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7 Trade Policies and Employment: The Case of Pakistan

Stephen Guisinger, with the assistance of Mohammad Irfan

Introduction

Pakistan's trade with the rest of the world has, from the beginning of the country's existence, played a crucial role in its development.[1] It is axiomatic that international trade is important for all developing countries because they lack capital and intermediate manufactured goods and must earn foreign exchange to import them. But in Pakistan the foreign trade sector has made an unusually important contribution to economic growth, largely because of the historical circumstances of the country's creation and the international economic conditions during the early years of its existence. In 1947 Pakistan was created by a partition of the subcontinent into three regions: India, West Pakistan, and East Pakistan. The latter two regions were united in one national government until 1972, when East Pakistan seceded and became Bangladesh. Both East and West Pakistan were principally agricultural areas before 1947, and, when trade with India was severed in the wake of the partition there emerged extremely severe shortages of manufactured goods, previously purchased from the manufacturing centers of Bombay and Calcutta. The shock of such a sudden cessation of trade and the large latent domestic demand for manufactured products launched Pakistan on a program of rapid domestic industrialization.

The international economic environment in the early 1950s pushed Pakistan toward reliance on import substitution as a means of promoting domestic industrialization. The collapse of the Korean War commodity boom cut Pakistan's foreign exchange earnings sharply, and the government responded by erecting an elaborate exchange control system

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that provided lavish profits for domestic entrepreneurs (see Papanek 1967; Lewis 1969). Import substitution fueled industrial growth until the early 1960s, when the strong and steady growth of world demand for manufactured goods prompted Pakistan's planners to raise substantially the effective exchange rates (EERs) for exports of manufactured goods. A surge in Pakistan's manufactured exports gave support to Pakistan's continued rapid expansion of the manufacturing sector. Even the rapid growth of agriculture during the 1960s can be attributed in part to Pakistan's trade policies. Export taxes on a number of commodities were reduced, and import restrictions on fertilizers, insecticides, and other farm inputs were liberalized.

Another significant development in Pakistan, as we mentioned above, was the secession of East Pakistan from what was then known as Pakistan in 1972, when West Pakistan became the Pakistan of today. Since then Pakistan has experienced much political turmoil, culminating in the military coup of 1977 that deposed Prime Minister Bhutto. During this period of political unrest, economic policy was neglected, and the well-established economic administrative structure of the 1960s deteriorated somewhat.

The importance of Pakistan's trade sector has been analyzed in a number of studies (Lewis 1969, 1970; White 1974; Guisinger 1976), but the analysis has focused on the relationship of trade policies to the rate of economic expansion. This focus on growth stems in part from the widespread belief of economic planners and theorists alike during the 1960s that growth, employment, and equity in the distribution of income were complementary, not competitive, social goals. Rapid expansion of national income, they believed, would percolate through the economic structure, raising employment in all sectors and redressing income inequalities. The rise of urban unemployment in many developing countries, coupled with a sharp public outcry in Pakistan over the excessive wealth concentrated in the hands of a few industrialists, led the government to reassess its emphasis on rapid economic growth. Since the early 1970s the government has adopted a number of antipoverty measures that have sought to ensure increased real wages and increased employment opportunities for the poorest segment of society. For various reasons, some of which were completely beyond the control of government—adverse weather conditions, the oil price increase, and the world recession—these antipoverty measures have had little apparent effect.

In considering what policies can be used effectively to raise the level of employment in Pakistan, it is important to examine the following questions: first, What has been the effect in the past of trade policies on both the rate and the structure of employment? and, second, What modifications of existing trade policies would expand employment opportunities and reinforce the government's efforts to reduce the overall

levels of unemployment and underemployment in the economy? In the following two sections we will briefly review the main features of Pakistan's economic growth and describe the structure of foreign trade and protection. We will explore the contribution of export and import-competing industries to employment by examining the labor content of imports and exports, and subsequent sections will indicate the degree to which the labor content of imports and exports has been influenced by distortions in factor markets.

Two important aspects of the scope of this study should be noted at the outset. First, the geographical coverage is limited to present-day Pakistan or what was, before 1972, West Pakistan. "Pakistan" is used to refer both to the geographical region contained within the boundaries of only present-day Pakistan and to the original boundaries that included what is now Bangladesh. Where some confusion might arise in the use of this simplifying convention, the words "All" (i.e., West Pakistan plus East Pakistan) and "West" are inserted in parentheses to clarify which geographical region is being described. While this ambiguous use of the word "Pakistan" is far from satisfactory, it is less cumbersome than repeated references to "pre-1972" Pakistan and similar terms.

Second, the principal benchmark year of analysis for this study is the Pakistani fiscal year 1969/70—that is, July 1969 to June 1970. The selection of this year was based on several considerations. As we pointed out above, the period since 1970 has been extremely tumultuous from both political and economic points of view. It would be difficult to argue that any year during this period was representative or typical. Although no year is ever free from random and nonrecurring events, 1969/70 is perhaps more nearly typical than any of the more recent years. Most important, the most complete source of value-added and employment data for this study was the *Census of Manufacturing Industries, 1969–70*. In some cases data on industry are available for 1970/71, and these are incorporated in the study where appropriate. Certain data series—on wages and effective export exchange rates, for example—are available for more recent years, and these are also included to relate this study as closely as possible to current economic issues.[2]

7.1 Growth and Structural Change: An Overview

7.1.1 Growth: 1950–70

One of the poorest countries of the world at the time of its creation—"an economic wreck," according to a *Time* magazine story in 1947—Pakistan managed to increase its real per capita income over the decade of the 1950s by only 10 percent. But over the 1960s, real per capita income rose by 50 percent. During the latter decade, economic per-

formance was quite respectable by comparison with countries in the same per capita income bracket and gave the lie to predictions of the previous decade that Pakistan—resource poor and people rich—was caught inextricably in a low-income equilibrium trap.

Perhaps the most dramatic and unexpected change was in the pace of agricultural growth. As table 7.1 shows, the annual rate of agricultural growth in Pakistan averaged 5 percent during the 1960s, a figure thought unattainable on a sustained basis by any developing country, especially Pakistan. The movement from virtual stagnation to a 5 percent rate of expansion was the result of two "revolutions": a tubewell-chemical revolution in the first half of the decade, and the Green Revolution in the second half. Technological innovation and adaptation were at the core of both revolutions, but the primary force behind the acceptance and spread of the new technologies was the government's price policies. In contrast to the previous decade, when the internal terms of trade were tilted in favor of the manufacturing sector, the government permitted agricultural prices to rise relative to industrial prices. The commodity-fertilizer price ratio became so attractive that use of chemical fertilizers increased, agricultural productivity rose, and the real income of farmers expanded significantly.

While agriculture stagnated in the 1950s, industry flourished because of the high protection afforded by the exchange control system and because of the pent-up demand for consumer goods no longer available from traditional sources. Import substitution in cotton and synthetic textiles, leather goods, soaps, matches, bicycles, and other simple-technology consumer goods occurred rapidly during the 1950s. One important factor shaping the pattern of industrial growth during this period

Table 7.1 **Sectoral Rates of Growth, 1950–70 (Average Annual Percentage Rates at Constant 1959–60 Prices)**

Sector	1950–60	1960–70
Agriculture	1.7	5.0
Manufacturing	18.2	9.8
Other	3.8	7.3
Total GNP	3.5	6.8
Population	2.3	2.7
Per capita GNP	1.2	4.1

Source: 1950–60, Papanek (1967, p. 20); 1960–70, Government of Pakistan, *Economic Survey 1975–76* (1976), App. p. 10.
Note: "Manufacturing" excludes small-scale industries, which are included in "other."

was the availability of domestic raw materials. Products requiring imported inputs to any large extent were not prime candidates for import substitution in spite of high protection. Rather, those goods made with locally produced raw materials, such as textiles and leather products, grew most rapidly because producers did not have to undergo the costly and time-consuming procedure of attaining import licenses for the principal inputs. The restrictions on imported inputs slowed the growth of the investment goods industries because of the higher import component. By 1963 more than three-quarters of consumer goods were produced at home, compared with only one-third of investment goods.

The pace of manufacturing growth slowed in the 1960s. In part this was inevitable because high rates of growth from an extremely small base are not difficult, but it becomes more difficult to maintain these rates as the base expands. But several real economic factors did dampen the rate of manufacturing expansion. The elimination of easy opportunities for import replacement caused investors to search outside the manufacturing sector for new business ventures. Moreover, rates of protection diminished during the first few years of the decade, adding to investors' reluctance to build new manufacturing plants. The rate of growth in manufacturing was still extremely rapid by international standards—almost 10 percent per annum for large- and small-scale units combined.[3] Success in maintaining the momentum in industry during this period can be traced, to a very great degree, to a de facto devaluation of the export exchange rate brought about by the introduction of the export bonus voucher scheme. This scheme, described more fully in a subsequent section, in effect gave exporters an opportunity to sell their foreign exchange earnings at a very favorable rate. Although the bonus voucher's value fluctuated, it nevertheless augmented the official exchange rate, and Pakistan avoided to some extent the trap that import substitution set for many developing countries: a stagnant export sector languishing behind a heavily overvalued local currency.

In summary, the 1960s represented a quantum jump in Pakistan's economic performance as compared with the previous decade. Not all of Pakistan's success can be attributed to her own policies. The willingness of donors to supply foreign aid in the first half of the 1960s was undoubtedly a major factor in the acceleration of growth. The steady growth of the world market for labor-intensive, agriculturally based products during the decade was, if not a necessary condition, a major element in the expansion of manufacturing exports. Yet none of these external factors would have had a measurable effect on the overall rate of economic growth if Pakistan had not undertaken a major reform of her economic policies after 1958. These reforms, for the most part, took the form of rationalization and liberalization of the direct controls of the previous decade. Many distortions remained, but the overall tendency

was to bring about more, rather than less, uniformity in the degree of distortions among sectors and subsectors of the economy.

7.1.2 The Structure and Pattern of Trade

Since 1947 the pattern of Pakistan's trade has changed dramatically. Exporting almost solely agricultural goods and minerals in the early 1950s, Pakistan rapidly became an exporter of manufactured goods. Although these largely involved the first stages of processing of agricultural goods—converting raw cotton into yarn and hides into tanned leather, for example—the rapid rise of manufactured goods as a share of total exports is rather remarkable given Pakistan's relatively low level of development. In 1969/70, manufactured goods accounted for two-thirds of all exports. The structure of imports has also undergone substantial change, but in a different form. The division of total imports between natural resource based goods (agricultural products and minerals) and manufactured goods has remained approximately the same over two decades of Pakistan's development (1950–70). But the composition of each of these two categories has altered. Within the manufactured goods group, for example, imports of consumer goods have been replaced by imports of intermediate and investment goods. The composition of imports and exports in 1969/70 is shown in table 7.2, which also shows product classification according to its trade orientation (see section 7.3 for the discussion on the allocation of trade by commodity category).

Trade in Natural Resource Based Goods

Pakistan's imports of natural resource based (NRB) goods in 1969/70 consisted basically of three products: wheat, crude oil, and wood. Imports of wheat have varied greatly depending on the availability of PL 480 financing and Pakistan's own agricultural production. By comparison with imports both before and after 1969/70, wheat imports in this year were below normal. Pakistan produces crude oil, but only enough to supply about 10 percent of domestic needs. Pakistan imported almost no other minerals in unprocessed form because of the lack of domestic processing capacity.

