Some Comments on the Cotton Cloth Consumption in Pakistan

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From the beginning, the cotton textile industry has been the keystone of Pakistan's industrial development. In both the large scale (more than 10 employees) and the small scale sectors, cotton textiles is the single most important industry in terms of both the value of output and employment. Cotton textiles account for more than 15 percent of all exports and a much higher share of manufactured exports. While the importance of textiles has diminished with the spread of industrialization to other sectors, the predominance of textiles in manufacturing employment, value added and exports is likely to continue for some time.

As Pakistan prepares to launch its Fifth Five-Year plan, it is useful to examine the growth prospects for the cotton textile industry. Having long ago replaced imports of cotton textiles by domestic production, Pakistan must now look to the expansion of foreign market for textiles or at least Pakistan's share in the market and to the growth of the home market to absorb any planned growth in productive capacity. With the uncertainties in the world market, and especially the current recessionary slump in the developed economies the aftermath of which is likely to be felt for some time, especially in the form of new quantitative restrictions against textile and other manufactured imports coming from developing countries—the future growth in demand for Pakistan's exports is very problematic. Over the decade of the 1960's, textile exports grew in real terms by more than 20 percent per annum. From 1970 to 1974 the trend rate fell to less than 5 percent per annum with considerable fluctuations in the rate of increase from year to year. Of course, there always remains the possibility that Pakistan can expand her share of the foreign market sufficiently to offset any decline in world demand, but the existence of the country-specific quotas on textile products in many of the importing countries may prove a serious constraint in this regard.

Without an expanding foreign market, the burden of absorbing increased domestic production falls on the local market. It is, therefore, essential for planning purposes to have a clear idea of the prospects of domestic absorption. The

size and rate of expansion of the local market depends on such factors as population, the relative prices of cotton textiles and *per capita* incomes. Unfortunately, however, the data on these variables are highly unreliable. In a study published in 1969, Stephen Lewis [4] compiled data on the *per capita* consumption of cotton cloth for the undivided Pakistan for the period 1959-60 to 1967-68 and he observed a marked downward trend in the *per capita* consumption of cloth over this period, which had no logical explanation in terms of either price or income elasticity, both of which appeared to be favourable to the expansion in *per capita* consumption of cloth. Lewis concluded, therefore, that the apparant decline in *per capita* consumption of cloth, in the presence of economic conditions which should have produced an increase in consumption was a statistical artifact, reflecting systematic misreporting in the official statistics.

The purpose of this paper is to bring Lewis's study up-to-date, both by extending the time series up to 1973-74 and by recalculating the *per capita* data for today's Pakistan (West Pakistan prior to 1972). In addition, we have added additional information on cotton textile production that was not available to Lewis, in particular estimates of the production of cloth in the small scale sector. While the general conclusion of Lewis's study that the data show a decline in *per capita* cloth consumption is generally supported by our analysis, we suggest several other factors —in addition to statistical inconsistencies—which may be capable of explaining some part of the observed decline.

In Table 1. we present data on cloth production (both large scale and small scale) exports, and population. By dividing cloth consumption (total production less exports[1]) by total population we arrive at an estimate of *per capita* cloth consumption for each year which is shown in column 7 of Table 1. For purposes of comparison, we have included the *per capita* consumption of cloth reported by Lewis in column 8. The large differences between the two can be explained on the one hand by Lewis's inclusion of data for East Pakistan, which had a generally lower consumption of cloth, and on the other hand by the inclusion in our data of the cloth produced in the small scale sector which in the years covered by Lewis's study amounts to as much as 70 percent of large scale production.

[1]Theoretically domestic absorption would be equal to production *plus* imports *plus* inventory changes minus exports, but the imports of cotton fabrics have been negligible and the data on stocks are not available. Anyhow changes in stocks will affect our results only if they have decreased systematically which is very unlikely in the light of increasing population and trading activity.

