

PAKISTAN'S INFORMAL SECTOR: Review of Evidence and Policy Issues

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The importance and usefulness of the informal sector (IFS) is now well-established in the development literature. In this paper, we survey the rapidly growing literature on Pakistan's informal sector and attempt to synthesize recent empirical evidence. We envisage that the IFS has gained overwhelming importance in recent years due to its size, earnings potential, employment and skill generation, and growth potential for the firms. In particular, we focus on earnings functions, skill formation under *ustad-shagird* system, and prospects for firms' growth by examining the macro policy environment, sub-contracting arrangements, access to capital, technology adaptation, markets, and firm's location. Working women's production relationships are also illustrated briefly. We present areas where government assistance could be useful for this sector's development in future. We note, that due to gaps in the coverage of existing research, it is difficult to draw inferences for economic policy in some areas.

I. Introduction

The concept of the informal sector (IFS) embraces labour market theories in less-developed countries incorporating all the economic activities which cannot be classified under the organizational structure of the formal sectors. The IFS was brought in the fore-front by the research sponsored by the International Labour Organization (ILO) in the early 1970s. Hart (1971) introduced this concept and tried to crystalize the dual labour market theories of the fifties and the sixties. In its earlier characterization, this sector was labelled by neo-Marxists as unproductive, repre-

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senting the "economy of the poor" or "backyard economy".¹ The main reason for their attack was the fact that the IFS did not fit into their framework of analysis. They viewed this sector as a form of petty commodity² production, which was a transitional mode for a pre-capitalist social formation in the neo-Marxist framework of analysis. It was believed that this pre-capitalist mode will gradually transform itself into full-fledged capitalism. It was thought that IFS operators were locked in a chain of exploitative relationships, which served as major obstacle to their self-sustained growth [Amin (1974)]. They saw little room for policy formulation for the IFS since in their view, "under-development lies not within the IFS, not even within the peripheral economies, but in the accumulation process of the central countries" [Tokman (1978)].

In recent years, there is growing interest in research on the IFS. The ILO and its related organizations played a significant role by sponsoring country-specific studies which explored the viability of the IFS sector in generating income earning opportunities, employment, appropriate technology, skill generation and entrepreneurship development.² In consequence, many Third World countries are keenly interested in exploring policies to enhance the viability and the potential of the IFS.

Pakistan is among those countries which face problems of high population growth, urbanization, and unemployment of labour force. The problem of unemployment and under employment has reached an alarming situation. Part of the problem is that the supply of manpower is increasing faster than the rate of job creation. Moreover, due to increasing mechanization, the employment elasticities in agriculture and industrial sectors are declining [Kemal (1987); Burki (1990b)]. While open unemployment in Pakistan is not very high by any standards, much of the labour force is under-employed. According to one estimate, about one-quarter to one-third of the labour force is under-employed [Government of Pakistan (n.d.)]. This is not only against the objective of social justice but is also creating political tensions in the country. Currently, a dominant proportion of Pakistan's urban labour force is in the IFS, which offers income earning opportunities to small businesses, microenterprises, and a large number of skilled and unskilled workers and apprentices. The share of urban IFS in total urban employment was found to be steadily increasing [Burki (1990a)]. Small-scale informal manufacturing accounts for 30 per cent of total manufacturing output, and for more than 80 per cent of total manufacturing employment [Government of Pakistan (n.d.)]. Despite the fact that the IFS is important, policy-oriented research focussing on the role and dynamics of this sector has appeared only recently. Besides, it is not obvious what are the prospects and constraints for the IFS firms to grow in different economic environments

¹ See for instance, Tokman (1978), Gerry (1978) and Bromley (1978).

² See, for instance, ILO (1972), Weeks (1975), Sethuraman (1976), Mazumdar (1976), Nihari *et al.*, (1979), Sethuraman (1981), and ILO (1984).

and government policies; what is its role in employment generation, alleviation of poverty, and in human capital formation; what is the participation rate of women working in this sector and their working conditions.

This article surveys the IFS literature on Pakistan. The main themes of the article are: to highlight the functioning of the IFS in Pakistan in the light of existing evidence; to focus on the prospects and constraints that hinder growth of this sector; and to suggest ways to improve the functioning of this sector.³ The article is organized as follows. Section II explores issues relating to human resource development and argues that the share of the IFS in total urban employment has increased over time, while the relative shares of sectors have also changed. The earnings functions and their determinants are discussed at length, along with discussions on earnings and skill formation in the IFS. Section III illustrates the growth potential and constraints for firms in the IFS by examining the macro policy environment, sub-contracting, access to capital and technology adaptation, access to markets and firm's location. Section IV briefly examines the working conditions for women in this sector and identifies the areas of further research. Section V explores the policy issues and suggests some specific actions that might be implemented, and, Section VI gives concluding remarks.

II. Human Resource Development in the Informal Sector

The IFS in Pakistan has recently been discussed in terms of its size, earnings potential, productivity and skill generation. A review of the studies dealing with these diverse issues can bring forward some important points, which can serve as guidelines for policy formulation for this sector.

1. *Its Size and Role in Employment Generation*

Ironically, the issue of an acceptable definition for this sector remains unresolved. As noted by Richardson (1984), the IFS represents an uncharted economy which consists of various activities and essentially small establishments that have diverse income structures that make its definition a tricky affair. However, it is commonplace in the literature to use a functional definition based on cutoff points of income levels of firms, number of workers employed, and their registered or unregistered⁴ status, etc. These definitions are by no means comprehensive. However, so long as data limitations exist these definitions are accepted mainly due to their convenience and expediency [Ahmed (1990b)].

The estimates about the labour force employed in the IFS of Pakistan are sometimes based on a legislative-based definition.⁵ According to this definition, the

³ Some other useful reviews are Mahmood (1990), and Herman (1990)

⁴ In Pakistan, firms employing 10 or more workers are required to register under the Factories Act 1934.

⁵ See, Quisinger and Irfan (1980), and Burki (1990a)

IFS consist of firms which employ less than 10 workers in manufacturing, and less than 20 workers in the non-manufacturing sector.⁶ The relative size of employment in Pakistan's IFS is comparable with employment in other Asian and Latin American countries [Nur-ul Amin (1989); Portes, *et al.*, (1989)]. The employment shares by sectors for the urban IFS of Pakistan are presented in Tables 1 and 2. It can be seen that the share of the IFS in urban employment increased from 69 per cent in 1972-73 to about 73 per cent in 1985-86. There was considerable change in the relative shares of certain sectors. More specifically, the relative share increased for manufacturing, construction and transport sectors. For manufacturing, the relative share increased from 35 per cent in 1972-73 to 71 per cent in 1985-86, while for construction the share increased from 79 to 87 per cent in the corresponding period. The transport sector also registered a significant increase in its share. In contrast, the relative shares of finance and insurance, and services sectors declined in the same period. Nevertheless, in absolute terms these sectors also witnessed significant employment growth.

The IFS employment growth is due to increased demand for locally manufactured goods and services, due in turn to increased real wages and the inflow of remittances. For example, Burki (1990b) noted that the demand for IFS's goods and services increased because:

- a) After the oil price increase in 1973, the large scale out-migration of skilled and semi-skilled workers from Pakistan to the Middle East reduced the domestic supply of workers. This led to a very broad-based increase in the real wages afterwards. Increased real wages put some upward pressures on the demand for domestic products.
- b) The temporary out-flow of workers was followed by remittances by the migrants to their families back home, which led to sharp increases in their incomes. Since the majority of the migrants were from the low or lower-middle income households, the evidence shows that the huge inflow of remittances for several years (that peaked at \$2.4 billion in 1982-83) changed the pattern of consumption for the descendants of the migrants. Since the lower income groups traditionally demand cheaper locally-manufactured goods and services, increased incomes raised the demands for the goods and services produced by the IFS.
- c) Another consequence of the large-scale out-migration of the Pakistani work force was a rapid increase in exports to the Middle East, largely explained by the demand for native goods by Pakistani workers abroad.

⁶ It is interesting to note that in the *Survey of Small Scale and Household Manufacturing Industries (SSHMI) 1976-77*, conducted by the Federal Bureau of Statistics, Government of Pakistan, firms that had a capital stock of less than Rs.2 million were defined as small scale units. However, in later SSHMI's a new definition was used, which defined firms that were unregistered under the Factories Act 1934 as small-scale units. By implication these are the firms which employ less than 10 workers and thus give no legal basis for the establishment of labour unions. This is an equivalent definition to that used for the IFS by many studies.