Pakistan's exports of NRB goods in 1969/70 consisted primarily of raw cotton, rice, fish, hides, and wool. Raw cotton was by far the major export product, accounting for more than two-fifths of all NRB exports.

Manufactured Goods

The distribution of both imports and exports of manufactured goods across the three principal product categories—consumer, intermediate, and investment goods—is shown in table 7.2. Each manufactured commodity is further classified into one of three categories: export, import-competing or noncompeting import. The T statistic described in the in-

Table 7.2 Trade Flows, 1969/70

Commodity Group	Value of Exports (Rs 000s)	Total Exports (%)	Value of Imports (Rs 000s)	Total Imports (%)	*T* Statistics[a]	Trade Category[b]
Manufactures						
Consumer goods						
Sugar and confectionery	11,170	.7	1,150	0	.01	C
Tea and coffee	0	.0	13	0	.01	C
Edible oils and fats	2.270	.1	13,900	.4	.01	C
Food processing	92,900	6.1	32,100	1.0	.01	C
Beverages	1,530	.1	3,720	.1	.10	C
Tobacco	1,690	.1	1,090	0	− .05	C
Cotton textiles	511,600	33.8	530	0	−1.30	X
Other textiles	1,690	.1	16,070	.5	.01	C
Footwear	87,600	5.8	1,500	0	− .70	X
Wood, cork, and furniture	600	0	32,400	1.0	.50	C
Drugs and pharmaceuticals	15,350	1.0	72,450	2.2	.08	C
Printing and publishing	2,300	.2	10,700	.3	.00	C
Sporting goods	30,400	2.0	4,600	.1	−1.13	X
Total consumer goods	758,240	50.0	190,223	5.6		
Intermediate goods						
Paper and paper products	1,100	.1	30,800	.9	.22	NC
Leather and leather products	117,100	7.7	1,000	0	−6.38	X
Rubber and rubber products	4,100	.3	64,250	1.9	.50	NC
Chemicals	12,000	.8	526,400	15.6	.56	NC
Petroleum and petroleum products	39,800	2.6	32,100	1.0	.56	NC
Railroad ties	100	0	13,600	.4	.9	NC
Total intermediate goods	174,200	11.5	668,150	19.8		

Table 7.2—*continued*

Commodity Group	Value of Exports (Rs 000s)	Total Exports (%)	Value of Imports (Rs 000s)	Total Imports (%)	*T* Statistics[a]	Trade Category[b]
Investment goods						
Nonmetallic minerals	20,100	1.3	45,500	1.4	— .07	C
Basic metals	200	0	365,100	10.8	.64	NC
Fabricated metal products	7,300	.5	115,500	3.4	.42	NC
Nonelectrical machinery	6,550	.4	709,000	21.0	.87	NC
Transportation equipment (except motor vehicles)	1,200	.1	183,000	5.4	.71	NC
Instruments	17,500	1.2	50,700	1.5	.05	C
Motor vehicles	530	0	157,100	4.7	.71	NC
Electrical machinery	4,800	.3	218,850	6.5	.53	NC
Total investment goods	58,180	3.8	1,844,750	54.7		
Total manufactures	990,620	65.3	2,703,123	80.1		
NRB goods						
Rice	93,683	6.2	—	—		
Wheat	—	—	98,484	2.9		
Cotton	223,800	14.8	—	—		
Other	155,667	10.3	315,316	9.4		
Mining	24,500	1.6	220,400	6.5		
Miscellaneous industries	25,000	1.7	27,600	.8		
Total NRB goods	522,650	34.7	661,800	19.9		
Total trade flows	1,513,270	100.0	3,364,923	100.0		

troductory chapter (see section 7.3 for more discussion) is shown in column 5 of the table.

Export industries. More than three-quarters of Pakistan's manufactured exports are concentrated in just four industries: cotton textiles, leather products, footwear, and sporting goods. The remaining one-quarter are dispersed fairly evenly over the other industry categories. Two of the four major export industries accounting for more than 60 percent of total manufactured exports—cotton textiles and leather products—rely to a great extent on domestic raw materials and, depending on how close that link is, could be classified as processed NRB or as manufactured exports. The other two leading industries—footwear and sporting goods—appear to derive their comparative advantage strictly from relative factor costs. In both industries, a principal intermediate input—rubber for footwear production and wood for sporting goods (cricket bats, tennis rackets)—is imported.

In two of the export industries, small-scale producers—defined as those with fewer than twenty workers—have a significant share of the market. Since export data are not compiled separately by size of firm, the actual contribution of small producers to exports is unknown. Informal estimates have been made that as much as half of all exports of gray cloth originates in the small-scale sector. It is interesting that since the late 1960s the fastest-growing export industries have been dominated by small-scale firms—carpets, surgical instruments, and sporting goods. As will be shown below, the rapid growth of exports from small-scale producers came at a time when the overall employment of the small-scale sector was declining, suggesting, on the one hand, a major restructuring of this sector as it adapted to changing consumer tastes and competition from the large-scale sector but, on the other hand, a strong export potential, possibly based on its labor intensity. Little is known about the small-scale sector because it falls outside normal data collection channels, since small producers are not subject to compulsory registration. As a result, the data on factor intensities presented in a subsequent section do not include small-scale producers.

Import-competing industries. In eleven industries, domestic consumption is roughly equal to domestic production, and by the three-way di-

Notes to Table 7.2

Source: Government of Pakistan, *Pakistan Trade Statistics: 1969/70.*

[a]T statistics are averages of 1969/70 and 1970/71 data. T_t statistics were not calculated for NRB goods, since this study focuses upon manufacturing activity only. Rice and cotton are exportables, other NRB is an importable, and wheat and mining are noncompeting importables.

[b]C = import-competing industry; X = export industry; NC = noncompeting industry.

vision introduced earlier they are therefore considered import-competing. Not surprisingly, only 10 percent of all manufactured imports compete with these industries because import substitution in these industries is almost complete. Nine of the eleven industries in this category are in the consumer goods sector, the remaining two being nonmetallic minerals (cement) and scientific instruments. It is somewhat misleading to state unequivocally that import substitution possibilities in consumer goods have been exhausted, because the level of aggregation employed in this analysis masks a number of remaining opportunities. For instance, consumer durables (refrigerators, air conditioners, etc.) are still largely imported but are classified in table 7.2 as investment goods.

Noncompeting industries. Almost all of the intermediate and investment goods industries fall under the heading "noncompeting." The only exceptions are one export industry—leather products—and the two import-competing industries noted above, nonmetallic minerals and scientific instruments. The degree of "noncompetitiveness" of industries under this heading varies widely. Some, like basic metals, have since become, or will soon become, import-competing because of investment projects now nearing completion. In other industries, such as motor vehicles, scale factors make widespread import substitution an unlikely prospect for the short run because Pakistan's internal market is too small to accommodate plants of efficient size.

7.1.3 The Pattern of Trade

Perhaps the most important feature of the origin and destination of Pakistan's trade during the late 1960s was the economic union with what was then East Pakistan. A third of Pakistan's exports in 1969/70 went to East Pakistan, and 15 percent of her imports originated there. The cotton group (raw cotton, yarn, textiles) and rice accounted for almost half the exports to the eastern wing, with the rest spread over many different product groups. The principal imports from East Pakistan included tea, jute manufactures, paper, and matches. These together accounted for more than half of East Pakistan's exports to Pakistan.

The actual gains from trade accruing to each of the two wings of the country are the subject of considerable controversy. It is important to recognize, however, that changes in trade with East Pakistan made a relatively small contribution to Pakistan's industrial growth. It has been estimated that less than 5 percent of the growth of industrial output could be attributed to the expansion of exports to East Pakistan or to the domestic replacement of imports coming from East Pakistan (Guisinger 1976). Moreover, after the severance of ties with East Pakistan, Pakistan had relatively little difficulty marketing the items abroad that were formerly shipped to East Pakistan or finding alternative sources of

imports. While the composition of both exports and imports changed between the pre- and postseparation periods, there is no evidence that these changes arose because of the separation itself.

Insofar as trade with other countries is concerned, by far the bulk of imports came from developed countries. In 1969–70 more than three-quarters of all imports came from Europe (38 percent), North America (28 percent), Japan (10 percent), and Hong Kong (1 percent). The centrally planned economies supplied 8 percent of imports, and the rest was divided among other developing countries. No trade took place with India in 1969/70 because of a ban that was in effect from the early 1950s until 1976.

Pakistan's exports to developed countries amounted to almost half of all exports. Exports to North America came to 7 percent, Europe to 24 percent, and Hong Kong and Japan combined to 18 percent. The centrally planned economies absorbed 15 percent of the export total. In comparing import and export shares by region, one should bear in mind that imports in 1969/70 were roughly double the value of exports, so that, for example, the deficit in trade with North America was, in dollar terms, far greater than the respective shares of imports and exports would suggest.

7.1.4 Patterns of Industrial Growth

The major influence on Pakistan's pattern of trade over the period 1950–70 was the growth of large-scale manufacturing. In sheer quan-

Table 7.3 **Annual Rates of Growth of Manufacturing and Its Principal Sectors**

	All Pakistan			West Pakistan	
Sector	1951/52–1954/55 (Current Prices)	1954/55–1959/60 (Current Prices)	1959/60–1963/64 (Current Prices)	1963/64–1970/71 (Current Prices)	1963/64–1970/71 (Constant Prices)[a]
Large-scale manufacturing					
Consumer goods	43%	16%	13%	14.5%	11.0%
Intermediate goods	28	27	14	11.2	5.7
Investment goods	16	28	26	7.2	1.7
Total large-scale	38	20	16	12.9	9.0
Large- and small-scale manufacturing, total (West Pakistan only)	34	12	16	—	

Source: See Guisinger (1976, table 2).
[a]Prices of 1963/64.

titative terms, import substitution was successful in eliminating almost all consumer goods imports. The rapid rise of manufacturing enabled Pakistan to diversify its export base and to expand imports of intermediate and investment goods. Table 7.3 presents rates of growth of output for the major commodity groups for four separate time periods.

The pattern of growth rates bears out a number of the familiar features of Pakistan's early industrialization. Growth rates for the manufacturing sector fell off sharply after 1955, remained more or less constant at a fairly high level between 1955 and 1963, then declined again.

Sources of Industrial Growth

The changes in the nature of Pakistan's industrialization can be seen from an analysis of the "sources" of growth. Growth can be attributed to three sources: import substitution, export expansion, and the increase in domestic demand. The contributions of these three sources to manufacturing growth in Pakistan for four different subperiods covering roughly the first two decades of Pakistan's industrialization are shown in table 7.4.

The pattern of sources clearly shows the deflection of manufacturing from an almost exclusive strategy of import substitution toward a more even pattern of expansion. Perhaps the most striking feature of these sources is that import substitution, which was practically the only source of growth in the initial period, accounted for no more than one-quarter of the increases in manufacturing output as a whole and in its main subsectors in subsequent periods. It is interesting that, even before the introduction of the export bonus voucher scheme, exports were an important source of manufacturing growth, largely due to the comparative cost advantage that jute and cotton textiles had even at a highly overvalued exchange rate (see section 7.4).