Table 1

Basic Data for Cotton Cloth Industry in Pakistan

Year	Production (Mill. Yards)			Exports (Mill. Yards)	Domestic Absorption (mill. Yards)	Population (millions)	Domestic Absorption per capita (Yards)	Domestic Absorption per capita as shown by Lewis
	Large Scale	Small Scale	Total					
	1	2	3	4	5	6	7	8
1960-61	613.6	237.1	850.7	70.0	780.7	46.2	16.9	6.13
1961-62	639.1	399.3	1038.4	52.1	986.3	47.4	20.8	6.37
1962-63	671.7	561.9	1233.6	104.1	1129.5	48.6	23.2	5.76
1963-64	693.2	488.8	1182.0	211.0	971.0	49.9	19.4	5.46
1964-65	714.8	418.4	1133.2	280.0	853.2	51.2	16.67	5.06
1965-66	651.4	492.6	1144.0	267.2	876.8	52.6	16.7	4.29
1966-67	683.6	460.1	1143.7	292.6	851.1	53.9	15.8	4.44
1967-68	714.8	369.7	1084.5	328.2	756.3	55.4	13.6	4.31
1968-69	710.2	602.4	1312.6	352.3	960.3	56.9	16.9	-
1969-70	725.4	722.7	1448.1	377.8	1070.3	58.5	18.3	---
1970-71	787.3	524.0	1311.3	468.0	843.3	60.1	14.0	-
1971-72	751.4	731.2	1482.6	457.1	1025.5	61.7	16.6	-
1972-73	704.0	646.6	1350.6	617.4	733.2	63.5	11.5	-
1973-74	697.3	632.8	1330.1	415.7	914.4	65.3	14.0	-

Source: Column 1   [7], [8]
            Column 2   [3]
            Column 4   [5], [7], [8]
            Column 6   [8]
            Column 8   [4]

Note.   Three sources of exports have been used in order to complete the time series and resolve some discrepancies in the data.

From the time series data on *per capita* cloth consumption in column 7, several interesting patterns can be observed. First, if there is a trend at all in the growth of cloth consumption, it appears to be a declining one. The lowest *per capita* consumption (11.5 yds) occurred in 1972-73, while the highest took place ten years earlier in 1962-63 (23.2 yds). What is even more apparent, of course, are wide variations in consumption from year to year, which on the surface tend to bear out Lewis's contention that the reported data are inconsistent. However, since these movements could in part at least, be the result of shifts in incomes or relative prices, the conclusion that there was statistical mis-reporting cannot be confirmed until the influence of these variables has been measured.

Income and Price Elasticities

In Table 2, we have shown the *per capita* consumption of cloth, *per capita* income (in constant 1959-60 prices) and two relative price measures—one relating the retail price index for cotton cloth to the general consumer price index (excluding textile goods), and the other relating cotton cloth prices to the prices of close substitutes, principally synthetics, using retail prices for both types of fabrics.[2] Lewis looked for an association between prices and consumption and found little relation-

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[2]Lewis used wholesale price index in his study but we believe that in a consumption demand analysis retail prices are the correct variable and not the wholesale prices.

Table 2

Basic Data on Quantities, Prices and Income Relating to Cotton Cloth Consumption

Year				Cotton Cloth Absorption per capita (year) Qd	Income per Capita (Rupees) I*	Retail price Index of cotton cloth relative to general consumers prices index P_1	Retail price index of cotton cloth relative to price of silk and rayon cloth P_2
1960-61	..	..	..	16.9	363	100.00	100.00
1961-62	..	..	..	20.8	376	99.50	103.33
1962-63	..	..	..	23.2	393	102.58	106.66
1963-64	..	..	.	19.4	408	102.01	110.00
1964-65	..	..	..	16.6	· 430	106.20	116.66
1965-66	..	..	..	16.7	420	105.82	130.00
1966-67	..	..	..	15.8	446	104.45	126.66
1967-68	..	..	..	13.6	467	111.48	123.33
1968-69	..	..	.	16.9	484	118.71	140.00
1969-70	..	..	..	18.3	552	116.94	140.00
1970-71	..	..	.	14.0	537	119.16	150.00
1971-72	..	..	..	16.6	530	111.36	163.33
1972-73	..	...	..	11.5	554	110.57	180.00
1973-74	..	..	..	14.0	571	131.76	216.67

Source: Qd Table 1
Income: [8]
Price Indexes Based on [6 and 7].

