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Underemployment in Pakistan

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The paper measures the degree of underemployment in Pakistan through direct and indirect approaches. In the direct approach, persons working for less than 35 hours per week are classified as underemployed. The indirect approach uses estimates of productivity per worker to determine underemployment in different sectors. The study concludes that underemployment in Pakistan is small and is largely concentrated in family-organized production units in agriculture, trade and services.

INTRODUCTION

In Pakistan, as elsewhere in the developing world, there is a growing concern over the employment situation. Population growth has been occurring at a sustained rate of around three percent for the last 15 to 20 years and government efforts to promote family planning have been notably unsuccessful. Thus, the annual increments to the labour force amount to at least 4,000,000 persons and this figure will grow steadily in the future. These harsh facts are the basis for concern [1;6].

For many developing economies, the saturation point of the traditional family-enterprise sectors comes quite late and at very high densities. Only then does large-scale open unemployment develop [15]. Since, in Pakistan, labour force surveys still return relatively low rates of open unemployment, we fall back on assuming that "disguised" unemployment must be there. Yet we have no objective measures of the degree of underemployment in Pakistan; nor do we precisely know its concentrations in various sectors, or its trends over time. The present paper is a step in the direction of getting some such empirical estimates.

Defining Underemployment

In recent years, there has been an increasing emphasis on the "underemployed", or the inadequately utilized section of the labour force, in the developing countries. The problem of underemployment is characterized in the developing countries by shorter-than-normal work-weeks, very low wages and jobs which are a mismatch

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to the workers' skills [7]. However, it is very difficult to measure underemployment, which has been defined as "the difference between the amount of work performed by persons in employment and the amount of work they would normally be able and willing to perform" [8]. Obviously it falls between "full" employment and complete lack of employment or "over T" unemployment.

This definition suggests that the "underemployed" constitute a separate class which aspires to be fully utilized. Whether the underemployed do constitute such a class cannot really be known unless they are asked why they work for lesser than some "standard" hours. In particular, the assumption that all "underemployed" workers want more work ignores the impact of the current market wage rate on labour supply, the work-leisure trade-off and other competing productive uses of time.

Even the notion of some standard work-week as "full employment" for a worker is arbitrary and very difficult to arrive at. A person in the U.S. is considered fully utilized if he works for 35 hours per week but in Taiwan one has to work for 42 hours to be similarly considered [7; 9; 17].

DATA BASE AND APPROACH FOR THIS STUDY

This study draws upon the series of Labour Force Surveys undertaken in Pakistan by the Central Statistical Office (CSO) in the last ten years [12]. Two separate approaches are followed.

Firstly, we define the underemployed as persons working for less than 35 hours in the survey week and then compute the percentage of the total labour force working for less than 35 hours, by sectors, for each year from 1968-69 onwards to the present.

Secondly, the same data base permits us to construct estimates of productivity per worker for the same time period. The trends in these productivities by sector then permit some indirect inferences about what must have been happening to the average hours worked per worker.

Thus, we can check the estimates from both the direct and indirect approaches for consistency.

The Direct Approach

For the estimation of underemployment, an arbitrary criterion is established, under which those persons who work for less than 35 hours per week are classified as underemployed.[1] This criterion may not be realistic as the duration of normal work-week is relatively longer in many countries. However, as the data are grouped, the next "hours worked" category (35–42 hours per week) would mean that all

[1]According to the labour laws, e.g. Factories Act, 48 hours per week is set as the limit beyond which no adult worker is allowed or required to work; likewise Mines Act has 48 hours and Newspapers Act 42 hours as the weekly hours of work. For details, see [14].

those working for less than 43 hours per week are underemployed. This would be even more misleading as the distribution of the people within the category 35–42 hours is not known and it is very likely that a large proportion is clustered at the higher extremity. The annual *Labour Force Surveys*, 1968-69 to 1974-75 [12], provide estimates of the employment status of the population covered and sampled by the surveys. But, these *Surveys* warn against using these sample-based results to generate estimates of total labour force or employment because of uncertainty regarding the sample/base population ratio as well as problems of representativeness. For our present purposes we are using estimates of the total population of Pakistan in the survey years extrapolated from the 1961 census data, for the total and for the rural and urban areas separately.[2] The 1961 census percent distribution by age was assumed to apply to the later years as well and estimates of the population aged 10 years and over were thus obtained. The fraction of the Labour Force Survey's population reporting themselves in the labour force was then applied to this series of potential labour force entrants aged 10 years and over to obtain total, rural and urban labour force in each survey year.