TABLE I
Formal/Informal Sector Employment by Industry in Urban Pakistan, 1985-86

Sectors	Total Employed	Formal Sector	Informal Sector	Percentage Distribution		Sectoral Employment as % of Total
				Formal	Informal	
Agriculture, Forestry, Hunting and Fishing	467.25	-	467.25	-	100.00	6.83
Manufacturing	1,778.69	513.69	1,265.00	28.89	71.11	26.00
Construction	526.08	70.93	455.15	13.48	86.52	7.68
Wholesale and Retail Trade	1,807.42	21.48	1,785.94	1.19	98.81	26.42
Transport, Storage and Communications	559.60	178.84	380.76	31.96	68.04	8.18
Finance, Insurance and Business Services, etc.	201.81	104.73	97.08	51.89	48.10	2.95
Community and Social Services	1,482.47	968.74	513.73	65.34	34.66	21.67
Undefined	17.79	12.69	5.10	71.33	28.67	0.26
Total	6,841.11	1,871.10	4,970.01	27.35	72.65	100.00

Source: Burki (1990a).

Note: The formal sector here represents establishments employing 20 or more workers in the non-manufacturing sector and 10 or more workers in the manufacturing sector. All other establishments are classified in the IFS.

TABLE 2

Comparison of Urban Informal Employment
Shares by Sectors for Pakistan

Sectors	(Per cent)	
	1972-73 (1)	1985-86 (2)
Agriculture, Forestry, Hunting and Fishing	100.00	100.00
Manufacturing	34.59	71.11
Construction	79.34	86.52
Wholesale and Retail Trade	98.85	98.81
Transport, Storage and Communications	61.46	68.04
Finance, Insurance and Business Services, etc.	67.72	48.10
Community and Social Services	55.39	34.66
Total	69.05	72.65

Source: Column 1 is based on Guisinger and Irfan (1980). For column 2, see Table 1.

It appears from above that the IFS growth in the past was a spontaneous response to the market forces at work. High growth rates for small-scale informal production and service sectors have created new hopes for employment generation in this sector. Can this sector serve as a panacea for the unemployment problem in Pakistan? The answer to this question depends largely on whether this sector can produce sustained growth in future. How the IFS copes with the new circumstances, when the current stimulus disappears and all the migrant workers return home, remains to be seen.

2. Earnings Potential and Earnings Functions in the IFS

Due to perfectly competitive labour market and absence of labour unions, the wages are not expected to be sticky in the IFS. It implies market clearing wages and no involuntary unemployment. The evidence above shows that large number of new workers were absorbed in the IFS during the early seventies and the mid-eighties. In this perspective, it is interesting to explore labour market performance. In the following discussion we will review how human capital endowments are rewarded in the IFS. The evidence on returns to education and training helps to explain the demand for these attributes and provides motivation for the government and private

sector to supply these services. We will also consider the evidence on labour market segmentation and its sources.

The potential of the IFS to raise the earnings of its participants is explored by many recent studies. It has been observed that the IFS workers and the self-employed earn quite well. For example, Guisinger and Irfan (1980) observed that the formal sector workers earn only 28 per cent more than the IFS workers. Similarly, the evidence presented by Kazi (1987), Burki (1990a), Chaudhary, *et al.*, (1989), and Chaudhry (1990) clearly shows that, despite lower formal schooling, the IFS provides income earning opportunities to its participants and places them in a comparable position with the formal sector workers. This is because the IFS workers make up their deficiencies in formal schooling by getting specific training on which they receive premiums. Although, the wage workers in the IFS were found to get much less than the self-employed, yet the workers/apprentices are reported to have great potential for rapid promotions and vertical mobility (as unskilled workers or *shagirds* become skilled workers or *ustads*, and *ustads* become self-employed)⁷ [Guisinger and Irfan (1980); Burki (1990a); Burki and Ubaidullah (1992)]. This potential of earning and upward mobility is, however, reported to be much less in the household-based informal activities as compared with other informal manufacturing activities [Nadvi (1990); (1991)]. This may be due to lower productivity and disguised unemployment of family members in household-based activities.

We now address a complex and controversial issue of what determines the variations in workers' wages and earnings in the IFS. Like the formal sector, the basic framework of analysis for wage determination was provided by human capital theory, developed by Becker (1964) and Mincer (1974). The human capital investments could be made in a variety of ways, viz., schooling, experience and training, etc. Other things being equal, workers with higher levels of schooling, training and experience command higher wages in the labour market than do those who are less endowed with these human capital attributes. The incentives to accumulate human capital decrease with age due to the decreasing present value of lifetime returns on such investments.

The statistical earnings function used in the literature has been of the following form

$$\ln y_i = f(s_i, x_i, z_i) + u_i$$

where $\ln y_i$ is the natural logarithm of earnings/wages for the i th individual, s_i is years of schooling, x_i is years of work experience, z_i represents a vector of other

⁷ *Ustad* is a local language equivalent of mastercraftsman. This term is commonly used in most parts of Pakistan. In the services sector most *ustads* are employers too. However, in the manufacturing sector it is not uncommon to see *ustads* as employees. *Shagird* is a term used for apprentices. Sometimes they are also called *chona*. The *shagirds* are attached to their *Ustad* in an environment of joint workmanship in which *ustad* is a constant source of learning-by-doing for *shagirds*. A great deal of respect is accorded to *ustad* by his *shagirds*.

factors or nonhuman capital variables, that often enter in the form of dummy variables, and u_i is a random error term. To incorporate the nonlinear pattern of earnings, Mincer (1974) introduced the quadratic experience term in the earnings function as

$$\ln Y_i = \ln Y_0 + \beta_1 S_i + \beta_2 X_i + \beta_3 X_i^2 + u_i$$

where $\ln Y_0$ is the predicted log earnings in the absence of schooling and experience, while S_i and X_i are years of schooling and experience, respectively. For the earnings function to be concave in experience, it is expected that β_2 would be positive, while β_3 would be negative. This is the most commonly used form of the earnings functions in empirical research.

In Pakistan, enrolment in schools is very low and school drop-out rates are high. This is explained by high private costs, i.e., foregone earnings associated with additional schooling and high out-of-pocket costs. In particular, private costs are high for *shagirds* who enter the labour market at an early age and have no schooling prerequisites. From the marginal cost point of view, since earnings of *shagirds* are expected to rise steeply with training and experience, their foregone earnings also increase rapidly which makes their schooling even more costly. This phenomenon largely explains the lower levels of schooling for the skilled workers. Government labour laws do prevent employment of workers below 14 years of age. However, these laws are often breached.

The empirical work on returns to education and training in the IFS of Pakistan is not very large. The typical results obtained by researchers support the hypotheses that the human capital endowments (viz., formal schooling and training) in the IFS are rewarded in a similar fashion as in the formal sector [Khan (1983); Burki and Khan (1990); Burki and Abbas (1991); Ahmad, *et al.*, (1991); Ali (1991); Burki and Nuzhat (1994)]. More specifically, Khan (1983), Burki and Khan (1990), and Burki and Abbas (1991) tested the pure human capital earnings functions and concluded that the coefficients in the two sectors are similar in size. Similar results were obtained for the earnings equations for the *ustads* [Ali (1991); Burki and Abbas (1991)].

The estimates about the returns to specific levels of education suggest two different patterns. For example, on the basis of a 1982 survey of 570 households of Lahore, Khan (1983) found that for all workers, and for informal sector male and female workers, the rates of return to specific level of education declined as schooling increased. However, Burki and Abbas (1991) show that in 1989 the estimated returns for skilled and semi-skilled workers for primary education were higher than secondary education, but lower than higher education. Lower absolute returns to secondary education were attributed by them to the saturation of the labour market for matriculates in the 1980s. No direct comparisons are possible between these two studies because of their diverse sampling procedures. Nonetheless, more

empirical studies on schooling returns based on reliable data are needed to draw any firm conclusions.