* In constant prices of 1959-60.

ship between the wholesale price index of cotton cloth and the cloth consumption but on the basis of direct observation rather than statistical analysis. The relationship between these variables can however be explored statistically by regressing the *per capita* consumption of cloth (Qd) on income *per capita* (I) and the relative price variable (either P_1 or P_2). Four different regressions are reported below, as we have tried both linear and log-linear forms and the two different price variables (t-statistics are shown in parentheses)

$$Qd = 27.79 + 0.025 \ P_1 - 0.03 \ I \qquad (1)$$
$$(.17) \qquad (-1.56)$$
$$R^2 = 0.40, \ F = 3.70, \ D.W. = 1.74$$

$$Log \ Qd = 6.8 + 0.33 \ log \ P_1 - 0.90 \ log \ I \qquad (2)$$
$$(.314) \qquad (-1.63)$$
$$R^2 = 0.42 \ F = 3.96 \ D.W. = 2.09$$

$$Qd = 26.54 \ 0.04 \ P_2 - 0.008 \ I \qquad (3)$$
$$(-1.08) \qquad (-.47)$$
$$R^2 = 0.42 \ F = 4.00 \ D.W. \ 1.90$$

$$\text{Log Qd} = 5.3 + 0.50 \text{ Log } P_2 - 0.12 \text{ log } I \qquad (4)$$
$$\qquad\qquad (.15) \qquad\qquad (-.35)$$
$$R^2 = 0.011 \quad F = 0.065 \quad D.W. = 1.83$$

One notable feature of these regressions is that all but one of the coefficients have the opposite signs from that suggested by economic theory, but the most important result is that neither price nor income movements seem to have any significant influence on the variation in cloth consumption. When *per capita* cloth consumption (in logged form) is simply regressed against time, as in equation 5, significant results are obtained.

$$\text{Log Qd} = 3.03 - 0.03 \text{ T}$$
$$\qquad\qquad (-3.06)$$
$$R^2 = 0.46 \quad F = 9.34 \quad D.W. = 1.89$$

The negative sign of the regression coefficient suggests a secular decline in the *per capita* cloth consumption over time. This means that a declining trend is observable and that there are factors other than price and income which are exerting an influence on consumption of cloth. On the other hand many studies [1, 2] have found the income and price elasticities to be around 0.5 which imply that the *per capita* cloth consumption, should have shown a rising trend. Therefore our results tend to confirm Lewis's contention that there has been misreporting in the official statistics.

However, there are some other factors, which may be responsible for some part of the observed decline though we are unable to assess their quantitative importance.

Durability

Cloth consumption measured in yards will, *ceteris paribus*, decrease with an increase in durability. As the quality of the basic cotton fibres and the spinning and weaving technology improve over time, the "wearability" of cotton cloth is bound to improve. Moreover, the blending of cotton fibres with synthetics — e.g. cotton tetron is also likely to improve the durability of cotton fabrics. Unfortunately, no information exists on the extent to which durability has increased or even the degree to which pure cotton fabrics have been displaced by blended fabrics. We can, therefore, only conjecture, on the basis of a *priori* reasoning that a greater longevity of made-up textiles may lie behind the apparent decline in *per capita* consumption.

Synthetics

Not only have consumers expressed a preference for blended cotton fabrics but for pure synthetic fabrics as well. One explanation for the drop in cotton cloth consumption is that the synthetic goods are rapidly increasing their share of the fabrics market. While data are not available for the most recent years, a definite upward trend in the consumption of synthetic cloth can be discerned in Table 3, although the reported *per capita* consumption of synthetics is still too small to account for the full amount of the decline.