Industrial structure. The cumulative effects of Pakistan's pattern of industrialization can be seen in the data on sector and trade shares contained in table 7.5. In 1970, consumer goods accounted for four-fifths of manufacturing value added. Since Pakistan's premier manufacturing industry—textiles—is included in this study as part of consumer goods, it is perhaps not surprising that this sector commands such a high percentage of total industrial output. The preponderant position of consumer goods has very important implications for the future rate and patterns of growth in the manufacturing sector.

The other interesting pattern evident in table 7.5 is the differential effect that past import substitution has had on the shares of imports in the total supplies of the three sectors. Import substitution is almost exhausted in consumer goods, where only 6 percent of the total supplies of these goods is obtained from abroad. In the intermediate and investment

Table 7.4 **Sources of Manufacturing Growth: Percentage of Increased Output**

Sector	All Pakistan 1951–54			All Pakistan 1954–59			All Pakistan 1959–63			West Pakistan 1963–70		
	Domestic Demand	Export Expansion	Import Substitution	Domestic Demand	Export Expansion	Import Substitution	Domestic Demand	Export Expansion	Import Substitution	Demand Domestic	Export Expansion	Import Substitution
Consumer goods	3	1	96	56	16	28	110	−1	−9	59	26	15
Intermediate goods	7	5	87	34	58	8	48	22	30	77	23	0
Investment goods	−7	1	106	72	1	27	109	1	−10	71	3	26
All industries	2	2	96	53	24	23	96	5	−1	70	17	13

Source: Guisinger (1976).

Table 7.5 **Structure of Manufacturing in Pakistan, 1970**

Sector	Share in Value Added	Share of Imports in Total Supplies[a]	Share of Exports in Total Supplies[a]
Consumer goods	80%	6%	29%
Intermediate goods	7	58	15
Investment goods	13	63	4

Source: Guisinger (1976).
[a]Total supply is gross value of output plus imports.

goods sectors, imports account for 58 and 63 percent, respectively, of the goods supplied, and thus in a technical sense ample opportunities for import substitution remain, though the scope for economically sound import replacement in these sectors cannot be determined from these data. On the export side, the consumer goods sector, led by textiles, has the highest export share, 29 percent, with the intermediate goods and investment goods sectors substantially below that level with 15 and 4 percent, respectively.

7.1.5 Structure of Employment

Pakistan's concerns with employment are perhaps as pressing as those of any developing country covered by this project. On the one hand, population growth has been very rapid, averaging 2.8 percent annually from 1950 to 1970 and 3 percent from 1970 to 1975. Almost 60 percent of the labor force was in agriculture in 1975, and so population pressures will intensify the need to create nonagricultural employment opportunities.

Open unemployment has not been a major factor in Pakistan until recently: real incomes simply are too low. However, there have been measures that have raised the real wage in the formal sector, and the formal/informal labor market distinction is growing in importance. As will be seen in section 7.4, the growing differential is, in part, one of the factors causing total employment in manufacturing to grow very slowly.

The levels of open unemployment, in both rural and urban areas, are low compared with many developing countries. No national survey, apart from the 1972 housing, economic, and demographic (HED) survey, has recorded an unemployment rate greater than 5 percent. The 13 percent figure reported in the HED survey is the only exception and appears to be due to differences in the definition of unemployed persons, since the 1971/72 and 1974/75 labor force surveys both record unemployment rates below 5 percent. The low level of open unemployment

may seem paradoxical in view of Pakistan's extreme poverty and high rate of population growth. Yet the absence of open unemployment makes sense if, as later sections of this chapter make clear, few barriers exist to the movement of labor among sectors, especially between the formal and informal sectors. Underemployment is a far greater problem. Few workers replied to survey interviewers that they were unable to find any work, even though the work they did find often left them below the poverty line (on the incidence of poverty, see Naseem 1973 and Guisinger 1977*b*).

The pattern of growth during 1950–70 led to changes in the structure of employment, as is evident from table 7.6. Between the two census years, 1951 and 1961, the share of the labor force engaged in agriculture fell while the shares of manufacturing and the various service industries rose. The largest gainer, in absolute terms, was manufacturing, reflecting the particularly rapid rate of expansion of this sector.

During 1961–72, roughly the decade of the 1960s, the share of agricultural employment in total employment remained almost the same, implying a relatively fast rate of growth for agricultural employment. There are a number of possible causes for this, but certainly one impor-

Table 7.6 **Labor Force, Employment, and Distribution of Employment by Industry in (West) Pakistan, 1951–72**

				Net Percentage Change	
Labor force	1951	1961	1972	1951–61	1961–72
Total (thousands)	9,812.0	12,763.0	19,016.0	+30.1	+49.0
Employed (thousands)	9,331.0	12,469.0	16,373.0	+33.6	+31.3
Unemployed (%)	3.2	1.5	13.0	− 1.7	+11.5
Not classifiable (%)	.7	.8	.9	+ .1	+ .1
Employment distribution (%)					
Agriculture	67.5	59.9	59.3	− 7.6	− .6
Mining	.1	.2	1.0	+ .1	+ .8
Manufacturing	10.0	14.1	8.3	+ 4.1	− 5.8
Electricity, gas, and water	1.9	.2	.1	+ .5	− .1
Construction		2.2	4.6		+ 2.4
Wholesale and retail trade	7.1	7.3	9.3	+ .4	+ 2.0
Transportation	1.8	3.0	3.9	+ 1.2	+ .9
Finance	—[a]	.2	.7	—[a]	+ .5
Services	11.6	12.9	12.8	+ 1.3	− .1
Total	100.0	100.0	100.0	—	—

Source: 1951, Farooq (1976) p. 88; 1961, Farooq (1976) p. 56; 1972, Government of Pakistan (1972), Housing, economic and demographic survey, table 20.
Note: Includes males and females.
[a]Included with wholesale and retail trade in 1951 census.

tant factor was the rapid growth in agricultural output. In spite of the technological changes that occurred in this sector after 1960, the rate of expansion was so great that the demand for agricultural labor kept pace with the growth of the labor force.

The most difficult shift to explain during 1961–72 is the decline in manufacturing's share of total employment, from 14.1 percent to 8.3 percent. This decline was not only relative; the number of persons employed in manufacturing fell, as can readily be seen from comparing the group share with total employment. Errors or redefinitions in sector classification in the census are possible, but the decline is also apparent in the data collected through the annual labor force surveys.

Manufacturing employment in both large-scale and small-scale establishments for 1961 and 1972 are shown in table 7.7. Because the data on total employment and large-scale employment are derived from two different surveys, the levels of small-scale employment, calculated as the difference between total and large-scale employment, must be considered as only orders of magnitude. This is particularly true of employment changes for a particular industry group but is still true when

Table 7.7 **Manufacturing Employment by Industrial Category, in (West) Pakistan, 1961 and 1972 (Thousands of Workers)**

	1961			1972		
Industry	Total Employment	Large-Scale	Small-Scale	Total Employment	Large-Scale	Small-Scale
Food, beverages, and tobacco	131	30	101	99	57	42
Leather products, textiles, and clothing	842	178	664	856	254	602
Wood products	162	2	160	82	4	78
Paper products and printing	22	11	11	29	12	17
Iron and steel products, fabricated metal products, transportation equipment, electrical goods, and non-electrical machinery and equipment	281	64	217	108	82	26
Nonmetallic mineral products	161	12	149	143	17	126
Products of petroleum and coal, rubber products, and chemical products	25	18	7	40	36	4
Miscellaneous	82	22	60	76	18	58
Total	1,706	337	1,369	1,433	480	953

Source: Guisinger (1978).

Note: See text for reservations regarding the data, especially for small-scale establishments.

aggregate employment of all industry groups is considered. Nonetheless, the overall drop in employment in the small-scale sector is striking and probably too great to be solely the product of erroneous data. On the basis of these data, employment in the small-scale sector declined roughly 30 percent over the eleven-year period. This apparent decline runs counter to the common assumption among planners in Pakistan that small-scale sector employment expanded during the 1960s. Indirect evidence on employment growth in this sector is mixed. Certainly, in some industries—notably carpets, surgical instruments, and sporting goods—the rapid growth in exports must have been accompanied by an expansion of employment. For the largest of the small-scale industries, cotton textile weaving, Anwar (1975) suggests that employment may have grown by as much as 5 percent over 1961–72. However, Anwar (1975) and Malik (1975) concluded that there are such great ambiguities in the data on textile production and use that little can be said with confidence about the growth of either employment or output in this sector. For many rural small-scale industries, such as pottery and ironworking, Eckert (1972) found abundant indirect evidence of a sharp decrease in employment.

The employment picture in manufacturing is thus somewhat clouded by inadequacies of the data. However, it is true that employment in large-scale manufacturing grew over the 1961–72 period at an annual rate of 3.2 percent, while large-scale manufacturing output was increasing by more than 10 percent per annum. According to available data, this expansion of large-scale employment was not sufficient to offset the decline in small-scale employment, with the result that total manufacturing employment actually declined over the period. The probable cause of the low expansion of employment in the large-scale sector is a relatively low output elasticity of employment (about 0.2). In 1959/60 prices, output grew by 220 percent from 1961 to 1972 while employment rose by just 42 percent.

7.1.6 Income Distribution

Pakistan is unusual for a developing country not only because the degree of income disparity is relatively low, but also because it has shown a tendency to fall rather than rise during a period of rapid economic growth. The data in table 7.8 show a slight downward trend in the Gini coefficient for both the total population and the rural sector. The change in income distribution involved more than a reshuffling of income among the upper income brackets, as can be seen from the increases in the shares of income received by the bottom 20 and 40 percentiles shown in columns 3 and 4. Although the change in income distribution between 1963 and 1971 may not be statistically significant, the important implication of these data is that income inequalities did not widen. These data, like all similar data on self-reported income, ought

Table 7.8 **Measures of Income Distribution Based on Household Income, 1963–72**

	Gini Coefficient		Income Shares (Urban + Rural)	
Year	Total	Rural	Lowest 20%	Lowest 40%
1963/64	.347	.339	7.1	19.2
1966/67	.342	.313	8.1	19.3
1968/69	.326	.261	8.5	20.1
1969/70	.323	.292	8.7	20.6
1970/71	.315	.284	8.8	21.1
1971/72	.332	.293	8.2	20.4

Source: Naseem (1973).

not to be regarded as unfailingly accurate. Yet, when various aspects of the income-employment picture are viewed together—the growth of employment in all sectors,[4] the rise in real wages reported in a subsequent section, the slow rate of rural to urban migration—stability in the measures of income inequality is at least plausible.

7.1.7 Inflation

During the period covered by this study, inflation was not a major issue. Between 1960 and 1970, consumer prices rose 43 percent, or at an annually compounded rate of less than 4 percent. More than half of the 43 percent increase occurred between 1964 and 1967, a period that included a major military confrontation with India and two disastrous harvests for lack of adequate rainfall. After 1970 the rate of inflation soared, and the price level doubled in just five years. Many factors contributed to the price rise, including the devaluation of 1972, the oil price increase and the general increase in the prices of Pakistan's imports, domestic fiscal policy that perennially produced budget deficits, and the adverse weather conditions that drove up the prices of food grains.