Table 1 shows that rural-urban[3] differentials are quite appreciable. The proportion of the underemployed is typically higher in the rural areas. This is attributable to the rural social structure, where people generally work within the family enterprise, which has a great absorptive capacity, and a person with no other work is 'fitted in' to some work. Also with low opportunities for education, entry into the labour market is at very young ages and large proportions of young boys and girls working for shorter durations are classified as unpaid family helpers, thereby leading to higher underemployment estimates. The percentage of unpaid family helpers in the rural areas is, on an average, 3.2 times that in the urban areas (Table 2). Table 2 also reflects the nature of jobs in both the rural and urban sectors. The high average percentage (33 percent) of unpaid family helpers in rural areas again reflects the importance of the family enterprise, while in urban areas the relatively low percentage (10.5) reflects the jobs which are less flexible in terms of hours and are more market-oriented. Even here unpaid family helpers generally operate in family enterprises in the spheres of business and trade.

[2]The annual rates of population growth were obtained by interpolating between the 1961 and 1972 censuses.

[3]The distinction between an urban and a rural area is based on the definition of what is an urban area. According to the 1972 Census of Pakistan an urban area "normally includes places having a Municipal Corporation or a Town Committee. In general urban area is a concentration of population of at least 5,000 persons in continuous collection of houses where the community sense is well developed and the community maintains public utilities such as roads, street lighting, water supply, sanitary arrangements etc. These places are generally centres of trades and commerce with a population substantially non-agricultural or having non-agricultural labour concentration and a high literacy rate. As a special case a few areas which have 5,000 population may also be treated as urban area" [16]. The 1961 Census too has used almost the same definition for an urban area.

Table 1

Underemployed (E_1) as Percentage of the Employed for All, Rural and Urban Areas of Pakistan: 1968-69 to 1974-75

Year	All Areas	Rural Areas	Urban Areas
1968-69	13.13	9.48	26.09
1969-70	7.57	8.79	3.40
1970-71	6.55	7.43	3.42
1971-72	7.68	8.75	3.64
1974-75	4.27	4.99	2.21

Source: [12].

Table 2

Unpaid Family Helpers as Percentage of the Employed for All, Rural and Urban Areas of Pakistan: 1968-69 to 1974-75

Year	All Areas	Rural Areas	Urban Areas
1968-69	26.51	31.53	8.66
1969-70	28.16	33.27	10.81
1970-71	29.32	34.29	11.61
1971-72	30.21	35.02	11.86
1974-75	27.75	34.10	9.88

Source: [12].

Table 1 also shows that in 1968-69, the proportion of the underemployed in the urban areas was amazingly high (26.09), almost eight times that of other years. The only possible reason for this is that during this period there was a general unrest and political strife in the country. This high percentage might be a consequence of strikes and other disruptions of economic activity. Even in rural areas the percentage of the underemployed is higher in this year than in other years, but the impact of this political upheaval is more clearly discernible in the urban areas.

In the analysis of Table 1, all those people who worked for less than the normal duration (35 hours) are taken to be underemployed (E_1). In this, the second part of the definition of the underemployed, "seeking or would accept additional work" is deliberately ignored to follow very strictly our specified norm classifying all those working for less than 35 hours as underemployed. But, in measuring

underemployment, weight must be given to the individual's own discretion – whether he thinks he is working for fewer hours voluntarily, and his willingness to accept more work. In the *Labour Force Surveys*, questions were asked from those employed persons who had worked for less than 35 hours during the survey week about their reasons for working for shorter hours. People saying "no need to work more" are excluded and those saying "not enough work" and "other" are bracketed as underemployed. No breakdown of the category of "other" causes is available, but the people in this category did not say that they didn't want any more work, and in the absence of other reasons we cannot ignore them.