A rather different issue concerns the shape of the age-earnings or experience-earnings profiles. The estimates on the returns to on-the-job training and experience conform the life cycle theory of labour supply [Ahmad, *et al.*, (1991); Burki and Abbas (1991)]. This theory implies that the experience-earnings profiles start low at the beginning of the work life (because investments in training are made in this period), which rise as the new skills are acquired by the workers. This profile declines at the end of working life, mainly, because the human abilities and skills depreciate due to the aging process and the lack of further investments. The experience-earnings profiles for the IFS workers peak at about 25 years of experience as found by Burki and Abbas (1991), and Ahmad *et al.*, (1991). However, the peak varies between 33 years and 49 years of experience in the three earnings equations estimated by Nabi (1988), which appear to be on the higher side. One problem in Nabi's (1988) estimates is that by pooling the data for the formal and the IFS he assumed that the effects of variables, such as education and experience, on log earnings are the same in both sectors. This procedure implicitly constrains the slope coefficients for education and experience to be equal for workers in these sectors. Since the large firms use more capital-intensive methods of production, workers in large firms are generally expected to be more productive. Apparently, this problem can be solved by estimating separate regression equations for workers in these sectors.

Care must be taken in interpreting the empirical results on the earnings functions, as reported above. This is because all the studies, except Khan (1983) and Nabi (1988), were based on the same data set. The data were obtained from a 1989 sample survey conducted on male self-employed (*ustads*) and workers (*shagirds*) in the skill-intensive urban IFS,⁸ engaged in 24 informal activities (11 service activities and 13 manufacturing activities) in seven cities and towns.⁹ Since the survey excluded low-level informal activities, females, and the rural areas, there was some selectivity bias in the empirical results which overstated the absolute returns to education and training. Similarly, Khan's (1983) sample includes working males and females from 570 households from Lahore city only. Because of excluding small cities, towns and the rural areas, a sample selection bias affects the estimates of schooling returns in Khan (1983).

An important proposition of the human capital theory is that the age-earnings profiles for more educated are steeper compared to the less educated, because the

⁸It was termed skill-intensive sector because the sample respondents required several years of consistent learning and training as apprentices before their gainful employment. These workers were mostly trained within the IFS.

⁹The IFS was defined to include small establishments that employed 10 or less workers, were unregistered, and had no restrictions of entry or exit. For further details on this survey, see, Chaudhary *et al.* (1989).

former are expected to get more training. However, in Pakistan, education is not used as a criterion for workers' selection in manufacturing and many service activities at any stage of their working career. Therefore, it is not essential that more educated will receive more training. For skill-oriented jobs in manufacturing and services, on-the-job training is not associated with the level of schooling in an important way. Only in some services are schooling and general experience expected to play an important role in workers' selection. In effect, there is little reason to believe that the experience-earnings profile for better educated would be steeper than the less educated in the IFS. Unfortunately, present studies do not allow for interaction between schooling and experience in the earnings functions needed to determine the effect of schooling at various experiences. Therefore, it is not possible to make conclusions about the relative experience-earnings profiles of the more versus less educated workers. A more plausible attribute seems to be that the individuals with more specific training and experience would have steeper experience-earnings profiles. Besides, separate experience-earnings profiles for manufacturing and services sectors, incorporating the general and specific nature of training may be more meaningful.

To be able to identify the peaks with different levels of schooling, an earnings function of the following form needs to be estimated.

$$\ln Y_i = \ln Y_0 + \beta_1 S_i + \beta_2 X_i + \beta_3 X_i^2 + \beta_4 S_i X_i + u_i,$$

where the interaction term between schooling (S_i) and experience (X_i) allows us to determine the effects of experience at various schooling levels. This relationship becomes more obvious once we differentiate this with respect to X_i and set it equal to zero. For a concave earnings function we expect that β_2 will be positive while β_3 and β_4 will be negative. Therefore, we have

$$\frac{\partial \ln Y_i}{\partial X_i} = \beta_2 - 2\beta_3 X_i - \beta_4 S_i = 0$$

Solving for X_i^* that maximizes $\ln Y_i$ we obtain:

$$X_i^* = \frac{1}{2\beta_3} [\beta_2 - \beta_4 S_i]$$

Now the experience-earnings profiles at various schooling levels could be obtained by substituting in the years of schooling and the parameter estimates from the earnings equation. Similarly, the age-earnings profiles could be obtained by adding the years of schooling plus 5 to X_i^* .

Another empirical issue that has received some attention in the literature is

labour market segmentation. Labour market segmentation suggests that workers' origin, gender, race and other activity-specific features are important determinants of earnings.¹⁰ Recent evidence by Burki and Nuzhat (1994) shows that workers' background characteristics and other activity specific features (demand-side variables) do not create earnings differentials among the workers with similar human capital endowments in the skill-intensive urban IFS. Based on a sample of 534 workers they tested the augmented human capital model by including a series of dummy variables representing the demand-side variables, such as rural-urban background of workers and the industry of employment. Their empirical results failed to confirm labour market segmentation. By decomposing the results, they also found that the relative contribution of the human capital variables to variation in earnings was substantially higher than the non-human capital attributes. In contrast, the evidence by Nabi (1988) shows that the inclusion of the size of the firm, its location and the *bradr*¹¹ (caste) of the workers in the earnings function produces evidence of labour market segmentation. He found that the workers employed in large firms and the firms located in urban centres earned higher wages. Moreover, holding schooling and experience as constant, workers who were *lohar* by caste earned higher earnings than the workers of other castes. Curiously enough, Nabi (1988) did not test for market segmentation on the basis of the rural-urban background of the workers.

The evidence on market segmentation on the basis of the caste of workers implies that the assumed equality between wages and marginal productivity breaks down. Perhaps this result is explained by the presence of large firms in Nabi's (1988) sample, where wage differences across individuals, with similar human capital endowments, are commonly observed. Discrimination among workers on the basis of various characteristics is at the heart of the current debate on efficiency wage models.¹² In this regard, the most commonly known models are the shirking model, the labour turnover model, the adverse selection, and the sociological models. The primary argument in these models is that non-clearing labour markets are the result of efficiency wages by firms as effort-inducing implicit contracts, which reduce shirking incentives to workers, decrease turnover costs, supply a pool of best qualified workers, and provide favourable morale effects. Future research on wage differentials in Pakistan needs to determine if such effort-inducing implicit contracts are present in the informal labour market.

¹⁰ For recent reviews on labour market segmentation, see, Taubman and Wachter (1986); McNabb and Rayan (1990).

¹¹ For a discussion, see, chapter 2 in Nabi (1988).

¹² For excellent reviews of literature, see, Stiglitz (1987); and Carmichael (1990). For empirical evidence on efficiency wages, see, for instance, Krueger and Summers (1988), Moll (1993), and Campbell (1993).

3. Skill Formation Under Ustad-Shagird System

Most of the participants in the IFS are illiterates or have received very little formal education. Nonetheless, the process of skill acquisition by apprenticeship training in the IFS, known as the *ustad-shagird* system, creates significant impact on workers' earnings [Chaudhary, *et al.*, (1989); Kazi (1987); Nadvi (1990)]. However, the workers trained in vocational training institutions are not welcomed or accorded recognition by most employers in the IFS.

The *ustad-shagird* is time-tested centuries old system in operation in the Indian Sub-Continent through which skills are transferred from generation to generation. The informal system of training in developing countries is sometimes regarded as a source of exploitation of untrained or semi-trained apprentices by mastercraftsmen or employers [See, for instance, Tokman (1978), Gerry (1978)]. It is argued that mastercraftsmen or employers keep their apprentices unpaid for very long periods and thus extract surplus value, which is an important component of their accumulation of capital. This notion is, however, based on misunderstanding about the functioning of informal training. For example, Burki and Ubaidullah (1992) argued that under *ustad-shagird* system in Pakistan, lower initial earnings for *shagirds* include the cost of training, which should be seen as investments in human capital. The skills acquired by *shagirds* are highly portable due to perfectly-competitive informal labour markets. In such a situation, if *ustads* do not pay lower initial wages, *shagirds* may take the whole investment of their *ustads* with them on joining another *ustad* /employer. Thus, the reduced payments to *shagirds* are essential to maintain the *ustad-shagird* system.

The *ustad-shagird* system represents mutually beneficial relationships between *ustads* and *shagirds* [Burki and Ubaidullah (1992)]. In older times, this relationship was governed by kinship or family ties. However, in modern times, the work-norms and the nature of relationships have largely become independent of kinship and family ties (family ties still play a key role in the selection of apprentices in some activities). The primary reason for *ustads* to keep *shagirds* is to get help from them in undertaking minor work-related jobs, to look after the workshop or business, when they are away. Since these jobs are of minor nature, they cannot maintain full-time workers. This system is beneficial for *shagirds* in that, it helps them to get skills at no out-of-pocket costs. In a highly competitive labour market, where jobs for unskilled workers are few, the apprenticeship training not only guarantees employment opportunities at higher wages after their training is complete, but also helps *shagirds* in setting up independent workshops.