7.2 The Trade Regime

Pakistan has undergone three phases in its trade regime history (for a complete discussion, see Lewis 1969, 1970 and Papanek 1967). The first phase, roughly covering the period 1950–60, was characterized by a very restrictive and pervasive system of controls to protect import substitution activities. In the second phase (1960–72) these restrictions were liberalized (although not eliminated), and exports were promoted through an export bonus voucher system. The final phase began in May 1972 when the licensing system was scrapped, tariffs were lowered, and the degree of cascading contained in the tariff was reduced.[5]

7.2.1 The Trade Regime: 1950–60

The major instrument of protection to import-substituting industries during the 1950–60 period was the system of import licensing. The value of import licenses issued and the distribution of these licenses across import categories were determined by the chief comptroller of imports and exports. Both the level and the product composition of import licenses changed from year to year, but in all years demand for imports exceeded the controlled supply, creating a gap between importers' costs (c.i.f. prices plus duties and sales taxes) and market prices. The margin above importers' costs represented a windfall profit for those fortunate enough to have the import licenses. Also, domestic manufacturing firms were able to sell their products at prices well above importers' costs because of the scarcity markups created by restrictive licensing. Tariff protection was, in most product lines, a far less significant factor in overall protection than the licensing of imports. The structure of nominal and effective *tariff* protection, therefore, provides little indication of the production incentives created by the trade-control system during this period. A study by Lewis (1970, p. 69) suggests that the scarcity markup—the percentage increase of the wholesale price above the importer's cost—was 67 percent. Lewis also found that, for his sample, nominal rates of protection across the three major subcategories of manufacturing—consumer, intermediate, and investment goods—appeared to be uniform.

7.2.2 The Trade Regime: 1960–72

The reorientation of economic policy undertaken by the Ayub government after its accession in 1958 had important ramifications on the structure of protection. A new philosophy of planning and government control was enshrined in the second five-year plan (1960–65).

> The Plan proposes a decisive move towards a more liberal economy and a bold switch over from direct controls to a policy of regulation of the economy through suitable fiscal and monetary controls.
>
> Direct controls have so far been the chief instrument of economic planning. There is a multiplicity of such controls on capital issues, prices, profits, imports, exports and distribution of certain goods and commodities. These controls were not only inefficient in many cases; they have also placed an additional burden on the scarce administrative talent of the country, which could be better employed on development. . . . Such controls cannot be continued for long without hampering private investment and production, reducing capital formation in the economy and aggravating the imbalance between demand and supply. [Government of Pakistan, *Second Five-Year Plan*, pp. 78–80]

The major forms liberalization took were the export bonus voucher scheme and the introduction of liberalized licensing, especially the creation of the "free list," though several other policy changes were also implemented.

The Export Bonus Voucher Scheme

During the 1950s it became clear that exporters were caught in a continually worsening cost-price squeeze. The maintenance of an overvalued exchange rate through restrictive import controls implied (1) a constant rupee return per dollar of goods exported; but (2) production costs that had a tendency to escalate when foreign exchange became scarce and the scarcity premium on imported raw materials rose. To offset this disadvantage, the export bonus voucher scheme was introduced in 1959. For every Rs 100 of foreign exchange earned, the exporter received a voucher for either Rs 20 or Rs 40, depending on the type of product, that effectively became a license to import goods up to the face value of the voucher. The bonus vouchers were licenses to import only goods from a list of importable items, but the list was quite broad and encompassed consumer, intermediate, and investment goods.

Exporters had considerable freedom in deploying their vouchers. They could be used to import raw materials for processing into export or import-competing goods. They could be used for personal imports of luxury items, such as automobiles. Or they could be sold on the open market, commanding a price well in excess of their face value. This latter alternative was extremely popular, and bonus vouchers were traded on the Karachi stock exchange with the premium—that is, the price expressed as a percentage of its face value—quoted daily. Importers purchasing the vouchers could then import any item on the bonus list. If the premium was 150 percent and the c.i.f. value of the imported item was $1, or Rs 4.76 at the official rate of exchange, and the duty 50 percent, the total cost to the importer was: Rs 4.76 + 1.5 (Rs 4.76) + 0.5 (Rs. 4.76) = Rs 14.28. Since many items were purchased with bonus voucher premiums and customs duties of these same levels, it is clear that the marginal EER for exports exceeded the official exchange rate by a substantial amount.

For the exporter, the bonus voucher scheme offered a differentiated and variable EER. Agricultural goods carried a bonus rate—the share of foreign exchange earned returned in the form of vouchers—of zero while manufactured goods carried rates of 20 or 40 percent initially. The bonus rate structure, the number of rate categories, and the commodities assigned to the various categories were changed from time to time. Also, the premium fluctuated between 100 and 200 percent, though an attempt was made to stabilize the bonus premium at about 150 per-

cent. The EER for exports ranged, therefore, from Rs 4.76 to Rs 7.61 (Rs 4.76 + 1.5 × 0.4 × Rs 4.76).

The Free List

The introduction of the free list into Pakistan's import control system represented a major step toward relaxing the direct control mechanism. Before January 1964, when the free list was announced, all importers had to be registered, and licenses were issued only to certified importers up to a limit that was based on the importer's level of purchases during a base period. The system stood as a barrier to new entrants into import trade and, because of the compartmentalization of import quotas, resulted in obvious inefficiencies when some importers had excess demands for importable goods while others had an excess supply of licenses. In principle, licenses were not transferable; in practice they were, but at considerable cost to the integrity of government civil service.

The free list essentially enumerated those commodities that could be imported without licensing procedures. Because the pent-up demand for imports was so enormous, the free list was never truly free (see the comments on the free list by Thomas, summarized by Lewis 1970, p. 28). Nevertheless, the free list represented a step toward the market mechanism.

After 1964 all imports came into Pakistan under one of four categories: free list; license; cash-cum-bonus; or bonus. In some cases the domestic prices of importable goods were below the landed cost of imports (c.i.f. prices plus duties and taxes) because import substitution had proceeded so far that local production was able to satisfy demand, and competition among local producers made tariffs partially redundant. But for most industrial categories, scarcity margins above landed cost were the rule. As in the previous decade, measures of tariff protection did not adequately convey the degree or direction of the protection afforded by the trade control system.

No major reforms of the trade policy system were undertaken between 1964 and 1972, but there were still important modifications in various trade control instruments. The export bonus scheme, for example, was altered in several ways. The number of bonus rate categories—two initially—was raised to six, and commodities were shuffled among these categories on several occasions. The list of products that could be imported on bonus was changed from time to time, and other limits were placed on the amounts of certain items—automobiles, for example—that could be imported by any one party under the bonus scheme. The free list never played the vital role in the latter half of the decade that it did in 1964 and 1965, though it still performed a useful "safety

valve" function that released pressures inherent in any direct control system.

Tariff and sales tax rates for some product groups increased over the period, but because of the scarcity margins due to the system of restrictive licensing, this upward movement did not represent a change in the structure of protection. After the 1965 war with India, aid donors' enthusiasm about the prospects for tranquil economic growth on the subcontinent waned, and the availability of foreign exchange shrank. Two poor harvests in 1966 and 1968 aggravated both the general economic picture and import demand, and interest in liberalization slackened.

7.2.3 The Trade Regime: 1972 to the Present

The entire structure of Pakistan's trade-control system underwent a complete revision at the time of devaluation in May 1972. The export bonus scheme was dropped, tariffs were lowered, and the degree of cascading in the tariff system was reduced. Most important, the licensing system was scrapped. "An import license would now (post-1972) be issued freely to any Pakistani on registration" (*Pakistan Economic Survey 1971–72*, p. 16).

Data are not available to analyze completely the effects of these changes. However, the volume of exports rose from their 1969 level by about 40 percent and then leveled off in the early 1970s. The incentives for import substitution, on a net basis, probably did not change radically, but more uniformity in protection afforded by the tariff system may have been achieved.

7.2.4 Levels and Structure of Protection

The trend in protection over the period 1963/64–1970/71 is evident from the data in table 7.9. The nominal rates of protection for a post-devaluation year—1972/73—are shown for comparison. A cascaded structure of protection can be observed in each of the three time periods. Consumer goods have a higher average level of protection than either intermediate or investment goods. This is true whether nominal or effective rates[6] are taken as the measure of protection.

While the structure of nominal and effective rates of protection at two points in time provides some idea of variations in the level of incentive over time, these measures fail to take fully into account trends in domestic inflation and, especially for export incentives, trends in prices abroad. Changes in trade policies are sometimes needed to offset the effects of domestic and foreign price movements in order to maintain a constant real incentive; or, put another way, the absence of any changes in the face of price movements at home and abroad may alter the incentive structure and affect domestic production and trade.

Guisinger (1977*a*) found that the real EER[7] for exports actually rose between 1968 and 1971, as the result of both changes in trade policies and factors in the international economic environment. While no direct comparison with the real incentive for producing import sub-

Table 7.9 **Comparison of Rates of Protection, Manufacturing Activities 1963/64, 1970/71, and 1972/73**

Sector	1963/64		1970/71		1972–73
	Nominal Protection	Effective Protection	Nominal Protection	Effective Protection	Nominal Protection
Consumer goods					
Sugar	215	nva	266%	585%	57%
Edible oils	106	nva	54	130	62
Cotton textiles	56	733%	76	172	0
Other textiles	350	nva	141	317	88
Printing and publishing	28	22	43	36	57
Soaps	94	178	43	106	34
Motor vehicles	249	nva	270	595	61
Simple average	157	nc	128	277	63
Intermediate goods					
Wood and lumber	73	1,150	85	197	108
Leather tanning	56	567	76	177	0
Rubber products	153	nva	55	132	48
Fertilizers	15	nva	25	64	n.a.
Paints and varnishes	102	257	56	134	34
Chemicals	81	300	56	106	34
Petroleum products	107	−6	121	274	65
Paper products	94	376	57	177	69
Simple average	85	nc	66	158	43
Investment and related goods					
Nonmetallic mineral products	154	335	76	182	70
Cement	75	64	76	182	70
Basic metals	66	525	96	220	32
Metal products	95	nva	102	235	64
Nonelectrical machinery	89	355	81	188	44
Electrical machinery	60	138	83	192	47
Simple average	90	nc	86	200	50
All industries					
Simple average	110	nc	92	207	52

Source: Guisinger (1978).

Note: Nva = negative value added at international prices; nc = not calculable because of presence of negative value-added industries.

stitutes is possible, it appears that export production became substantially more attractive than production to replace imports. Since we will observe that exports are labor intensive (section 7.3), trade policies during this period assisted employment growth.

After 1972, however, the real EER declined, especially since 1974/75. The decline was due to inadequate government response to domestic inflation: measures were taken to increase the nominal EERs—the elimination of certain export taxes—but these efforts were not sufficient to offset the rise in domestic prices. If the erosion in real EERs continues indefinitely, it will plainly hamper employment growth in export manufacturing because of the labor intensity of that sector.