Table 3 gives the numerical and percentage distributions of persons who worked for less than 35 hours per week by causes. It is seen that in the urban areas, on an average, 43.3 percent of the underemployed gave "lack of work" as the main cause of working for short work durations whereas in the rural areas the corresponding average is 32.8 percent, i.e. 10.5 percentage points less than that in the urban areas. The proportion of rural workers working for less than 35 hours is quite large but it is interesting to note that almost half of them (45.7%) say that they don't want to work more. This high concentration presumably is because of the predominance of unpaid family helpers who do not want to work more than what they are already doing. Had data been given by age and sex, the contribution of female unpaid family helpers working for less than 35 hours and declining to work more would have been clear; also we would have been able to note the commonly held opinion that underemployment is more prevalent in the younger age groups. However, the average proportion of those in the urban areas saying "no need to work more" is quite low (28.1%). Open unemployment and underemployment are thus more characteristic of urban than of the rural scene. The higher percentage of those not finding "enough work" might be because of the rural migrants who come to the urban areas with economic objectives and want to work more. On the average, 21 percent in the rural areas and 30 percent in the urban areas gave "other" reasons for working for less than 35 hours per week.

It would have yielded a very interesting self-assessment, in terms of the quantitative insufficiency or the extent of real under-utilization, had those people saying not "enough work" been asked how much additional time they would have been willing to work were work available at that wage rate. Willingness to work more is a function of many things, like the wages offered, the nature and location of job, family circumstances, and previous income. Surveys in other countries find that the relationship between the time worked and the extra time wanted does not fall sharply at any particular hour of work. Another interesting feature is that people who want more work are those who are already working for longer-than-average duration [18]. Our data do not give any information on this point but we might expect our results to be similar.

Table 3

Numerical and Percentage Distribution of Persons who Worked for less than 35 Hours during Survey Week by Causes for All, Rural and Urban Areas of Pakistan: 1968-69 to 1974-75

Year	Total Underemployed		Not Enough Work		No Need To Work More		Other	
				ALL AREAS				
1968-69	2,238,808	(100)	815,374	(36.42)	820,523	(36.65)	602,911	(26.93)
1969-70	1,364,215	(100)	603,392	(44.23)	527,406	(38.66)	233,417	(17.11)
1970-71	1,240,593	(100)	303,325	(24.45)	550,203	(44.35)	387,065	(31.20)
1971-72	1,485,000	(100)	343,332	(23.12)	871,547	(58.69)	270,121	(18.19)
1974-75	897,542	(100)	374,993	(41.78)	355,696	(39.63)	166,853	(18.59)
				RURAL AREAS				
1968-69	1,259,125	(100)	447,997	(35.58)	482,371	(38.31)	328,757	(26.11)
1969-70	1,229,645	(100)	541,905	(44.07)	490,751	(39.91)	196,989	(16.02)
1970-71	1,093,721	(100)	249,259	(22.79)	508,252	(46.47)	336,210	(30.74)
1971-72	1,310,371	(100)	277,668	(21.19)	808,237	(61.68)	224,466	(17.13)
1974-75	809,278	(100)	327,029	(40.41)	341,839	(42.24)	140,410	(17.35)
				URBAN AREAS				
1968-69	978,239	(100)	408,415	(41.75)	255,027	(26.07)	314,797	(32.18)
1969-70	136,937	(100)	62,402	(45.57)	38,781	(28.32)	35,754	(26.11)
1970-71	143,499	(100)	53,482	(37.27)	40,122	(27.96)	49,895	(34.77)
1971-72	156,041	(100)	64,757	(41.50)	46,968	(30.10)	44,316	(28.40)
1974-75	108,843	(100)	54,944	(50.48)	25,066	(28.03)	28,833	(26.49)

Source: [12].