The Seventh Plan (1988-93) reported that out of 50,000 skilled workers produced annually, only 10,000 are produced by the vocational training institutions or other formal sector training facilities. All the rest are trained in the IFS. Therefore, most skilled persons come from the IFS where no public cost of training is involved.

Whatever cost is involved in such training is incurred by the recipients in lower wages that these trainees receive during their apprenticeship [Burki (1990a); Burki and Ubaidullah (1992)]. Thus, we have a case where government can be of considerable help to the master-trainers by providing them easy access to credit which will buttress this age-old institution of informal training.

We conclude that due to its size, earnings potential, employment and skill-generation, the informal sector's importance is overwhelming, at least, in urban areas of Pakistan. An indicator of this sector's neglect is that there is hardly any published statistics available on this sector. Lack of a strong data base is a major bottleneck to study its various aspects. We propose that government should generate a regular series of statistical indicators for the IFS and conduct scientific surveys at regular intervals, as it currently does for the formal sector.¹³ Due to its dimensional significance this matter not only demands urgency but also seems to be an obligation. Moreover, we should take stock of things and devise ways for an uplift of this sector. The search for new policies should also address itself to an evaluation of existing policies that possibly impede the growth and development of this sector.

III. Growth Potentials for the IFS Firms

A central question frequently asked in the debate on the IFS's viability is its future growth potential. More specifically, it is asked if the IFS firms can grow independently at all. The evidence from informal manufacturing firms is that they do have the potential for evolutionary growth, but this potential is limited due to some internal and external constraints [Aftab and Rahim (1986); (1989); Nabi (1988); Aftab (1990); Nadvi (1990)]. Several factors may influence a firm's growth, some of which are beyond its control. For example, the economic and political environment in the country, the growth performances of the economy, and the functioning of the supporting institutions, are the factors beyond firms' control. The entrepreneurial skills and the techniques of production are the factors which the firms can control. Historically, these factors have played an important role in determining the pace of growth of small IFS firms. Specifically, the evidence from the informal manufacturing in Pakistan supports this claim. In this section, we discuss the growth potentials for informal manufacturing firms and highlight the prospects for growth and the underlying constraints faced by IFS firms. Many factors influence the IFS's firms' growth, such as the macro policy environment, the entrepreneurial or managerial skills and the techniques of production, the exploitation of the IFS firms by large firms, the functioning of sub-contracting arrange-

¹³ Ghayur (1990) has argued that presently only little information is being processed and utilized about the IFS from the existing deliveries of the labour market information system. He emphasized that the potential for evolving an effective mechanism does exist, even with the existing institutional machinery. In particular, he noted that employment exchanges can be used to generate employment and manpower data. However, we feel that in view of the severe administrative problems with the employment exchanges in Pakistan, his suggestion appears to be far from practical.

ments, access to credit, access to markets, raw materials and technology, and discriminations against this sector by government and its functionaries [Nabi (1988); Schmitz (1982)]. These and related issues are discussed below.

1. *Macro Policy Environment*

The prospects for the relative growth of the IFS and the formal sector are determined, to a large extent, by the macro policy environment. Ironically, this is a very weak area of research in Pakistan. Government policy during the fifties and the sixties assigned an important developmental role to large-scale enterprises. In line with the growth strategy of that period, functional inequalities were created to promote savings and investment in a particular income group, whose average and marginal rates of saving were thought to be high [Ahmed and Amjad (1984)]. The strategy of promoting domestic savings was carried out by imposing decontrols on prices and profit margins on goods. Such policies, along with liberal tax measures, and concessional credit, made the large-scale sector highly profitable. Moreover, rapid industrialization in the large-scale sector was also facilitated by liberal capital imports, foreign exchange licensing and the export Bonus-Voucher Schemes. These policies were understood to have the impact of mis-allocation of resources away from the labour-intensive techniques to the capital-intensive technologies [Burki (1990b)]. At that time it was not realized that the IFS units may have the viability and dynamism required for economic growth. Only the large-scale manufacturing sector was considered as viable. Consequently, the large-scale manufacturing received special privileges and it succeeded in establishing its dominant position at the cost of the small-scale IFS firms.¹⁴ This policy weakened the competitive forces at work in the economy, and brought adverse consequences for the IFS.

A change in government policy in the early 1970s eliminated all artificial controls and incentives for the large-scale manufacturing sector, and this seems to have promoted symbiosis afterwards. These controls were indirectly hindering the process of growth for the IFS and their elimination gave a substantial boost to small-scale production. Moreover, the devaluation of Pakistan's currency in 1972 was instrumental in unifying the exchange rate. As noted by Kemal (1987) "unification of the exchange rate allowed them [small firms] to export their products which they could not do earlier because the exchange rate was overvalued and they were not provided any subsidy on their exports."

Despite the bias in government policy it has been shown that the small-scale IFS

¹⁴ One of the referees observed that "favouring the large-scale sector does not necessarily discriminate against the informal one, if policies are pursued and conditions prevail that make sub-contracting by large firms to informal sector firms for labour-intensive components, spare parts and ancillary services profitable in a non-exploitative manner". However, due to the import-substituting industrialization bias in 1960s, investments in large-scale manufacturing were highly capital-intensive. Therefore, favourable conditions for sub-contracting by large firms could not prevail.

firms emerged and flourished even before the 1970s. For example, Aftab and Rahim [(1986); (1989)] studied the factors that led to the emergence and survival of small-scale tube-well production in Punjab. They identified vertical division of labour and market segmentation as two factors related to the sudden emergence of this sector. Nabi (1988) also found an impressive growth performance by the farm machinery industry in Punjab, which he linked with the demand for these machines generated by the mechanization of agriculture. Based upon a sample survey he found an average growth rate of 46 per cent in the industry. Regressing the annual growth rate on firm characteristics he also found that those firms performed better which: (i) succeeded in borrowing from commercial banks, (ii) had been longer in business, (iii) started with lower capital stock, and (iv) had a higher capital-labour ratio. A substantial potential for informal manufacturing firms to grow was also found by Nadvi (1990), judged from average returns to labour and capital, which were high but widely varying across activities. He, however, noted that lack of capital, space and supervision were the major constraints which prevented expansion of these firms.

2. *Sub-Contracting*

Sub-contracting is an important factor that can be linked with the growth of different industries in Pakistan. An important precondition for sub-contracting arrangements is that production processes are not continuous, so that vertical division of labour is technically possible. Without vertical division of labour there could have been no small-scale manufacturing firms in Pakistan.¹⁵ Important complementarities exist between small and large firms, which give a special role to sub-contracting in the growth of these small firms [Nabi (1988)].

The sub-contracting relationship prevailing in Pakistan appears to be much different from what is found in the literature. For example, in the literature sub-contracting and vendorisation were generally discussed in coercive relationships between the formal and the IFS, or between large-scale and small-scale manufacturing. In Pakistan, however, it is found in a variety of ways. The participating firms are household manufacturing units, home-based workers, small-scale manufacturing units, large-scale manufacturing units, shops and commercial outlets, and contractors. The dominant form of sub-contracting appears to be small-small cooperation or informal-informal linkage.¹⁶ Even within the IFS, the extent of sub-contracting is

¹⁵ For example, Aftab and Rahim (1986), have observed that there could have been no diesel engine industry in Punjab without the vertical division of labour.

¹⁶ Akhtar (1992), has analyzed the relative efficiencies of small IFS firms in Gujranwala in a general framework of small-small subcontracting cooperation. However, due to very small sample of parent firms she could not produce robust results.

more widespread in household manufacturing units than in the small-scale units.¹⁷ Other forms of cooperation like small scale-large scale, small scale-household, small scale-shops/commercial outlets, household-household, household-large scale, household-contractors and household-shops etc., are also widespread. Such a variety of sub-contracting relationships makes it difficult to draw some broad conclusions about the functioning of this system and its underlying constraints, but, some brief comments are in order.

Due to the predominance of informal-informal cooperation, monopsonistic sub-contracting arrangements, or the tied¹⁸ nature of cooperation, which also involves coercion, are rare. Most of the participating firms were reported to be producing for more than one firm.¹⁹ Some evidence of tying was reported between the home-based piece rate workers (mostly females) and contractors/middlemen²⁰ [Ahmed (1990a); Ali (1990)]. These home-based activities do provide a supplementary source of income for poor families but they appear to have little potential for reform [Ahmed (1990a)].

