May 1969

References

1. Q. K. Ahmad, "The Operations of the Export Bonus Scheme in Pakistan's Jute and Cotton Industries," Pakistan Development Review, Spring 1966.
2. S. R. Bose, "Trend of Real Income of the Rural Poor in East Pakistan, 1949-66," Pakistan Development Review, Autumn 1968.
3. M. T. Durrani, "Pakistan Export Projections by Commodity," mimeo, USAID, Department of Economic Analysis, Rawalpindi, 1969.
4. A. R. Khan, "Import Substitution, Export Expansion and Consumption Liberalization," Pakistan Development Review, Summer 1963.
5. A. R. Khan, "What Has Been Happening to Real Wages in Pakistan?" Pakistan Development Review, Autumn 1967.
6. M. I. Khan, "A Note on Consumption Patterns in the Rural Areas of East Pakistan," Pakistan Development Review, Autumn 1963.
7. S. Kuznets, Modern Economic Growth, New Haven, 1966.
8. Pakistan, Central Statistical Office, Statistical Bulletin.
9. Pakistan, Ministry of Finance, Economic Survey 1968/69.
10. A. N. M. Azizur Rahman, "Expenditure Elasticities in Rural West Pakistan," Pakistan Development Review, Summer 1963.
11. W. Tims, "An Input-Output Study for the Industrial Sector 1965-1970," July 25th, 1965 Planning Commission study, printed in Report of the Consistency Committee on the Third Five Year Plan, Planning Commission, July 1965.