Table 4 gives the average weekly hours per person for each year for all areas as well as rural and urban areas along with the average weekly hours "expected" if all the E_1 worked for at least 35 hours per week. The table shows that the average weekly hours worked per person by those who work for more than 35 hours per week (E_2) is almost double that of E_1 for all areas as well as rural and urban areas. It is also seen that the actual average hours worked by the total employed is nearer to the average of E_2, and there is not much of a difference between the actual and the "expected" hours of the total employed. This is because E_2 are more numerous and work for longer hours, thereby keeping the national average fairly high at about 48 hours per week.

Hours of work are greatly dependent on technological advancement and are different in different societies. Elsewhere, hours of work are seen falling in response to an increase in productivity as a result of modern technology. It has been observed in the case of industrialized nations in the past century that the hours of work have fallen from 60 or more to 40 and sometimes less [11].

From Table 4 it is seen that except in the years 1968-69 and 1970-71 (these were not politically quiet years), the E_1 in the urban areas have been working for less duration per week. This suggests that the hours worked by E_1 in the rural areas are slightly long. This is contrary to our expectation that average hours worked per week per person by the underemployed in the rural areas would be less than those of the underemployed in the urban areas. However, the evidence here is very thin to help derive any definite conclusions. Data biases might be an important factor contributing to our finding, as we know that Labour Force Surveys are sample enquiries dealing with a relatively small sample (the largest sample was in 1974-75 when 30,306 households were surveyed, which is more than double the sample size of the surveys of 1968-69 to 1971-72, the average size of which comes to almost 14,000 households). Coverage might also be affecting the results. Besides this, in rural areas the concept of time measurement in terms of strict work hours is not very well developed which most probably results in overstatements of the time spent at work. The only thing that can be said is that the greater magnitude of underemployment in rural areas does not necessarily imply that the duration of work should still be smaller than the existing average which already is quite small, i.e. 24.9 hours per week or 4.15 hours per day. Though the rural/urban differential observed is very slight but the significance of lesser hours worked in rural area is certainly great because of greater prevalence of underemployed people in the rural areas. Observations in other countries (India, Ceylon, Philippines, Korea, etc.) providing indication of the difference in hours worked between the rural and urban areas show the greater importance of low working hours in the rural sector as a greater percentage of the employed persons is working below the 'x' hours, and also the differences are considerably bigger for women than for men [18].

Table 4

Average Hours worked per person during the Survey Week for All, Rural and Urban Areas of Pakistan: 1968-69 to 1974-75

Year	Average Actual Hours worked per person per week			Expected Man-Hours per person per week if all the employed worked for at least 35 hours	Average Extra Hours required per week per person by E_1 to come up to the standard
	Total Employed	E_1	E_2		
			ALL AREAS		
1968-69	47.22	27.31	50.26	48.24	−7.69
1969-70	47.61	25.35	49.45	48.35	−9.65
1970-71	48.54	24.87	50.21	49.21	−10.13
1971-72	47.41	24.60	49.32	48.22	−10.40
1974-75	49.92	25.97	51.00	50.31	−9.03
			RURAL AREAS		
1968-69	48.06	26.15	50.38	48.91	−8.85
1969-70	47.33	25.40	49.46	48.18	−9.60
1970-71	48.30	22.26	50.40	49.25	−12.74
1971-72	47.22	24.67	49.39	48.12	−10.33
1974-75	49.89	26.04	51.15	50.34	−8.96
			URBAN AREAS		
1968-69	44.24	28.79	49.75	45.87	−6.21
1969-70	48.56	24.69	49.41	48.92	−10.31
1970-71	48.69	24.49	49.55	49.05	−10.51
1971-72	48.16	23.83	49.09	48.57	−11.17
1974-75	49.97	23.24	50.57	50.23	−11.76

Note: The table excludes those who did not work during the survey week.
E_1 = Persons who worked for <35 hours per week.
E_2 = Persons who worked for >35 hours per week.