7.3 Labor Content of Tradable Goods

7.3.1 Labor Intensity of Production

Given the simultaneous emphasis on the processing of traditional agricultural goods and the rapid rise of the intermediate and investment goods sectors, it is perhaps not surprising to find highly labor-intensive and capital-intensive manufacturing activities coexisting in Pakistan's manufacturing sector. The data on labor per unit of value added for the different branches of the economy, shown in table 7.10, bear out this point. Four different measures of labor intensity are included in the table: labor per unit of value added for both direct labor and direct plus indirect home goods employment; and labor per unit of international value added, again for both direct labor and for direct plus indirect home goods employment. The last column of table 7.10 shows the ratio of domestic to international value added, which measures the degree of protection afforded each activity by the tariff and trade-control system.

On any of the four measures, the range in labor intensities among industries is extremely broad, especially when the agricultural activities are included in the comparison. Within manufacturing, there are five industries (sugar, edible oils, cigarettes, fertilizers, and petroleum products) that require fewer than 40 workers, directly employed in the industry, to produce a million rupees of value added, while eight industries (among them cotton textiles) require more than 120 workers to produce the same amount of value added. Note that this threefold gap in labor intensity is considerably narrowed if the direct plus indirect home goods measure is used: the "total" labor coefficients increase by roughly 50 percent.[8] This change is due to the sizable indirect home goods used in production and the fact that home goods are very labor-intensive. Several aspects of these labor coefficients deserve mention. First, the direct labor coefficients shown in table 7.10 are industrywide averages

Table 7.10 Direct and Total Labor Requirements in Man-Years per Unit of Domestic or International Value Added, 1969–70

Industry	Per Million Rupees of DVA		Per Million Rupees of IVA		
	Direct Employment	Direct and Indirect Employment[a]	Direct Employment	Direct and Indirect Employment[a]	Ratio of DVA to IVA
NRB					
Rice growing and processing	289	284	—	—	—
Wheat growing and processing	362	353	—	—	—
Cotton growing and ginning	277	275	—	—	—
All other agriculture	269	268	—	—	—
Mining	6	83	—	—	—
HOS					
Sugar refining	40	90	274	324	6.85
Edible oils	39	109	88	160	2.30
Cigarettes and tobacco	28	75	205	252	7.31
Food and beverages	62	129	104	171	1.68
Cotton textiles	122	151	338	367	2.77
Other textiles	149	176	621	648	4.17
Footwear	113	133	313	337	2.77
Paper and paper products	101	150	240	289	2.38
Printing and publishing	124	147	169	192	1.36
Leather and leather products	79	98	219	238	2.77
Rubber and rubber products	62	125	184	247	2.97
Fertilizers	34	96	56	118	1.64
Industrial chemicals	63	82	147	166	2.34
Nonindustrial chemicals and pharmaceuticals	52	91	107	146	2.06

Table 7.10—*continued*

Industry	Per Million Rupees of DVA		Per Million Rupees of IVA		Ratio of DVA to IVA
	Direct Employment	Direct and Indirect Employment[a]	Direct Employment	Direct and Indirect Employment[a]	
Cement	46	79	130	163	2.82
Basic metals	119	164	381	426	3.20
Metal products	207	219	689	701	3.33
Electrical machinery	101	119	295	313	2.92
Nonelectrical machinery	222	227	639	644	2.88
Motor vehicles	151	165	1,049	1,063	6.95
Other transportation equipment	190	292	969	971	3.34
Wood, cork, and furniture	230	231	683	684	2.97
Miscellaneous manufacturing	77	107	213	243	2.77
Coal and petroleum products	6	83	22	99	3.74

Source: Guisinger (1978).

[a]Number of persons employed (man-years) per unit of direct plus home goods indirect value added.

of the coefficients for subcategories that show, in some cases, an extremely high degree of dispersion. As an indication of the range of dispersion among the constituent subcategories of these industry groups, the highest and lowest labor coefficients among the subcategories are shown in table 7.11, next to the industry average. The employment contribution of some of these subcategories is extremely small, but it is important to underscore the fact that shifts in the composition of employment among the subcategories can affect the industry average without a change in the factor intensity of any given activity.

Second, the labor intensity of production varies by size of firm. Small establishments (10–50 workers) generally have a higher labor intensity than larger establishments. However, the decline in labor intensity is not monotonic. In several of the industry groups, the largest size category is *not* the least labor-using. In some industries—leather goods and transportation equipment, for example—firms in the largest size category use much more labor per unit of value added than medium-size firms.

7.3.2 Labor Contents by Commodity Category

The data on individual requirements can be combined with the trade and production data to generate estimates of the labor embodied in various "bundles" of tradable goods. For Pakistan, a relatively poor country with a large, unskilled labor force, one would expect that exports would be more labor-intensive than importable goods, whether produced at home or imported. One would also expect that the reverse would hold true for the capital and human skills embodied in tradable goods. Because of data inadequacies, it was not possible to determine the capital and skill content, but the data on labor content are consistent with the expectations that Pakistan's exports are labor-intensive.

The individual activities were allocated to trade categories on the basis of their T_i statistics. A T value well below zero indicates an export item; values near zero suggest that an industry is principally import-competing; and values well above zero suggest that domestic production does not effectively compete with imports, even though that condition may eventually be eliminated through subsequent import substitution. With -0.1 and 0.1 as cutoff points,[9] there are four export, twelve import-competing, and eleven noncompeting industries. Of the latter group, however, only paper and fabricated metal products show a T value less than 0.5. Paper is a borderline case ($T_i = 0.22$) and is assigned to the noncompeting category, since all its raw material needs (pulp) are imported. In the absence of protection, it probably would not be produced domestically.

One property of these estimates of average labor content by commodity category should be made clear at the outset. As previously

Table 7.11 **Variation in Direct Labor Requirements within Industry Groups and by Firm Size, 1969/70 (Direct Employment per Million Rupees of Domestic Value Added)**

Industry	Range within Group			Size of Establishment		
	Mean	High	Low	Small	Medium	Large
Rice growing and processing	289	—	—	—	—	—
Wheat growing and processing	862	—	—	—	—	—
Cotton growing and ginning	277	—	—	—	—	—
All other agriculture	269	—	—	—	—	—
Mining	6	—	—	—	—	—
Sugar refining	40	—	—	—	—	—
Edible oils	39	—	—	—	—	—
Cigarettes and tobacco	28	—	—	—	—	—
Food and beverages	62	91	29	127	57	54
Cotton textiles	122	274	122	184	171	111
Other textiles	149					
Footwear	113	244	85	307	236	91
Paper and paper products	101	102	100	248	170	82
Printing and publishing	124	271	119	198	131	109
Leather and leather products	79	84	30	126	25	58
Rubber and rubber products	62	299	20	434	168	39
Fertilizers	34	—	—	—	—	—
Industrial chemicals	63	95	15	229	64	31
Nonindustrial chemicals and pharmaceuticals	52	136	36	—	—	—
Cement	46	—	—	—	—	—

Table 7.11—*continued*

Industry	Range within Group			Size of Establishment		
	Mean	High	Low	Small	Medium	Large
Basic metals	119	240	117	124	17	126
Metal products	207	538	115	296	157	205
Electrical machinery	101	242	45	286	86	98
Nonelectrical machinery	222	473	189	279	208	209
Motor vehicles	151	—	—	273	84	269
Other transportation equipment	290	—	—	—	—	—
Wood, cork, and furniture	230	—	—	—	—	—
Miscellaneous manufacturing	77	—	—	—	—	—
Coal and petroleum products	6	—	—	—	—	—

Source: Guisinger (1978).

discussed, only four industries qualify as "export industries" on the basis of the T statistic. It has also been noted that two of them—cotton textiles and leather products—could be considered natural resource based (NRB) manufacturing industries because of their reliance on domestically produced raw materials. Application of this criterion (though perhaps unduly restrictive) would leave only two export industries—footwear and sporting goods—clearly marked as Heckscher-Ohlin-Samuelson (HOS). However, exports originating in these two industries are less than half the value of HOS exports originating in industries classified as importable and non-competing. A serious bias would be introduced if no account were taken of the labor embodied in these "nonexport industries." Therefore, in the following discussion, estimates of the labor content of Pakistan's exports will refer to all exports of manufactures excluding, except as noted, PCB goods. Calculations of the labor content of Pakistan's imports will, on the other hand, relate only to those classified as importables since, for purposes of this comparison, there is no need to include goods of which there is no competing production in Pakistan.

Direct Employment per Unit of Domestic Value Added

In table 7.12, the average direct labor coefficients for various classifications of imports and exports are shown in column 1. In general, HOS exports use 42 percent more labor, on a direct basis, than is required to produce import-competing manufactures. If NRB manufactured exports are excluded—namely, cotton textiles and leather products—the margin of labor intensity falls to 24 percent (row 2c). This occurs because several industries that exported in 1969/70 (though not considered export industries by the procedures described in the previous section) are extremely capital-intensive. These are petroleum products, sugar, edible oil, and food and beverages. The export of petroleum is the result of the export of bunker oil that Pakistan refines but cannot absorb in its own market.

With regard to the direction of trade, manufactured exports exclusive of processed NRB goods to developed countries are 29 percent more labor-intensive than HOS imports from these countries. For trade with developing countries, the reverse is true, probably because Pakistan is relatively more industrialized than its LDC trading partners. However, note that imports from developing countries form a small part of total imports (about 2 percent).

Consequently, they have little effect upon the average labor intensity of all importables. It may also be noted that, if HOS exports were limited to the two export industries that fall unequivocally into this category—namely, footwear and sporting goods—the average labor content of exports to developing countries would be 160 instead of 88 as reported in

Table 7.12 **Labor Content of Pakistan's Trade in HOS Manufactures by Major Trade Flows, 1969/70 (Number of Workers per Million Rupees of Value Added)**

	Direct Employment per Unit of DVA[a]	Direct Plus Indirect Employment		Trade Flow as Percentage of Pakistan's Total Exports or Imports
		Per unit of DVA[a]	Per unit of IVA[a]	
1. Trade with all countries				
a. Exports, including PCB goods[b]	101	135	310	65.8
b. Exports, excluding PCB goods[b]	88	125	258	24.3
c. Imports[c]	71	96	202	21.7
d. 1a ÷ 1c	1.42	1.41	1.53	
e. 1b ÷ 1c	1.24	1.30	1.28	
2. Trade with developed countries				
a. Exports, excluding PBC goods[b]	90	132	255	10.1
b. Imports[c]	70	91	186	19.3
c. 2a ÷ 2b	1.29	1.45	1.37	
3. Trade with developing countries				
a. Exports, excluding PCB goods[b]	88	120	260	14.2
b. Imports[c]	120	150	364	2.4
c. 3a ÷ 3b	.73	.80	.71	

Note: Trade values have been used as weights in obtaining average coefficients. Small-scale producers are not included in the estimates.

[a]DVA = domestic value added; IVA = international value added.

[b]PCB = primary commodity based (see text).

[c]Including only products classified as import-competing.

table 7.12. But, since these two industries account for less than a quarter of all HOS goods exported to developing countries, the omission of the other, more capital-intensive exporting industries would give a misleading estimate of the true factor content of Pakistan's export trade.

Direct Plus Indirect Home Goods Employment

None of the findings on relative labor intensity of the various combinations of imports and exports discussed in the previous section are reversed when the employment generated indirectly in the home goods industries is added to the direct employment. In fact, the margin in labor-use between imports and exports excluding PCB goods widens when the direct plus indirect effects are considered. A comparison of columns 1 and 2 of table 7.12 shows that adding indirect home goods employment raises the labor content of manufactured exports slightly more when PCB goods are excluded than when they are included. Since there are no important differences in labor utilization ratios in home goods industries, this suggests that the traditional processing industries, cotton textiles and leather, do not require home goods inputs in as great a quantity as the other industries.