Sub-contracting arrangements do provide inter-linkages and complementarities. For example, vertical sub-contracting was widespread in household manufacturing where all the raw materials are supplied by the contractors and thus a greater degree of dependence may be envisioned. In small-small sub-contracting technical cooperation and credit assistance by the parent firms were rare. Their relationship was based on a technological division of labour where the firms specialized in manufacturing one component, sub-component or a part, depending upon the degree of technological heterogeneity in their respective industry [Nadvi (1990)]. In activities where heterogeneous tasks were not involved, the firms were also producing final products for contractors, shops and commercial outlets.

The inter-linkages between small and large firms, however, produced somewhat different relationships. These linkages existed predominantly in the supply of credit and transfer of technology. The supply of credit by large parent firms, as

¹⁷ Nadvi (1990) reported that in his sample of 328 informal manufacturing enterprises (including both household and small scale units) 64 per cent were involved in sub-contracting. On a more dis-aggregated basis, 84 per cent of all household manufacturing and 50 per cent of all small scale units reported sub-contracting relationships.

¹⁸ Tying by which the vendor firms pledge to work for a single firm for a certain period is reported to take place when the sub-contracting parent firms are involved in introducing or developing a new component [Nabi (1988)]. Therefore, tying appears to be an alternative for the patent rights in advanced countries.

¹⁹ Nabi (1988), reported that in his survey of agricultural machinery industry, out of 40 vendor firms, no vendor firm (from Lahore, Sheikhupura, Gujranwala and Faisalabad) produced for a single parent firm. Mostly, these vendor firms were sub-contracting for three or more firms. Similar evidence was reported by Nadvi (1990).

²⁰ Home-based piece rate workers are defined to consist of any productive activity within the household, undertaken through a middleman for the purpose of earning, and whose payment is made on the number of items made or on the weight of the units produced. For more details see, Ahmed (1990a).

advances, was a rich source for the small vendor firms in some industries. These advances were mostly used as working capital, purchase of machinery, payment to workers and purchase of raw-materials [Nabi (1988); Nadvi (1990)]. Moreover, parent firms sometimes also arranged raw material supplies to the vendor firms. Without this inter-linkage some vendor firms would have ceased to operate. In addition, small and large firms co-existed by helping each other in various ways. For example, parent and vendor firms shared information while innovating new designs or production of new components and imitating of imported or locally-manufactured "prototypes". Sometimes, parent firms are also dependent on vendor firms due to their specialized work and expertise, which enable them (parent firms) to save labour, capital and organizational cost. Thus, the small and large industries do not appear to be competing entities because there are other areas of cooperation which appear crucial for the survival of both groups of firms.

In industrialized countries, sub-contracting has assumed significant importance in the debates about corporate re-structuring, in the wake of the global profit squeeze of 1970s. The complex nature of sub-contracting relationships and their underlying motivations was investigated in many subsequent studies in 1980s. As a result, Fordism as a form of production organization is giving way to new systems of organization in advanced industrial economies, especially in Europe. One of the most popular variant of post-Fordist industrial organization is flexible specialization [Piore and Sabel (1984)]. The most important feature of flexible specialization is its inter-firm networking or sub-contracting relationships between the firms. More recently, this concept has been developed into small firm industrial districts in which flexible specialization is the most important characteristic.²¹ The success of these industrial districts is associated with their economic and social organization based on small firms. These small firms in a particular industrial district have strong networks among themselves in which specialization and sub-contracting allows them to have division of labour, which in turn induces efficiency and economies. The success of a firm in an industrial district depends on the success of the whole network of firms in that district of which it is a part. Yet there has been no attempt made in Pakistan (in our knowledge) to build upon this new approach of industrialization.²²

²¹ Industrial districts are "defined simply as a concentration of firms within the same manufacturing sector and operating in a limited area" [Sengenberger and Pyke, (1991)]. The main theme of this new approach to industrialization is the rejection of Fordist mass production and instead the functioning of small firms in more adaptable structures referred to as flexible specialization. It is suggested that size does not determine the growth potential of firms, but how they cooperate with other firms in the industry and the political and economic environment in which they operate. See for instance, Piore and Sabel (1984), Pyke *et al.*, (1990), Pyke and Sengenberger (1992), Schmitz (1992), and Rasmussen *et al.*, (1992).

²² Only Nadvi (1990) has observed the existence of small manufacturing industries, their related ancillary activities and input markets in some narrowly defined geographical areas. These industry-specific concentrations facilitate each other's work in many different ways. However, he did not identify this as a leading factor for small manufacturing firm's development potential.

Given the benefits associated with sub-contracting arrangements and inter-firm cooperation, this system needs to be made more viable and efficient. Because of the close proximity between the parent and vendor firms, sub-contracting arrangements function efficiently in small cities and towns. However, in bigger cities, like Karachi and Lahore, due to long distances and diversified nature of activities and locations, it has become more difficult for the parent and vendor firms to locate each other. Therefore, it is imperative that sub-contracting employment exchanges be opened in suitable industrial locations to bring together the vendor and parent firms and to develop a spirit of cooperation.

3. *Access to Capital and Technology Adaptation*

The capital market in Pakistan is said to be segmented into formal and informal sectors where the "formal capital market, by and large, uses carefully selected proxies to identify borrowers" [Nabi (1988)]. The formal capital market consists of commercial banks and some specialized development finance institutions (DFIs). The informal capital market consists of friends and relatives, contractors/middlemen, large sub-contracting firms, input suppliers and the committee system (a form of credit club).²³

Formal credit is not accessible to the IFS firms mainly due to their non-credit worthiness.²⁴ Moreover, collateral requirements, guarantees, complicated banking procedures (in English language), and non-cooperative behaviour of banking hierarchy are other major obstacles that are frequently reported for this unaccessibility.²⁵ This lacuna was filled by the informal sources of credit. The most significant sources for household manufacturing units are the contractors, friends and relatives, and the committee funds, while for small-scale manufacturing units, friends and relatives, large sub-contracting units and committee funds are the main stay.²⁶ Friends and relatives have become a particularly important source after the 1970s, due to the inflow of migrants' incomes from the Middle-East [Nabi (1988)]. The users of these funds often do not pay any rate of interest; they simply return the principal in the agreed period.

²³The committee system is a form of compulsory saving in which most traders and industrialists are involved. This system is particularly rampant among the retailers and service sectors. The committees sometimes range between few thousands to lakhs of rupees. The most commonly used mechanism is the one in which all members pool their monthly installments and a lot is drawn in the beginning of the month to determine the order in which this pooled sum is allocated. This system operates in many other forms like the bidding for committees by the members and the lucky committees, which are like a lottery.

²⁴The IFS firms are not registered under the Factories Act 1934 so they have no legal basis to apply for loans from the commercial banks.

²⁵See for instance, Chaudhary *et al.*, (1989), Nadvi (1990).

²⁶For detailed evidence, see Nadvi (1990).

The committee funds were very widespread in the informal manufacturing, which help new or replacement investments a great deal. The estimates show that the real rate of interest on committee funds transactions varied from 15 per cent to 20 per cent [Nabi (1988)]. These committees could be as high as Rs. 500,000 or more in some big towns or cities. The funds so obtained were mostly used as working capital. Other backstreet arrangements for obtaining credit were also reported. A frequently reported source of credit for investments was, of course, own savings or self-generated funds [Nabi (1988); Chaudhary *et al.*, (1989); Nadvi (1990)]. These funds were raised through personal savings or the savings of the firms.

We noted earlier that the informal sources of funds were mostly used as working capital, due to their short-term nature. A major constraint for the IFS units to relocate, to use improved technology, and/or to expand their productive capacity, was the lack of capital, as reported by the owners of small informal establishments in the sample surveys. This is not as simple a problem as it may appear. It has serious implications on the IFS, in terms of its modernization, technology advancement, labour productivity, and the quality of goods and services produced. As remarked by Nadvi (1990): "In a capital constrained environment, and in a consumer market where quality standards do not seem to be critical, such investments are unlikely to take place." However, it appears that the consumers are becoming more and more quality-conscious. For example, the mushroom growth of the *bara* markets and their roaring business in various cities and towns, where smuggled/imported consumer items and consumer durables are sold, do suggest a changing pattern in consumer demands. The exposure of Pakistan's labour force in the Middle East to quality goods produced in foreign countries is also playing a key role in changing consumer preferences. Therefore, a gradual onset of this new consumption pattern can lead to saturation of the demand for inferior local substitutes for quality imported goods.