The effect of seasonality on hours of work would certainly affect underemployment in the rural areas. Hours worked show significant variation during the slack and peak seasons in the agrarian societies. The seasonal variation in the number of hours worked in 1966-67 shows that labour demand in terms of hours of work is highest in the July-September quarter and relatively limited in the October-December quarter [10]. However, in the present data, the seasonality effect to a great extent is cancelled out as *Labour Force Surveys* sum up the results of quarterly estimates. It would have been interesting to see the extent of the effect of seasonality on hours worked had data for individual quarters been available.

Table 4 also shows that in rural areas the average work week of the fully utilized labour, or E_2 , is slightly greater than the work week in the urban areas for all the years.

Summary of Direct Approach

The direct approach shows the proportion of underemployed to be significantly higher in the rural areas, suggesting that it is based on the social and economic structure of the rural areas where many people are absorbed in the family enterprise even at low levels of real productivity. This conclusion is supported by the high proportion of unpaid family helpers in rural areas which is 3.2 times that in the urban areas. Also 45.7 percent of those working for less than 35 hours in the rural areas decline to work more, which again indicates the presence of unpaid family helpers who do not want to work more than what they are already doing.

Of those working for less than 35 hours in the survey week on average, 43.3 percent in the urban areas gave lack of work as the main cause of working for shorter durations; this percentage is 10.5 percentage points more than that reported in the rural areas.

It has also been shown that the hours worked by the fully employed, (E_2), are about twice the hours of the underemployed for the total as well as the rural and urban areas. The average work duration per week per person of (E_2) is slightly higher in the rural areas for all the years. However, as far as E_1 are concerned, their work week over the years does not show any definite trend. Except for the years 1968-69 and 1970-71, the average hours of work of E_1 are slightly longer in rural areas which is contrary to our expectation that the hours of work would be lesser in the rural areas.

Indirect Approach

Tables 5 and 6 present the basic data series used in the second approach. They are: (1) gross national product by major industrial sectors, 1961 to 1974-75, in constant (1959-60) Rupees; and (2) employment by major industrial sectors for the same years. These data come from the standard official sources. The national accounts data have been reconstituted for the years following 1972 and are

Table 5

Gross National Product by Major Sectors: 1959-60

(Million Rupees)

	Sectors	1961	1965	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1974-75
1.	Agriculture	7,695	9,318	9,829	10,982	11,478	12,574	12,188	12,611	13,074
2.	Mining and Quarrying	81	133	133	137	141	157	156	159	181
3.	Manufacturing	2,276	3,799	4,012	4,267	4,634	5,156	5,234	4,988	5,834
4.	Construction	612	1,079	1,039	1,037	1,317	1,357	1,390	1,163	1,754
5.	Electricity and Gas	99	197	207	224	251	632	741	780	949
6.	Commerce	2,251	3,440	3,621	3,754	4,020	4,457	4,453	4,414	5,527
7.	Transport and Communication	1,023	1,581	1,643	1,729	1,823	2,016	1,970	2,011	2,574
8.	Banking and Insurance, Rents, Services	2,336	2,807	2,917	3,021	3,130	3,281	3,425	3,579	5,130
9.	Others	398	738	667	760	782	2,086	2,137	2,282	3,065
	Total	*16,771*	*23,092*	*24,068*	*25,911*	*27,576*	*32,302*	*32,329*	*32,627*	*38,088*

Sources: 1961–71-72: *Pakistan Economic Survey, 1973-74.* Statistical Section, p. 9.
1974-75: CSO, National Accounts, 1973-74–1976-77, Karachi. 1977. p. 3.