It is interesting that consumer goods exports are more labor-intensive (146 workers per unit of DVA) than intermediate goods (94 workers), though only slightly more labor-intensive than investment goods exports (129 workers). One implication of these data is that, for any given level of exports, the higher the share of intermediate and investment goods, the lower the average labor coefficients for all exports. Although some investment goods are produced with labor-using techniques, it will be seen below that investment goods industries are afforded high absolute levels of protection (though not as high as consumer goods) and the labor intensity may be a result of inefficient overmanning instead of efficient use of relatively cheap manpower.

Labor Content at International Prices

The principal effect of recalculating the labor content coefficients at international prices is to roughly double the labor coefficients while leaving their relative position unchanged. When value added at international prices is used as the denominator of the labor coefficients, exports remain between 25 and 50 percent more labor-using than imports. This result suggests that exportables and importables are subject to roughly the same level of protection in commodity markets.

7.3.3 Summary

Labor requirements in Pakistan's manufacturing sector vary considerably between and within activities. However, it is generally true that export activities have higher labor requirements than importable activities.

Consequently, we can conclude that the trade policies followed during the 1960s, namely promoting export activities while simultaneously protecting import substitutes, did not lead to as much employment growth as other more export-leaning policies might have done. That overall employment fell in manufacturing in the 1960s (though not in large-scale manufacturing) probably is due partially to these policies.

7.4 Factor Market Distortions and the Labor Content of Trade

Distortions in factor prices can affect employment levels in a variety of ways. The most obvious of these is through shifts in relative factor prices that alter the capital/labor ratios in production. In developing countries, factor price distortions such as minimum wage legislation have often pushed the market wage above its equilibrium level and lowered the market price of capital to some investors via subsidized interest on loans to industrial investors, tax holidays, and accelerated depreciation. Distortions not only alter relative prices but are also symptomatic of blockages in the free flow of capital and labor among sectors. It is important then to identify distortions in the markets for both labor and capital. This is a particularly difficult exercise, since the data on wages and rentals are fragmented and not very reliable.

7.4.1 Wage Trends and Wage Distortions

In the early 1960s, Pakistan was still widely regarded as the archetypical labor surplus economy. Employment growth in agriculture during the previous decade failed to keep pace with population growth. The fastest growing employer, large-scale manufacturing, was still too small to make more than a small contribution to solving the growing unemployment problem. It is fair to say that the common expectation for the wages of unskilled workers in all sectors of the economy was continued stagnation at near-subsistence levels, and even deterioration in real terms if population growth could not be curtailed.

Wages in Large-Scale Manufacturing

Wage data for production workers in the large-scale manufacturing sector shown in table 7.13 provide a rather clear indication that the expectation of stagnant real wages has not been realized. Real wages have fluctuated over the period 1960–75, but a definite upward trend can be observed.[10]

Three distinct periods can be discerned in the series on real wages (col. 5). In the first period (1955–63), real wages conform to the prediction of the labor surplus model as they remain more or less constant. In the second period (1964–67), real wages break out of their stagnant trend, first rising, then falling back in the wake of the inflation following

Table 7.13 **Money and Real Wages of Production Workers in Large-Scale Manufacturing (Rupees per Worker per Year)**

Year	Money Wages[a]		Cost of Living Index[b] (3)	Real Wages	
	Current Rupees (1)	Index[b] (2)		1959 Rupees (4)	Index[b] (5)
1954	981	90	87	1,122	103
1955	896	82	85	1,058	97
1957	994	91	93	1,059	97
1958	1,045	96	96	1,094	100
1959/60	1,091	100	100	1,091	100
1960/61	1,135	104	104	1,091	100
1961/62	1,156	106	108	1,070	98
1962/63	1,189	109	107	1,110	102
1963/64	1,195	110	110	1,088	100
1964/65	1,340	123	114	1,180	108
1965/66	1,464	134	117	1,245	114
1966/67	1,510	138	127	1,189	109
1967/68	1,536	141	137	1,116	102
1968/69	1,735	159	138	1,257	115
1969/70	1,931	177	143	1,351	124
1970/71	2,094	192	151	1,384	127
1971/72	2,389	219	159	1,504	138
1972/73	2,914	267	174	1,679	143
1973/74	4,012	368	226	1,775	163
1974/75	4,953	454	286	1,730	159

Source: Guisinger (1978, table 4-1).

[a]Money wages from 1970/71 onward are not directly available and, reversing the usual sequence, have been derived from the real wage series by application of the cost of living index.

[b]1959/60 = 100.

the 1965 war with India. Finally, in the third period (1968–75), real wages show a definite break with the past, rising steadily (except for 1974/75) and gaining more than 50 percent by the end of the period.

The take-off of real wages can be traced to various factors. Part of the increase is due to the changing skill composition of employment. The wage data shown in table 7.13 are for production workers, a broad category that includes both skilled and unskilled workers. During the 1960s production in the large-scale manufacturing sector shifted from the simple processing of consumer goods to more sophisticated and technically complex production of intermediate and capital goods. Since it is likely that the average skill required of manufacturing workers rose, this shift in skill composition probably contributed to the increase in

the average wage in manufacturing without any changes in the real wages of each skill category.

Another part of the increase is the result of shifts in the supply and demand for industrial labor. As described below, there is some evidence that the wages of hired agricultural workers rose during this period, and, since unskilled workers are fairly mobile between industrial and agricultural labor markets, the increase in agricultural wages put upward pressure on urban wages. The supply schedule of industrial workers may also have been affected by the emigration of unskilled and semiskilled labor to the Middle East. On the demand side, employers may have increased wages to reduce labor turnover as a way of improving profit margins that began to narrow with the liberalization of trade controls in the early 1960s.

However, the major part of the increase in real wages occurred in the 1970s and appears to be due to nonmarket factors, particularly the wage policies introduced during the period. Trade unions, the other major nonmarket influence on wages in developing countries, had little direct effect on wage levels in Pakistan because of the constraints placed on their activity by legislation adopted in the late 1950s. The first government intervention in wage determination was, however, not intended. It was in 1963 when the government revised its own pay scales, and this pay increase spilled over into the private sector. The decline in real wages after 1965 provoked considerable labor unrest, which in turn contributed to the change in government in 1968. The new government was committed to improving labor conditions and instituted a number of reforms in labor policy. The government issued an Industrial Relations Ordinance in 1969, the objective of which was to improve the standards of living of workers. This included a new minimum wage that was rigorously enforced. The effects of the minimum wage on the average wage of all production workers can be seen in table 7.13 by the 26 percent increase in money wages between 1967/68 and 1969/70. Money wages continued to rise through the early 1970s as the coverage and enforcement of the minimum wage legislation was extended.

The change in government in 1971 produced a new set of labor policies that boosted industrial wages still further. Reforms in February 1972 extended workers' participation in management, made compulsory the payment of annual bonuses at stipulated rates, and set minimum standards for education, life insurance, and separation and medical benefits. Workers' entitlement to a share in profits was doubled from 2.5 to 5 percent. These fringe benefits, coupled with the residual effects of the 1969 minimum wage legislation, added more than 22 percent to the earnings of workers.

In August 1973 the government adopted the Employee Cost of Living (Relief) Ordinance requiring employers in both the private sector and

the public sector to award cost of living adjustments at a rate fixed by government. There have been three such adjustments under the 1973 ordinance: Rs 35 monthly in August 1973; Rs 50 in June 1974; and Rs 25 in April 1975. Thus, a worker in an industrial area outside Karachi, earning the statutory minimum wage of Rs 125 in June 1973, was earning Rs 235 by June 1975—an increase of 88 percent in two years. Since consumer prices rose by approximately 65 percent during the same period, real wages of the workers at the low end of the pay scale rose substantially. The wage of the average worker rose by a smaller percentage than the increase in the minimum wage, but it too showed an increase in real terms, as can be seen in column 5 of table 7.13.

In summary, over the period 1960–75 real wages in large-scale manufacturing rose by almost 60 percent. In just seven of those years—1967/68 to 1974/75—real wages rose by 55 percent, or by 6.5 percent per annum. Few developing countries have experienced more rapid increases in real wages for that length of time.

An analysis of wage dispersion in the large-scale manufacturing sector by Guisinger and Irfan (1975) did not reveal any widespread differences in average earnings per worker among industries. In fact, when account was taken of market influences on interindustry wage differences—the skill mix, for example—the residual differences that could then be termed "interindustry" distortions were almost insignificant compared with the wage dispersion observed in other developing countries. However, there was a growing tendency for nonmarket factors to widen wage differences among industries. Nonmarket factors included trade union influence and the share of the industry controlled by foreign investors. The implication of these findings is that, though interindustry wage distortions were not a serious problem in 1969/70, evidence was mounting that serious distortions could emerge in the future.

Public Sector Wages

Government workers, together with workers in the large-scale manufacturing sector, constitute the bulk of formal-sector employment in Pakistan. Not counting defense personnel, who are excluded from the labor force statistics, workers in central, provincial, and local government positions account for approximately 6 percent of the total labor force, of which one-third are teachers and educational administrators.

The most interesting feature of government wages over the period 1960–75 was the decline in real wages for workers in each of the twenty-two grade levels. Moreover, since the real wages of the most highly skilled workers declined faster than those of the least skilled, skill differentials narrowed. The decline in public sector wages, particularly at the higher grades, actually reduced the distortion between public and

private sector wages that was a legacy of the country's colonial history. The degree to which public sector wage scales influence private sector wage scales is unknown, but there is circumstantial evidence that the two are related (Guisinger, Henderson, and Scully 1978). Public policy in this area has thus had the effect of moderating skill differentials in both the private and the public components of the formal labor market as well as between these two sectors.

Urban Informal Sector Wages

While workers in large-scale manufacturing and government constitute more than half the formal sector employment in urban areas, the vast majority of urban workers are employed in the informal sector. Wages in the informal sector are determined by forces of supply and demand and do not come under the direct influence of trade unions or labor legislation.

Wage data for informal sector workers are only infrequently reported in censuses and surveys, and when reported they are often difficult to interpret. The informal sector is far more heterogeneous than the formal sector in terms of the age, education, and occupation of workers. The average wage of all workers in the informal sector has little meaning, since the characteristics of the workers may be changing over time. Also, many informal sector workers—such as hawkers and peddlers—work for profit rather than wages, and their reported earnings frequently include an implicit return to the capital that they use in their work.

While the available evidence on wage trends in the urban informal sector is clearly preliminary, there is no basis for concluding that the gap between formal and informal sector wages widened between 1960 and 1975. Data compiled by Guisinger (1978) suggest that the real wages of some of the least-skilled informal sector occupations experienced an increase over this period. Moreover, regression analysis of the determinants of personal earnings, taking into account such factors as education, age, and other socioeconomic characteristics, showed that including a dummy variable for informal sector workers did not add significantly to the explanation of interpersonal earnings differentials.