Indeed, there are no easy solutions to the problems of access to capital and the resulting technological stagnation. However, some specific proposals are discussed here. Nadvi (1990) proposed a capital subsidy scheme, funded by the state, for the purchase of second-hand reconditioned machinery by small firms from the large firms. In his scheme, the large firms would qualify for state credit meant for new technology, only if they would agree to sell their existing plant to new or existing small firms. These old plants would be reconditioned in government-supported engineering workshops before their installation. What Nadvi (1990) means by government-supported workshops is not clear. If his proposal is for the public sector to run the engineering workshops then it appears to be far from practical, because the government is trying at present to get rid of the existing public enterprises through privatization. As for the sale of second-hand machinery, its scope is limited to those industries where large firms were established decades ago. In the case of new generation of industries, it will take years before they sell their old machinery to small firms.

A more plausible alternative is the technology adaptation by the small firms through the engineering workshops and the machine shops on a commercial basis. For example, Kibria (1990) demonstrated the talents of Punjabi *mistries* (master-craftsmen) in technology adaptation and demonstrated their enormous role in early industrial development. Moreover, Aftab and Rahim [(1986); (1989)] and Nabi (1988) also mentioned the remarkable role played by the mechanics in agricultural implements industry in Punjab. We know some engineering workshops are actively engaged in imitating imported machines and parts on commercial basis in Gujranwala.

The fact of the matter is that the innate ability and skills to adapt new technology are indeed present. The scarcity of capital to purchase new or adapted technology is a more serious problem though. Since the IFS establishments are by definition unregistered entities, they do not qualify for the institutional credit to make such purchases. As a consequence, the formal credit institutions could not take the roots in this sector. There is a need to change the existing loaning procedure of the formal credit institutions to make them accessible to all. How it can be done is an area of further research.

The informal capital market is indeed a rich and potential source of funds to fulfil the needs of the IFS. Attention needs to be focussed on how to improve the working of this market for the benefit of the IFS. The experiments made in some developing countries to tap this important source can reveal new avenues. Some examples of such experiments are the rotating associations known as *susus* or *rotines* in Africa, Grameen Bank of Bangladesh, Badan Kredit Kecamatan in Indonesia, Saving Development Foundation in Zimbabwe, Small Farmer Development Program in Calcutta, and the Association for Development of Micro-enterprises in Dominican Republic [World Bank (1990)].

4. Access to Markets

The limited access to input/output markets is an external constraint, which can serve as a barrier to further expansion for the IFS firms. However, the evidence shows that the demand for output has increased or remained constant in most of the small-scale and household manufacturing enterprises [Chaudhary *et al.*, (1989); Nadvi (1990)]. The small-scale and household producers faced diversified population of buyers, which included contractors, direct consumers, shopkeepers, sub-contracting parent firms, middlemen/contractors, etc. For household manufacturing, more than 70 per cent of the demand came from a single buyer, usually a contractor/middleman [Nadvi (1990)]. This type of tied demand was also reported for home-based piece-rate workers [Ahmed (1990a); Ali (1990)]. The supply of inputs was not a constraint for most small-scale manufacturing firms because most IFS manufacturing firms used indigenous technology and raw materials [Chaudhary *et al.*, (1989); Nadvi (1990)]. Raw material supplies was a problem for some firms at

the time of setting up of the units due to lack of working capital [Nadvi (1990)]. This problem was solved subsequently by the input supplies on credit by contractors or sub-contracting parent firms.

5. *Firm Location*

Sometimes, location also matters in firms' growth. For example, Nabi (1988) reported that location matters in firms' growth indirectly, in the form of availability of skilled workers, management skills, demand for products, transportation facilities (that also ensures the delivery of both raw materials and finished products) etc. However, he found that there was no direct influence of firm location in firms' growth in the agricultural implements industry in Punjab. Regressing firms' annual growth rate on firm characteristics and a location dummy, he found that the parameter estimate for firm location was not significantly different from zero. Nabi (1988) did not explore the causes of this result. Our guess is that the insignificant parameter estimate for firm location may be the result of the presence of other variables in his regression equation, which proxied for firm location. Ironically, no other study focuses on the influence of location on firms' growth. Further research needs to be directed to this area.

In summary, the IFS firms are found to have great potential for growth. However, some internal and external constraints hinder this growth. These firms can grow into large firms with qualitative improvements and skills and some financial support. The extent of the market for the IFS manufacturing firms may be determined by technology, government controls, import-export policy and the political climate in the country. Also, a firm's location influences the availability of skilled workers, management skills, demand for products, and transportation facilities, which ensure the prompt delivery of raw materials and finished products. Strict collateral requirements, securities and other procedural work in the formal credit market create difficulties for small firms to obtain institutional credit. As a result, they depend on the informal capital market which is a rich source of generating funds for them. Functioning of sub-contracting arrangements is another factor that can be linked with the growth of firms. Firms choose to sub-contract to save labour, capital, and organizational costs. Sub-contracting is done for production processes that are not continuous and where vertical division of labour is possible. There is no evidence of monopsonistic sub-contracting. Instead, complementarities and inter-linkages were found between small and large firms, in the credit market and in the transfer of technology. There are several other areas where cooperation between small and large firms becomes important for the survival of both groups of firms. Government can play a more active role in strengthening these relations by opening of sub-contracting employment exchanges in suitable industrial locations, especially in big cities like Lahore and Karachi, to bring together the potential parent and vendor firms.

IV. Working Women in the Informal Sector

An important dilemma of studies on women in the IFS is that there are ambiguities about the actual size of this sector. No reliable estimates are available about female participation in the IFS. For example, the proportion of working women in the total labour force was estimated at 3 per cent in the 1981 census of population while the *Labour Force Survey 1986-87*, reported this proportion as 11 per cent. Using a loose definition, Khan (1990) reported that female employment in the IFS (both rural and urban) increased from 61.4 per cent of total female employment in 1981 to 85 per cent in 1987-88. She noted that more opportunities exist in urban setting for women since urban IFS has grown faster than the rural IFS. Her estimates can be called in question due to the definition that she used for the IFS.

In the midst of this controversy about the size of the female IFS, several attempts were made to provide insights into the functioning of this sector. It was observed that a significant majority of women were working in this sector. They took up jobs like factory workers, casual labourers, home-based workers, domestic servants, sweepers, potters/weavers and vendors, etc. [Kazi and Sathar (1986)]. Most of these women were uneducated and unskilled. They belonged to very large families and mostly joined the labour force to improve their living standards. A significant majority of these women entered the labour market at a young age and continued working after their marriage due to economic reasons [Kazi and Sathar (1986); Ali (1990)]. Since these working women were mostly uneducated, they received low wages despite working long hours [Kazi and Raza (1989); Ali (1990)]. Most female workers were found to belong to very poor families therefore their contribution to total household income was quite significant [Ali (1990)]. They earned about half of the total household income in some lowest income groups [Kazi and Sathar (1986)]. These women were mostly underpaid if their wages are compared with their male counterparts [Ali (1990)]. Despite lower wages these workers continued working to fulfil their basic economic needs.

The most neglected segment of female labour force in Pakistan is the piece-rate worker. These piece-rate workers may be home-based or factory-based. The females who cannot work outside their homes, due to social or cultural reasons, worked as home-based piece-rate workers. The age of the worker, the economic situation of a household, and ethnic background are the factors which were related to permission to work outside their homes [Kazi and Raza (1989)]. The women who worked as home-based piece-rate workers depended upon a middleman to get work. On the other hand, the factory-based piece-rate workers went to a common work site and observed certain working hours. These piece-rate workers mostly undertook jobs of sewing, embroidery, food processing, and as craftspersons [Kazi and Raza (1989); Ahmed (1990a)].

The female home-based workers were found to bear a greater burden of

household responsibilities as compared to their male counterparts working outside their homes. These piece-rate workers constituted a major portion of the female IFS and contributed significantly to the total household incomes. Wide variations were observed in the earnings of home-based piece-rate workers, which ranged between Rs.50 to Rs.2000 or more, per month [Kazi and Raza (1989)]. They contributed about one-third of the total household income, whereas, the factory-workers earned higher incomes and their share was more than half of the total household income. However, despite their significant importance, most of these workers worked under exploitative conditions. Their intensity of exploitation was independent of the level of education. The home-based workers were exploited by the middlemen, since they were less informed about the market conditions and the value of their products [Kazi and Raza (1989); Ahmed (1990a); Ali (1990)]. Low wages, long working hours, social insecurity, seasonal work, poverty and bad health were some other problems faced by the home-based piece-rate workers [Ahmed (1990a)].