Table 6

Employment by Major Sectors

(thousands of persons)

	Sectors	1961		1965		1966-67		1967-68	
		number	%	number	%	number	%	number	%
1.	Agriculture, Forestry	8,380	60.5	9,380	58.6	9,580	53.4	10,360	54.9
2.	Mining and Quarrying	14	0.1	16	0.1	36	0.2	19	0.1
3.	Manufacturing	1,897	13.7	2,321	14.5	2,924	16.3	2,962	15.7
4.	Construction	305	2.2	464	2.9	682	3.8	660	3.5
5.	Electricity and Utilities	14	0.1	16	0.1	72	0.4	57	0.3
6.	Commerce	1,011	7.3	1,440	9.0	2,027	1.3	2,076	11.0
7.	Transportation, Storage and Communications	402	2.9	736	4.6	915	5.1	1,000	5.3
8.	Services	1,787	12.9	1,505	9.4	1,686	9.4	1,679	8.9
	Not adequately described	*41*	*0.3*	*128*	*0.8*	*18*	*0.1*	*57*	*0.3*
	Total Employed Persons	*13,851*	*100.0*	*16,006*	*100.0*	*17,940*	*100.0*	*18,870*	*100.0*
	LFPR	32.40		32.90		33.43		33.91	
	UER	0.3		0.5		0.7		0.6	
	Total Population	42,880		51,210		54,028		55,986	

Continued –

Table 6 – *Continued*

Sectors	1968-69		1969-70		1970-71		1971-72		1974-75	
	number	%	number	%	number	%	number	%	number	%
1. Agriculture, Forestry, Hunting and Fishing	9,488	55.8	10,295	57.1	10,852	57.6	10,991	57.3	11,135	54.8
2. Mining and Quarrying	17	0.1	18	0.1	57	0.3	96	0.5	41	0.2
3. Manufacturing	2,653	15.6	2,777	15.4	2,826	15.0	2,398	12.5	2,764	13.6
4. Construction	629	3.7	703	3.9	678	3.6	652	3.4	853	4.2
5. Electricity and Utilities	68	0.4	72	0.4	56	0.3	77	0.4	102	0.5
6. Commerce	1,751	10.3	1,785	9.9	2,054	10.9	1,899	9.9	2,255	11.1
7. Transportation, Storage and Communications	816	4.8	865	4.8	923	4.9	921	4.8	996	4.9
8. Services	1,547	9.1	1,479	8.2	1,375	7.3	1,554	8.1	2,113	10.4
Not adequately described	*34*	*0.2*	*36*	*0.2*	*19*	*0.1*	*594*	*3.1*	*61*	*0.3*
Total Employed Persons	*17,003*	*100.0*	*18,030*	*100.0*	*18,840*	*100.0*	*19,182*	*100.0*	*20,320*	*100.0*
LFPR	29.49		30.34		30.41		29.90		29.50	
UER	0.6		0.6		0.5		0.6		0.5	
Total Population	58,004		60,095		62,266		64,577		69,210	

Sources: (a) [6, pp. 98-99] for 1961, 1966-67 and 1967-68.
(b) [13, p. 20] for 1968-69 and 1969-70.
(c) [12 (1974-75), pp. IX-X] for 1970-71, 1971-72 and 1974-75.
(d) [2] for Population Series.

Notes: LFPR = Labour Force Participation Rate
UER = Unemployment Rate

consistent throughout. Gross rather than net national product has been used because there is strong uncertainty connected with the depreciation estimates in the series. The labour force data are derived from the CSO Labour Force Surveys as explained above, whose rates were then applied to the official Planning Division estimates of population for the period. The 1961 labour force breakdown was taken from G.M. Farooq's work [6], but the base labour force had to be adjusted upwards for consistency with the higher population estimates for 1961 required by the quite high 1972 population census results. Given the level of aggregation of these data and the numerous statistical problems, quite frankly it seems superfluous to worry about further refining of the data. These are, by and large, the official series made as consistent as possible with one another to permit us to obtain a look at sector-wise productivity trends. Our results are presented in Table 7 – per employee gross national product by major sector – and Table 8 – index of change in the per employee gross national products by major sectors.

Discussion of Results

The gross output per worker in Pakistan evidently increased overall by almost 60 percent in the 15 years under consideration. This is an annual average rate of increase of some 3.1 percent. The series show clearly the economic disruption caused by the upheavals of the early 1970s. Overall output per worker fell in 1970-71 and for most major sectors. There have also been substantial fluctuations within some of the sectors from year to year but we cannot know which of these movements are real and which are caused by problems in the data. For our purposes, the trend by sector is important and this seems reasonably clear for most sectors, except for one.