Agricultural Wages

The real wages of both permanent and casual agricultural workers did not increase during 1960–66, but between 1966 and 1973 real wages of these workers increased by more than 2 percent per annum (see Guisinger 1978 for details). Moreover, the low rates of rural-to-urban migration reported by Eckert (1972) tend to confirm the strong labor demand implied by rising real wages. Fewer than one hundred thousand workers a year moved from rural to urban areas, a surprisingly small figure for a total labor force of more than twenty million.

7.4.2 The Price of Capital and Relative Factor Costs

The Price of Capital, 1960–75

The price of capital in Pakistan, as in most developing countries, is shaped as much by the investment and trade policies of the government as by market forces. Throughout Pakistan's development, capital has been regarded as the essential ingredient in the growth process, and therefore it has been carefully controlled to be channeled into priority areas. Large-scale manufacturing, a priority sector in Pakistan's past development plans, has always been the beneficiary of various forms of investment incentives, including: subsidized interest rates; accelerated depreciation allowances; tax holidays; and, perhaps most important, licenses for the import of capital goods, whose scarcity value was several times their face value. These and other less direct incentives have combined to reduce the actual (market) price of capital below its opportunity cost—the price that would have prevailed if a neutral set of government policies had been in effect and if all markets had functioned smoothly.

To understand the full effect of Pakistan's investment incentive measures, it is essential to know the degree of subsidy implicit in the package of incentive policies and how it has varied over time. The price of capital is, unfortunately, an elusive concept both theoretically and practically: theoretically because no single measure fully reflects the complete general equilibrium ramifications of investment incentive policies; practically because data are available from official sources on only a few of the elements that make up the price of capital. Moreover, during the 1960s access of a firm to the various investment incentives offered by government depended on its size, its geographic location, and the economic sector in which it operated. It is unlikely that any two investments received the same package of incentives. Without detailed data on investment incentives disaggregated by industry, firm size, and geographic location, an average price of capital cannot be determined.

In what follows we shall nevertheless attempt to estimate the price of capital, taking into consideration all factors that may have influenced its deviation from the opportunity cost.

The appropriate partial equilibrium concept for measuring the price of capital is the annual rental value of a unit of capital, also referred to as the user cost of capital. Just as a firm rents labor services it does not own, the rental value of capital is the amount the firm would be charged by a competitive asset-leasing firm to rent the use of capital for one year. Even though most firms own the majority of their assets, the hypothetical rental cost is the relevant price of capital to be compared with the price of labor in determining optimal factor proportions.

It can be shown that, under certain specific conditions described below, the rental cost of capital, P_k, is:[11]

$$(1) \qquad P_k = \frac{K_w f(1+m)\left[r + d_t - \frac{u}{S^n_1}\sum_{h+1}^{n}\frac{d'_t}{(1+i)^t}\right]}{1 - u\left(\frac{S^n_{h+1}}{S^n_1}\right)},$$

where:

d_t is the economic rate of depreciation in year t;
d'_t is the depreciation allowance in year t permitted by the tax laws;
f is the exchange rate of local currency per unit of foreign exchange;
h is the number of years for which complete exemption from corporate taxes is granted under a tax holiday scheme;
i is the discount factor;
k_w is the foreign exchange price of the capital asset;
m is the tariff on capital goods;
n is the economic life of the asset;
P_k is the annual rental value of capital;
r is the annual interest rate on the financial capital required to purchase the capital asset;

$$S^y_x = \sum_{t=x}^{y}\frac{1}{(1+i)^t}\text{; and}$$

u is the rate of corporate profits tax.

The conditions under which this equation is valid are the following. First, the value of the asset is restored at the end of each year to its original cost by an investment equal to the economic depreciation incurred during the year. In other words, the asset remains intact and its book value does not diminish. Therefore rental costs remain constant, since the value of the asset is not affected by depreciation. The second condition implicit in this expression is that the asset is financed completely by equity, whose costs to the firm are not deductible from income for tax purposes. If the asset is leveraged and interest is deductible, then a more complex formula is required to incorporate the tax advantages of interest deductions. In the extreme case of a totally leveraged asset (100 percent financed by debt), no profits would exist in a competitive leasing industry, since tax deductible costs—interest plus depreciation—would equal income.[12] Finally, it is assumed that the corporate income tax liability is passed on in the form of a higher rental cost rather than absorbed by the suppliers of equity capital. This is a reasonable assump-

tion given the observed mobility of financial capital among various branches of the economy.

From equation (1) it is evident that the price of capital is influenced by three types of factors. The first category of factors comprises the terms in the numerator outside the brackets—the cost of the capital asset (K_w), the exchange rate (f), and the tariff on capital goods (m). These three variables determine the domestic price of the capital asset. The higher any of these factors are, the higher will be, all other things being equal, the rental cost of capital. The second category consists of the factors within the brackets—r, d, u, and d'. These establish the annual costs of owning capital assets. The higher the costs of financing (r) and the higher the economic depreciation (d), the greater the annual cost. On the other hand, if accelerated depreciation is permitted, the larger the permissible rate (d') and the tax savings represented by the rate of corporate tax (u), the *lower* is the annual cost of owning capital assets. The final category includes the factors in the denominator. The higher the rate of taxation, the higher the rental cost. But the longer the tax holiday period (h), the *lower* will be the rental cost. The term $u(S^n{}_{h+1}/S^n{}_1)$ represents the effective tax rate incorporating the discounted benefits from the tax holiday scheme.

This concept can be used to measure the divergence between the market and equilibrium (shadow) prices of capital. Table 7.14 shows the

Table 7.14 **Annual Rental Value of a $21 Machine under Various Incentive Policies: Pakistan, 1959/60**

Policy Type		User Cost (Rs)	Incremental Reduction in User Cost (%)
Case A	Neutral policies[a]	58	—
Case B	Subsidized exchange rate—case A and imports at official rather than equilibrium rate of exchange ($f = 4.76$ instead of Rs 7.6)	36	38
Case C	Subsidized financial cost of capital—case B with $r =$ 5.74% instead of 15%.	20	44
Case D	Accelerated depreciation—case C with half the original cost written off in three years	16	20
Case E	Tax holiday—case D and no income tax liability for first eight years.	14	12.5

[a]Equilibrium financial cost of capital ($r = 15\%$); tax and economic rates of depreciation equal ($d = d' = 0.063$); corporate tax rate applied to all investments without tax holiday privileges ($u = 50\%$); and capital equipment imported at equilibrium rather than official exchange rate ($f =$ Rs 7.6/$).

estimated incremental effects on the price of capital of the four major investment incentives prevailing in Pakistan in fiscal year 1960. Case A represents the equilibrium price of capital for a machine with an original c.i.f. cost of $21 or Rs 100 ($21 at 4.76 Rs/$). Case B represents the situation where an overvalued exchange rate constitutes the only source of implicit subsidy. For example, if investors are permitted to import machinery at the official exchange rate of Rs. 4.76 instead of the estimated equilibrium exchange rate for 1959/60 of Rs 7.6, the rental value of capital will be Rs 36. Case C shows what happens if, in addition to purchasing capital at an overvalued exchange rate, investors obtain funds at less than the true opportunity cost of financial capital. Under these conditions, investors would be able to use the $21 machine for an average implicit rental of only Rs 20. Accelerated depreciation (case D) and an eight-year tax holiday (case E) would reduce the rental cost still further by 4 and 2 rupees, respectively. The 12.5 percent incremental reduction in the cost of capital owing to the tax holiday itself has little practical significance because, unlike the effects of the other incentive policies, the tax holiday and accelerated depreciation incentives are almost mutually exclusive substitutes—the benefits of accelerated depreciation are not felt during a tax holiday, so that the major part simply replaces accelerated depreciation. The tax holiday reduces the price of capital from 20 to 14, while accelerated depreciation reduces it from 20 to 16.

The comparison of case A (neutral policies) with case E (all four incentives operating) is striking. The market rental cost of capital is only one-fourth the equilibrium cost of capital; or, viewed from the opposite perspective, eliminating all incentive policies would raise the cost of capital 300 percent! The example, however, exaggerates the effect of incentives in several important ways. First, all firms are leveraged to some extent, and interest is deductible from income for tax purposes; thus the tax holiday and accelerated depreciation policies would have a less significant influence. Second, it has been assumed that government policies can effect a reduction in the cost of equity analogous to the way government can subsidize the costs of debt to firms by rationing credit at artificially low interest rates. Finally, the neutral case assumes a 50 percent corporate tax burden. If all incentive policies were stripped away, such a high corporate tax rate might not be necessary. One can always question whether the appropriate benchmark for comparison is a set of policies with some form of taxation, such as a corporate tax, but no incentive policies, or a completely distortionless environment—the classic laissez-faire paradigm.

For these reasons, the rental cost calculations in table 7.14 are only illustrative. Nevertheless, the percentage reductions in the rental cost of capital gave an indication of the quantitative effect of investment incen-

tive policies on the cost of capital, and there can be little doubt that those policies provided a significant incentive to adopt capital-intensive techniques of production.

Trends in the Rental Cost of Capital: 1960–75

During 1960–75, important changes occurred in both the (controlled) market and the equilibrium rental values of capital. The government altered the tax holiday scheme on two occasions, changed the lending rate on bank credit to industry, and varied the tariff levied on capital goods. Both the market and the equilibrium cost of capital were affected by changes in the c.i.f. price index for machinery. Values for the variables in equation (1) have been computed for 1960–75, and market and equilibrium rental values have been calculated for each year as if a new investment were being made in that year. Changes in incentive policies would, of course, affect the rental cost on existing capital assets, but the time series in table 7.15 show only the rental cost of new investments.

From the two time series of rental costs of capital it is clear that, until the devaluation of 1972, the distortion in the price of capital remained considerable: the equilibrium rental cost was never less than three

Table 7.15 Rental Cost of Capital, 1959/60 to 1974/75

Years	Market Prices[a] (Rupees) (1)	Equilibrium (Shadow) Prices (Rupees) (2)	Ratio of Equilibrium Rental to Market Rental (%) (2)/(1) = (3)
1959/60	16	58	3.62
1963/64	22	85	3.86
1960/61	17	55	3.24
1961/62	21	69	3.29
1962/63	22	88	4.00
1964/65	19	81	4.26
1965/66	24	73	3.04
1966/67	29	126	4.34
1967/68	30	100	3.33
1968/69	34	109	3.21
1969/70	32	95	2.97
1970/71	30	118	3.93
1971/72	38	140	3.68
1972/73	86	109	1.27
1973/74	93	118	1.27
1974/75	108	137	1.27

[a]Market cost of capital is the annual rental cost in rupees for a machine costing $21 (Rs 100) in 1959/60. Since not all firms had access to tax holidays, only cases A and D in table 7.14 are compared in this table.

times the market rental cost. With devaluation the overvaluation of the rupee was largely eliminated and the tax holiday scheme abandoned. The gap between market and equilibrium rental costs closed dramatically.