Table 3

Absorption of Silk and Synthetic Fabrics in Pakistan

Year	Production (000, Yards)	Exports (000, Yards)	Imports (000, Yards)	Domestic Absorption (000, Yards)	Population (Millions)	Absorption per Capita (Yards)	Price Index 1959-60 = 100
1959-60	14,166	0.38	21.12	14,187	45.0	0.32	100.0
1960-61	14,978	0.64	26.97	15,004	46.2	0.32	97.6
1961-62	14,860	4.16	30.34	14,886	47.4	0.31	92.5
1962-63	18,445	4.40	8.75	18,449	48.6	0.38	83.8
1963-64	35,221	4.53	7.74	35,224	49.9	0.71	83.2
1964-65	32,122	90.50	6.30	32,038	51.2	0.63	79.9
1965-66	35,185	320.99	4.84	34,869	52.6	0.66	77.5
1966-67	44,539	48.75	1.76	44,492	53.9	0.83	81.7
1967-68	71,131	3.53	19.06	71,146	55.4	1.28	88.5
1968-69	87,497	17.51	2.30	87,482	56.9	1.54	89.7
1969-70	78,596	61.61	32.80	78,567	58.5	1.34	91.5

Source: [7 and 8].

The large availability of synthetic cloth apparent to any visitor to the bazars in Pakistan, suggests, however, that actual consumption of synthetic cloth may be greater than the reported level, the difference being attributable to the purchase of unreported, principally smuggled textile goods. The seizure of smuggled textile goods frequently appear in the national press, but no firm estimates of the flow of unreported foreign textiles into Pakistan are available.

Ready-Made Garments

While imports of cotton textile piece-goods are negligible, there has been an apparent increase in the import of made-up textile goods. Data on the imports of newly manufactured wearing apparel are not available, but data on the value of imports of used clothing suggest a steadily rising trend. However, until better data on the quantities of ready-made garments are compiled, one can only conjecture about the extent of the substitution of imported made-up textile products for domestically produced piece-goods, though the direction is clear.

Conclusion

Our study of the trends in *per capita* cloth consumption using officially reported data suggests a marked downward movement, which is apparently unrelated to either price or income effects. For the most recent years, the average *per capita* consumption of cloth, coming from both large scale and small scale units, appears to be of the order of 14 yards. It is interesting to note that the rate of decline in *per capita* consumption over the entire period covered by this study is roughly the same as Pakistan's rate of population expansion, which would mean that if one believes the official statistics to be correct, then the future demand for cloth in the domestic market may be quite stagnant. However, it should be pointed out that a previous study of consumption coefficients by Bussink [2] produced estimates of the price elasticities of demand for cotton cloth between -0.3 and -0.5 and an income elasticity for combined rural and urban consumers of 0.82. Thus very roughly a 30% increase in the relative price of cotton textiles might have explained as much as a 15% decline in *per capita* consumption over the 1960-61 to 1973-74 period, but this would have been much more than off-set by the more than 50% increase in real incomes during the same period. Again the data given by the Household income and Expenditure Surveys show a slight increase in *per capita*

expenditure on the category, "Apparel, Textile and Footwear[3]". However, it is not known how the composition of the bundle of "Apparel, Textile, and Footwear" has behaved over time. Secondly, silk and synthetic cloth are also included in this category and the increase in expenditure on these may well account for the increase in expenditure on the whole category.

We return, therefore, to the view that the official data may understate much of the economic activity in this sector. The possibility of systematic biases in the data cannot be ruled out. Exporters had, at one time, an incentive to over-report exports in order to increase bonus voucher earnings. On the other hand, producers would prefer to show the smallest output possible to avoid excise and other taxes. The combination of these two forces might explain an underestimate of the data on *per capita* cloth consumption, but would not, of course, explain the declining trend unless the extent of such misreporting changed secularly and systematically.

In summary, the declining consumption of cotton textiles per person does not seem to have a cogent explanation as yet. We have offered several explanations which, unfortunately, either could not be factually verified or were at best supported very indirectly with the available information. The strong conclusion emerging from our study is that the scope for improving the data on Pakistan's largest industry is substantial and any effort to obtain more detailed and reliable data in this area are likely to have a high return in the form of better demand forecasts for medium and longer term planning.

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[3]This was pointed out by M. Irfan, Staff Economist, PIDE. The author is thankful to him for his comment.