Two sectors – manufacturing and services – show changes in output per worker well above the overall average. These two grew at an average annual rate of 4.0 percent in the last 15 years. Both have experienced a moderate increase in employment and fairly large increases in output. Thus, output per worker has gone up sharply. (It should be understood that "service" in this grouping includes banking, insurance, professional and public services. Many of the small-scale traditional service establishments are evidently counted in "trade and commerce". Thus, "service" here appears as a "modern" sector.) The mining and quarrying sector appears to present a problem of interpretation. Prior to 1969-70 its output per worker and trend over time were comparable to the manufacturing and services sectors. After 1970-71, however, employees rose much more rapidly than output and the result is that output per worker has fallen below its 1961 figure. Here, too, one suspects a definitional change or some problem in the underlying data may be responsible. The Utilities Sector (Electricity, gas, etc.) shows great fluctuations over the period and one is hesitant to say anything except that it is below what one might expect of this "modern" sector. But, both utilities and mining are very small sectors,

Table 7

Per Employee Gross National Product by Major Sectors (1959-60)

(Rupees)

	Sectors	1961	1965	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1974-75
1.	Agricultural	900	1,000	1,000	1,100	1,200	1,200	1,100	1,100	1,200
2.	Mining and Quarrying	5,800	8,200	3,700	7,200	8,300	8,700	2,700	1,700	4,400
3.	Manufacturing	1,200	1,600	1,400	1,400	1,700	1,900	1,900	2,100	2,100
4.	Construction	2,000	2,300	1,500	1,600	2,100	1,900	2,100	1,800	2,100
5.	Electricity and Gas	7,100	12,300	2,900	3,900	3,700	8,800	13,200	10,100	9,300
6.	Commerce	2,200	2,400	1,800	1,300	2,300	2,500	2,200	2,300	2,500
7.	Transport and Communication	2,500	2,100	1,800	1,700	2,200	2,300	2,100	2,200	2,600
8.	Services, Rents	1,300	1,900	1,700	1,800	2,000	2,200	2,500	2,300	2,400
	*Average**	*1,200*	*1,400*	*1,300*	*1,400*	*1,600*	*1,800*	*1,700*	*1,700*	*1,900*

*Includes "all other" categories shown in Tables 1 and 2 but excluded from industry breakdown here.

Table 8

Index of Change in Gross National Product per Employee 1961–1975 (1961 = 100)

	Sectors	Index of Change									Average Annual Percent Change
		1961	1965	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1974-75	
1.	Agriculture	100	111	111	122	133	133	122	122	133	1.92
2.	Mining and Quarrying	100	143	64	124	143	150	47	29	76	−1.81
3.	Manufacturing	100	133	117	117	142	158	158	175	175	3.8
4.	Construction	100	115	75	80	105	95	105	90	105	0.33
5.	Electricity and Gas	100	173	41	55	52	124	186	142	131	1.82
6.	Commerce	100	109	82	82	105	114	100	105	114	0.88
7.	Transportation and Communication	100	84	72	68	88	92	84	88	104	0.26
8.	Rents and Services	100	146	131	138	154	169	192	177	185	4.19
	Total	*100*	*117*	*108*	*117*	*133*	*150*	*142*	*142*	*158*	*3.10*

which means that minor changes in their employment/output series exert major changes in these trends.

The more traditional sectors all show increases in output per worker below the average of the economy. Transportation, construction and commerce show, in fact, almost no change in output per worker over 15 years. Agriculture, the largest sector, shows a sharp increase in labour output in the period 1961 to 1968-69, but no change since then.

Summary of Indirect Approach

Thus, overall, the modern sectors in the last 15 years experienced rising labour productivity with increases in output being a function not only of change in employment but also of labour productivity.

The more traditional sectors, especially agriculture, have experienced roughly static output per worker in the last 6 to 8 years.