The Rental Cost of Capital for Large and Small Firms

The rental cost formula also offers insight into the differential cost of capital between small and large firms. In the early 1960s, few small-scale manufacturing firms in Pakistan had access to import licenses, and when they purchased foreign equipment it was through import agents who appropriated the scarcity value of the import licenses for themselves. Even when small firms purchased machinery made locally, the prices generally reflected the full scarcity margins and tariff duties of the imported intermediate inputs used in their production. The prices paid by small investors for capital equipment were thus approximately those of the equilibrium situation. Small entrepreneurs also lacked access to bank credit, and the interest rates on the funds they borrowed in the informal market were substantially above the rates paid by individuals investing in large-scale projects in the same industry, and not dissimilar from the opportunity cost of capital. On the other hand, small-scale firms were usually unincorporated and thus exempt from the corporate income tax. On these assumptions, the user cost of a $21 machine for a small manufacturing establishment in 1959/60 would have been of the order of Rs 35. Its trend over time would have been very similar to that of the equilibrium cost of capital. Thus, until 1972 small investors faced capital costs more than twice those of their large-scale competitors. This, coupled with the fact that wages are lower for workers in small-scale firms than in large-scale firms, provided a very strong economic rationale for the observed tendency for small-scale firms to be more labor-using than comparable large-scale firms.

Relative Factor Prices: Market and Equilibrium

Factor proportion decisions by investors are not made on the basis of either the price of capital or the price of labor alone, but rather on their ratio. The central issue in exploring the employment effect of movements in both price series is thus the trend in relative factor prices. In table 7.16, column 3, the ratio of relative factor prices in market terms has been computed. Between 1959/60 and 1970/71, the wage/rental ratio fluctuated between 50 and 70 with no clear trend in either direction. However, between 1970/71 and 1972/73 the ratio dropped by more than 50 percent as a result of the steep increase in the price of capital following the 1972 devaluation that largely eliminated the overvaluation of the rupee. After 1972/73, the declining trend was reversed and the relative price of labor rose more than 30 percent.

Table 7.16 **Factor Prices (in Rupees) and Factor Price Ratios, 1959/60–1974/75**

	Market Prices			Equilibrium Prices			Distortion Indicator
	Wages (1)	Capital (2)	Ratio (1) ÷ (2) (3)	Wages (4)	Capital (5)	Ratio (4) ÷ (5) (6)	(3) ÷ (6) (7)
1959/60	1,091	16	68.2	687	58	11.8	5.8
1960/61	1,135	17	66.8	709	55	12.9	5.2
1961/62	1,156	21	55.0	720	69	10.4	5.3
1962/63	1,189	22	54.0	742	88	8.4	6.4
1963/64	1,195	22	54.3	764	85	9.0	6.0
1964/65	1,340	19	70.5	786	81	9.7	7.3
1965/66	1,464	24	61.0	796	73	10.9	5.6
1966/67	1,510	29	52.1	818	126	6.5	8.0
1967/68	1,536	30	51.2	840	100	8.4	6.1
1968/69	1,735	34	51.0	873	109	8.0	6.4
1969/70	1,931	32	60.3	971	95	10.2	5.9
1970/71	2,094	30	69.8	1,047	118	8.9	7.8
1971/72	2,389	38	62.9	1,200	140	8.6	7.3
1972/73	2,914	86	33.9	1,462	109	13.4	2.5
1973/74	4,012	93	43.1	2,007	118	17.0	2.5
1974/75	4,953	108	45.9	2,477	137	18.0	2.5

Sources: Col. 1, table 7.13; cols. 2 and 5, table 7.15; col. 4, implied equilibrium wages from Guisinger (1978, table 4–12).

It is interesting to compare changes in the wage/rental ratio at market prices with changes in the ratio at equilibrium prices, the latter being shown in column 6 of table 7.16. Apart from a few exceptional years, the equilibrium factor price ratio did not behave very differently from the market factor price ratio until 1971/72. Then, however, while the market factor price ratio declined with devaluation, the equilibrium ratio rose and continued to rise until 1974/75 because of the continued inflation in the world prices of machinery.

To show the degree of distortion, a "distortion indicator" has been constructed expressing the market factor price ratio in each year as a percentage of the equilibrium factor price ratio. Thus, if the market price of labor were fifty times the market price of capital, but the equilibrium price of labor were only ten times the equilibrium cost of capital, the distortion would be fivefold. This represents a "distortion gap" owing to an excess in the market price of labor over the equilibrium price or a subsidy to the market price of capital or both. If these distortions were eliminated, the distortion measure in this example indicates that the relative cost of using labor would fall by four-fifths.

The distortion series for the period 1959/60 to 1974/75 is shown in column 7 of table 7.16. Although the distortion gap fluctuated during the 1960s, the most dramatic change occurred after the 1972 devaluation, with the gap narrowing by almost two-thirds in one year. There is nevertheless still a considerable degree of absolute distortion favoring the use of capital.

Perhaps the most striking feature of the factor price trends shown in table 7.16 is the size of the gap that persisted until the 1972 devaluation. The wage/rental ratio at market prices was roughly five times the equilibrium ratio. No comparable data exist for other developing countries with which to contrast the magnitude or effects of Pakistan's factor market distortion. A measure of the significance of this distortion, however, can be obtained by estimating the effects that changes in the factor price ratio would have had on employment in the large-scale manufacturing sector.

One study has estimated that a 25 percent reduction in relative factor prices of labor and capital in Ghana would have increased total employment in manufacturing by 20 percent more than would otherwise have occurred over a decade during which the industrial sector expanded at an annual rate of 10 percent (Roemer 1972). This study was limited to the case where changes in factor prices affected factor proportions in new investments only, leaving unchanged the factor proportions associated with the initial stock of fixed assets. The employment effects of factor price changes were examined under several assumptions about the elasticity of substitution between capital and labor and labor's initial share of value added.

A similar estimate can be made for Pakistan's large-scale manufacturing sector. The elasticity of substitution and labor's share are assumed equal to 1.0 and 0.25, respectively, while the growth rate of manufacturing output is taken as 10 percent. If the factor price ratio remains constant and no technological change occurs, employment would of course grow at 10 percent per annum. If, however, the wage/rental ratio had been reduced by 50 percent and maintained over the eleven-year period ending in 1970/71, employment would have grown at an annual rate of 13.8 percent. Thus it is possible that instead of a large-scale manufacturing labor force of 500,000 in 1970/71, this sector might have employed as many as 700,000 workers if the factor price ratio had been reduced as indicated. That 200,000 additional jobs might result from a 50 percent decline in the wage/rental ratio may be an underestimate for at least three reasons. First, in the large-scale sector, some alteration of factor proportions in the existing capital stock is possible with a change in the factor price ratio, particularly when it declines by as much as 50 percent. Capital/labor ratios in materials handling processes are extremely sensitive to factor price ratios, and new jobs would probably have emerged in existing plants if factor prices had been less distorted. Second, increasing the cost of capital in the large-scale sector would have made small-scale establishments more cost-competitive and expanded employment growth in this sector. This would have lowered the rate of output expansion in the large-scale sector, causing employment to grow at something less than 13.8 percent per year. But the expansion of the small-scale sector, which employs twice as many workers as the large-scale sector, might have more than made up for this shortfall. It is not known in what degree firms in the large- and small-scale sectors are competitors, but it is clear that in some of the important small-scale industrial categories—particularly food processing and textiles—the two manufacturing sectors are more competitive than complementary. Finally, in this exercise, output is held constant. Changes in factor prices would also change patterns of domestic demand, perhaps making exports grow faster once they were more competitive.

7.5 Summary and Conclusions

In many ways Pakistan's pattern of trade is singularly conventional and consistent with what one would expect from its factor endowment. More labor is employed to produce a unit of value added in export industries than is employed to produce the same amount of value added in industries that compete with imports. This holds true whether only direct employment is considered or whether a broader concept of direct

plus indirect employment is used. When labor intensities are calculated on the basis of units of international value added, the same pattern holds. The only aspect of trade patterns where exports do not appear to be more labor-intensive than importable goods is in the regional direction. Imports of goods from developing countries show a higher labor intensity than Pakistan's exports of similar goods to these countries. This result is not unexpected, given that Pakistan's level of industrial development is probably greater than that of its LDC trading partners.

Distortions in the prices of commodities introduced by the trade control system obviously did not distort trade patterns to the point of creating perverse reversals in labor content. Trade policies did, however, help shape the structure and growth of employment. Initially, Pakistan relied on high protection to promote import-substituting industrialization. But at a relatively early stage in the import substitution program, incentives for the export of manufactured goods were adopted that served to counteract the disincentive of a highly overvalued local currency. Moreover, the structure of protection gave a greater incentive to produce consumer goods than to produce either intermediate or investment goods. Since the last two industries are more capital-intensive, the unevenness in protection levels did favor the more labor-using industries.

The ability of trade policies to affect employment in industry has weakened since 1970. Opportunities for efficient import substitution in the most labor-using industries have almost been exhausted, and continued tariff protection will have little effect on employment. Further import substitution, particularly in the intermediate and investment goods industries, will not generate nearly as much labor per unit of value added as investments in consumer goods industries did during the 1960s. The most serious detriment to employment growth in recent years has been the deterioration of the real EER for manufactured exports. Unless the real incentives for exporters of manufactured goods are allowed to rise, the large employment potential of these industries will not be realized.

Distortions in factor prices have historically favored the use of capital and provided a penalty on the use of labor. The fact that employment grew in large-scale manufacturing despite these strong disincentives should not be construed as evidence that distorted factor prices are meaningless. Very important structural changes in the economy occurred during the 1960s, particularly the remarkable growth of agriculture, and the employment effects of these structural changes overcame the negative effect on employment of factor market distortions. If the same strong demand for agricultural labor could be expected in the 1970s that was observed during the 1960s, far less concern could be attached

to distortions in factor prices. But from 1970 to 1975 agriculture grew at only a 2 percent annual rate. Perhaps most important, mechanization of agriculture has continued at a rapid pace.

The greatest distortion in the price of capital was eliminated with the devaluation of the rupee in 1972. The major danger to the structure of relative factor prices now comes from the acceleration in wage increases. Between 1968 and 1975, *real* market wages increased at more than 5 percent per annum, and money wages increased at a much higher rate. There seems to be little economic justification, on the basis of allocative efficiency, for a continued 5 percent rise per annum in real wages.

If Pakistan manages to bring the increase of wages under control and to restore adequate incentives for manufactured exports, their expansion could contribute significantly to the growth of employment opportunities in Pakistan.

Notes

1. The reader interested in a general survey of economic development in Pakistan is referred to Papanek (1967) and Lewis (1970).

2. The underlying data used for this study may be found in Guisinger (1978), available for the cost of reproduction from the National Bureau of Economic Research.

3. Small-scale industry includes all manufacturing units with fewer than ten workers if power is used and twenty workers if power is not used.

4. This is with the exception of manufacturing employment during 1961–72. Growth of employment in all sectors combined can be easily inferred from table 7.6.

5. Only the last subperiod sources relate to West Pakistan, but all-Pakistan data provide fairly good approximation of trends in West Pakistan.

6. The effective rates of protection are based upon price comparisons and thus incorporate the premium on import licenses.

7. This is the PPP-PLD-EER of chapter 1.

8. For the definition of home goods, see chapter 1.

9. The relatively low cutoff point for the noncompeting imports is primarily due to the level of aggregation.

10. Throughout, "wages" and "earnings" are used interchangeably to designate the total compensation of workers, including—where data exist—the imputed value of noncash benefits such as food and lodging.

11. For a derivation of this specific formula see Guisinger (1978) and, for the general case, Shafa (1978).

12. The simplifying assumption made in all such analyses is that the returns to management and risk-taking are zero.

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