In the final analysis, very little can be said about the policy for female workers since most of the studies concentrate on big cities only. More investigation needs to be done before suggesting measures for the betterment of this important segment of the IFS. Particularly, research on rural based workers, which form a major proportion of female labour force, is still lacking. A well thought out integrated plan for female workers, particularly for those belonging to the IFS, is now long overdue.

V. Implications for Policy

During the last decade the research on the IFS of Pakistan has broadened. As suggested by this survey, the IFS is playing a significant role in Pakistan's economy. It has gained overwhelming importance during the last two decades due to its size, earnings potential, employment, skill generation, and the great potential for the growth of IFS firms. But what about the contribution of research on the IFS to the design and implementation of policy? This question is difficult to answer because there are many gaps in the coverage of the existing studies. Therefore, it may be too early to draw inferences for economic policy in some areas. But in spite of the absence of adequate investigation in these areas, it is still possible to draw several conclusions and discuss its policy implications. For instance, there are no doubts about the numerical significance of the IFS and its implications for skill-generation, urban employment and income distribution. However, these attributes crucially depend on the growth of firms and other IFS activities. Therefore, this section presents areas where government assistance could facilitate the IFS's development in future.²⁷

²⁷ Most of these proposals are the outcome of deliberations in the Working Groups of the "National Workshop on the Informal Sector of Pakistan: Problems and Policies," Organized by Quaid-i-Azam University, and Friedrich Ebert Foundation, Islamabad, September 12-14, 1990.

1. *Role of the Government*

It has been proved that the IFS helps itself in the best possible way. Therefore, any future development strategy should not curb its development by resorting to over-regulation. Different government organizations do have roles as facilitator. These roles can be streamlined by active participation of the representatives from the IFS in the decision-making process. Moreover, government policies could be made more meaningful by improving the information flow about the IFS, through comprehensive activity-specific periodic surveys. These surveys could later form the basis of the government's supportive role in education and training of the manpower, research and development of technology, supply of credit, infrastructure facilities and marketing. Moreover, government can provide incentives through tax exemptions to activities which have high growth potential, or have the potential for exploiting economies of scale, etc. In addition, the IFS growth can also be facilitated by government protection. This protection can be in the form of providing encouragement to certain self-help organizations, employer-trainee and employer-employer co-ordination and even providing safeguards against extortions by petty government officials on various legal grounds. The local government and non-governmental organizations (NGOs) can also play a constructive supporting role, besides the federal and provincial governments.

2. *Education and Training of Manpower*

The *ustad-shagird* system of informal training has thus far proved to be very effective. To make it more dynamic and to avoid stagnation of skills and knowledge, refresher courses for *ustads* in certain activities can be useful. Moreover, training in simple book-keeping and cost-accounting can also be highly beneficial. Apart from informal system of training, there is also a need to make the formal training (through vocational training institutions) more effective. In this respect, new vocational training institutions could be opened in those skills which require more sophisticated knowledge and do not compete with the existing informal training system. Moreover, skill-intensive education can be promoted by introducing vocational subjects in middle and secondary school curricula.

3. *Development of Technology*

The adapted technology used by the informal manufacturing sector has often become obsolete. Therefore, government incentives to machine/equipment development centres functioning on a commercial basis for the modernization of the IFS, can be useful. The equipment or designs so developed, and other new technology, can be disseminated through mobile extension workshops, or through bulletin literature and mass media, in an understandable language. Moreover, inter-industry and intra-industry technology transfer could also be promoted. Keeping in view the

many benefits associated with the phenomenon of sub-contracting, an important policy implication is that this system should be made more viable and efficient. In this regard, sub-contracting employment exchanges may be opened in suitable industrial locations, particularly in big cities like Lahore and Karachi. This will help in bringing together parent and vendor firms who have difficulties due to long distances and diversified nature of activities and locations.

4. *Financial Aspects*

The main hindrance in advancing of loans and credit to informal enterprises is the collateral requirements and the complicated procedures. As a result, formal credit institutions and development finance institutions (DFIs) have not taken root in the IFS. This lacuna was filled by informal credit arrangements, e.g., the committee system and private money lenders. To streamline the present system of loans and credit, there is an urgent need to evaluate existing loaning procedures and to suggest improvements in it. Some specific proposals for the improvement of credit systems are as follows:

- i) Specialized credit institutions, specifically for the IFS, could be opened. In this connection, the 'Grameen Bank of Bangladesh' can serve as a model.
- ii) To solve the collateral problem, loans can be advanced on initial fixed investments and on future assets based on the feasibility. Simplification of procedures, and decentralization in decision making, can also be very effective in improving the present system.

5. *Infrastructure Development*

Finally, governmental involvement can take place in infrastructure development. More specifically, construction of rural and urban roads, improvements in communications networks, electrification of villages, and electricity connections for informal enterprises, are of particular significance. Such infrastructure development is crucial for the general well being of the economy. Due to financial constraints, the general condition of roads and transport facilities in the country remains far from desirable. Therefore, a greater emphasis should be placed in development of infrastructure facilities, particularly in rural areas. An improved transport network, which connects villages with the towns and cities, will not only open the doors for establishment of rural industries, but will also promote daily commuting from rural to urban areas. Both these actions, along with rural electrification, can help to reduce the rate of urban population growth.

VI. **Concluding Remarks**

This article has reviewed the existing literature on the IFS of Pakistan. We have found that during the last two decades this sector has assumed overwhelming

importance due to its remarkable growth and positive effects on employment, especially in urban areas. We would stress that the designing of appropriate strategies for the IFS should be based on empirical research founded on economic and social principles. There are many gaps in the existing research on this sector which needs to be filled for a better understanding of this sector. Though the literature on the IFS in Pakistan is growing, a few caveats should be borne in mind for future research. Much of the existing research focuses on manufacturing and skill-intensive activities only, so little is known about several other informal activities. For example, the literature on the rural IFS, the working women in this sector, transportation, retail trade, repairing and other personal services, and informal activities such as street selling, tea stalls, cigarettes and pan (betel leaf), shoe polishing, etc., is particularly very weak. In this regard, activity-and industry-specific studies would be more meaningful. It should also be stressed that there is little diversity in the focus of the existing studies. Instead of replicating the established results of the existing studies several extensions and developments should be undertaken. Future research should be guided more by the policy issues than anything else. Moreover, casual empiricism should give way to more rigorous empirical testing of the hypotheses.

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References

- Aftab, Khalid, 1990, Growth of informal sector firms: Lessons of experience. 'National workshop on the informal sector of Pakistan: Problems and policies.' Organized by Quaid-i-Azam University, Department of Economics and Friedrich Ebert Foundation. Islamabad: September 12-14.
- Aftab, Khalid, and Eric Rahim, 1986, The emergence of small-scale engineering sector: The case of tube-well production in the Pakistan Punjab, *Journal of Development Studies*, 22(1).
- Aftab, Khalid, and Eric Rahim, 1989, Barriers to the growth of informal sector firms: A case study, *Journal of Development Studies*, 25(4).
- Ahmad, Eatzaz, Fayyaz Arshad, and Ayaz Ahmed, 1991, Learning and earning profiles in Pakistan's informal sector. *Pakistan Economic and Social Review*, 29(2).