This can be interpreted in two ways. Firstly, one could argue that these sectors are "labour-constrained" and naturally grow in output only as much as growth of labour input permits. In other words, the constraint on their growth is not that of capital or of land but of labour, and if labour supply grew more rapidly then so would their output [4;18]. Such an interpretation would be appropriate for land-surplus labour-scarce economies which, we are told, still exist in Africa, but it is difficult to accept this interpretation for Pakistan.

A second interpretation is that these data indicate that a substantial amount of work sharing has been going on in these more traditional sectors. Instead of allowing output growth to reflect itself in rising product per worker, such increases have been absorbed by increases in the employed work force. To put it another way, in a growing economy, one might expect productivity to be rising. However, the productivity is not rising since the economic structure is characterized by family enterprise units. One could take this as an indirect evidence of absorption of the incremental labour force by these sectors, even though the real contributions of this incremental labour force to output are small. In other words, the natural tendency for output per worker to rise is offset by increasing number of workers, yielding the roughly constant productivity trend observed. This view would lead us to conclude that there has been a growing amount of underemployment in trade, construction and agriculture in the last 10 years. But, as of 1974-75, this underemployment had not yet led to absolute declines in the average product per worker, a step which begins to threaten the standard of living of the more fully employed workers and leads to a breakdown of further work-sharing and the emergence of open unemployment. Presumably, if and when continued labour force growth does exceed the absorption capacity of these sectors, this will be announced, firstly, by a decline in the average product per worker and, secondly, by an increase in the amount of open measurable unemployment.

OVERALL CONCLUSIONS

Both these approaches lead to the same conclusion. The present extent of underemployment in Pakistan is small. It is concentrated mostly in traditional family-organized production units in agriculture, trade and services where it is very difficult to separate it out from deliberate short work-weeks because of sex-age-specific characteristics, and non-work time demands of all sorts. Yet this is no cause for optimism.

Pakistan is still largely a rural, agricultural, family-enterprise-oriented economy. At most a third of the employed labour force work in the "modern" sector under conditions approximating a labour-market wage-bargaining situation. Most of the rest, in agriculture and trade, work within a family-based economic unit. That is, the "employees" qualify for employment in these enterprises by blood, marriage, previous family interconnections and other customarily defined family ties. As Chayanov and others [5;15;18] have noted, it is the great strength of such enterprises that they can accommodate the level of labour required (or used) to the available family supply. Maximization of total output is not the important (at least, not the only important) objective. Producing enough to provide a satisfactory level of income and employment for all eligible members of the family work force is also a goal. The fact that in most peasant agricultural sectors large families produce more than small families even on equal plots of land is a well-established fact.

The concentration of so much of "Pakistan's economically active population" in sectors characterized by this form of economic organization leads to a greater absorptive capacity and a greater flexibility in dealing with possible excess labour force members than would be possible in a more purely market-oriented system.

What are the limits to this absorption by the household-enterprise sector of new labour force entrants? It can be shown that the process of "work-sharing" must follow a certain orderly path consistent with simple micro-economic theory [15]. That is, with fixed land and/or capital, there exists an amount of labour input which absolutely maximizes total output. We can accept, in the case of agriculture, the Boserup contention that technology can, within limits, be changed by the farmer when and as population pressure threatens to reduce output income per worker [4] (the so-called "intensification" model) but there is a limit to this process. Under "work-sharing" this maximum labour requirement then gets divided up among the members of the family labour force on some basis. Some may work more than "full-time" (40 hours per week), others much less. But the inevitable conclusion is that if the family work force grows, and the other inputs do not, then the average hours worked per worker must fall. This, in fact, is the essence of "work-sharing", which, in turn, follows from familial "income-sharing". This same theory suggests that the limits to such "work-sharing" are reached when no further sub-division of the tasks is possible, when adding a fifth worker by reducing the hours worked by the other

four causes disruption and reduced total output. At this point, even the family "sharing" ethic breaks down. "Work-sharing" constituted "disguised" unemployment while the end of "work-sharing" leads to overt, measurable unemployment. This point is evidently still ahead of Pakistan but not very far ahead when population grows at 3.0 percent.

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