- Ahmed, Nigar, 1990a, Women home-based piece-rate workers: A study, 'National workshop on the informal sector of Pakistan: Problems and policies.' Organized by Quaid-i-Azam University, Department of Economics and Friedrich Ebert Foundation, Islamabad: September 12-14.
- Ahmed, Viqar, 1990b, The informal sector: Need and options for a policy framework. 'National workshop on the informal sector of Pakistan: Problems and policies.' Organized by Quaid-i-Azam University, Department of Economics and Friedrich Ebert Foundation, Islamabad: September 12-14.
- Ahmed, Viqar, and Rashid Amjad, 1984, *The management of Pakistan's economy, 1947-82*, Karachi: Oxford University Press.
- Akhtar, Parveen, 1992, Sub-contracting relationships and efficiency in small manufacturing firms in Gujranwala, M.Sc. Thesis, Islamabad: Quaid-i-Azam University, Department of Economics.
- Ali, Karamat, 1990, Problems of working women in the rural informal sector of Multan district, *Pakistan Economic and Social Review*, 28(2).
- Ali, S. Shahbaz, 1991, Determinants of personal earnings for the self-employed in the urban informal sector of Pakistan, M.Sc. Thesis, Islamabad: Quaid-i-Azam University, Department of Economics.
- Amin, S., 1974, Accumulation and development: A theoretical model, *Review of African Political Economy*.
- Becker, Gary S., 1964, *Human capital*, New York: National Bureau of Economic Research.
- Bromley, R., 1978, Introduction – The urban informal sector: Why is it worth discussing?, *World Development*, 6(9-10).
- Burki, Abid A., 1990a, Urban informal sector in Pakistan: Some selected issues, Paper presented in 'Sixth Annual General Meeting of the Pakistan Society of Development Economists,' January 8-10, For an abridged version see, *Pakistan Development Review*, 28(4): (Part II), 1989.
- Burki, Abid A., 1990b, Development strategies and the employment problem in Pakistan, in: S. N. Hyder, ed., *Employment issues in Pakistan: Review of some evidence*, Islamabad: Pakistan Manpower Institute.
- Burki, Abid A., and Mushtaq A. Khan, 1990, Returns to human capital in the informal sector: Some evidence, 'National workshop on the informal sector of Pakistan: Problems and policies.' Organized by Quaid-i-Azam University, Department of Economics and Friedrich Ebert Foundation, Islamabad: September 12-14.
- Burki, Abid A., and Qaisar Abbas, 1991, Earnings functions in Pakistan's urban informal sector: A case study, *Pakistan Development Review*, 30(4): (Part II).
- Burki, Abid A., and Ubaidullah, 1992, Earnings, training and employment in Gujranwala's urban informal sector: Evolution or involution? *Pakistan Economic and Social Review*, 30(1).

- Burki, Abid A., and Tahira Nuzhat, 1994, Is Pakistan's labour market segmented? Evidence from the urban informal sector, (un-published).
- Campbell III, C.M., 1993, Do firms pay efficiency wages? Evidence with data at the firm level, *Journal of Labor Economics*, 11(3).
- Carmichael, H. Lorne, 1990, Efficiency wage models of unemployment: One view. *Economic Inquiry*, 28(2).
- Chaudhary, M.A., Parvez Azim, and Abid Aman Burki, 1989, Skill generation and entrepreneurship development under 'ustad-shagird' system in Pakistan, Islamabad: National Manpower Commission, Government of Pakistan.
- Chaudhry, Hafeez-ur-Rehman, 1990, Self-employed in the urban informal sector: A socio-economic profile, 'National workshop on the informal sector of Pakistan: Problems and policies.' Organized by Quaid-i-Azam University, Department of Economics and Friedrich Ebert Foundation, Islamabad: September 12-14.
- Gerry, C., 1978, Petty production and capitalist production in Dakar: The crisis of the self-employed, *World Development*, 6(9-10)
- Ghayur, Sabur, 1990, Urban informal sector and labour market information system: Considerations on integrating the both, 'National workshop on the informal sector of Pakistan: Problems and policies.' Organized by Quaid-i-Azam University, Department of Economics and Friedrich Ebert Foundation, Islamabad: September 12-14.
- Government of Pakistan, Planning Commission, n.d., *Seventh Five Year Plan 1988-93 and Perspective Plan 1988-2003*, Islamabad.
- Guisinger, S., and M. Irfan, 1980, Pakistan's informal sector, *Journal of Development Studies*, 16(4).
- Hart, Keith, 1971, Informal income opportunities and urban employment in Ghana. Paper presented at the conference on 'Urban unemployment in Africa', Institute of Development Studies, University of Sussex, Subsequently published in revised form in *Journal of Modern African Studies*, 11:March 1973.
- Herman, B., 1990, Do we need a survey of surveys? 'National workshop on the informal sector of Pakistan: Problems and policies.' Organized by Quaid-i-Azam University, Department of Economics and Friedrich Ebert Foundation, Islamabad: September 12-14.
- ILO, 1972, *Employment, incomes and equality: A strategy for increasing productive employment in Kenya*, Geneva.
- ILO (ed.), 1984, *Urbanization, informal sector and employment: A progress report on research, advisory services and technical cooperation*. Geneva.
- Kazi, Shahnaz, 1987, Skill formation, employment and earnings in the urban informal sector, *Pakistan Development Review*, 26(4).
- Kazi, Shahnaz, and Zeba A. Sathar, 1986, Productive and reproductive choices: Report of a pilot survey of urban working women in Karachi, *Pakistan Development Review*, 25(4).

- Kazi, Shahnaz, and Bilquees Raza, 1989, Women in the informal sector: Home-based workers in Karachi. *Pakistan Development Review*, 28(4).
- Kemal, A.R., 1987, Pakistan's experience in employment and manpower planning, in: Rashid Amjad, ed., *Human resource planning: The Asian experience*. New Delhi: ILO/ARTEP.
- Khan, Shaheen, 1983, An economic analysis of personal earnings in urban formal and informal sectors of employment, *Pakistan Economic and Social Review*, 21(1-2).
- Khan, Shaheen, 1990, An assessment of changes in the employment situation of Pakistani women in the informal sector, *Pakistan Economic and Social Review*, 28(2).
- Kibria, Ghulam, 1990, Engineering industry in the informal sector, 'National workshop on the informal sector of Pakistan: Problems and policies,' Organized by Quaid-i-Azam University, Department of Economics and Friedrich Ebert Foundation, Islamabad: September 12-14.
- Krueger, A.B., and L.H. Summers, 1988, Efficiency wages and the inter-industry wage structure, *Econometrica*, 56(2).
- Mahmood, Zafar, 1990, The informal sector of Pakistan: Some neglected issues, 'National workshop on the informal sector of Pakistan: Problems and policies,' Organized by Quaid-i-Azam University, Department of Economics and Friedrich Ebert Foundation, Islamabad: September 12-14.
- Mazumdar, D., 1976, The urban informal sector, *World Development*, 4(8).
- McNabb, R., and P. Rayan, 1990, Segmented labour markets, in: D. Sapsford and Z. Tzannatos, eds., *Current issues in labour economics*, Houndsmill, Basingstoke, Hampshire: Macmillan.
- Mincer, J., 1974, *Schooling, experience and earnings*, New York: Columbia University Press for the National Bureau of Economic Research.
- Moll, P.G., 1993, Industry wage differentials and efficiency wages: A dissenting view with South African Evidence, *Journal of Development Economics*, 41(2).
- Nabi, Ijaz, 1988, *Entrepreneurs and markets in early industrialization: A case study from Pakistan*, San Francisco: International Centre for Economic Growth.
- Nadvi, Khalid M., 1990, Employment creation in urban informal microenterprises in the manufacturing sector in Pakistan, *Employment and manpower strategies and policies*, ILO-ARTEP.
- Nadvi, Khalid M., 1991, The urban informal manufacturing sector in Pakistan and human resource development, National workshop on 'Integrated human resource development planning in Pakistan', Organized by Pakistan Manpower Institute and ILO-ARTEP, Islamabad: March 12-14.
- Nihan, George, E. Demol, and C. Jondoh, 1979, The modern informal sector in Rome, *International Labour Review*, 118(5).
- Nur-ul-Amin, A.T.M., 1989, *Macro perspectives on growth of the informal sector in selected Asian countries*, New Delhi: ILO/ARTEP, (Mimeograph).

- Piore, M., and Charles Sabel, 1984, *The second industrial divide: Possibilities for prosperity*, New York: Basic Books.
- Portes, A., M. Castells, and L.A. Benton, 1989, *The informal sector: Studies in advanced and less developed countries*, Baltimore: Johns Hopkins University Press.
- Pyke, F., G. Baccatini, and W. Sengenberger, eds., 1990, *Industrial districts and inter-firm cooperation in Italy*, Geneva: International Institute for Labour Studies.
- Pyke, F., and W. Sengenberger, eds., 1992, *Industrial districts and local economic regeneration*, Geneva: International Institute for Labour Studies.
- Rasmussen, J., H. Schmitz, and Meine Pieter van Dijk, 1992, Introduction: Exploring a new approach to small scale industry, *IDS Bulletin*, 23(3).
- Richardson, H., 1984, The role of the urban informal sector: An overview, *Regional Development Dialogue*, 5(2).
- Sengenberger, W., and F. Pyke, 1991, Small firm industrial districts and local economic regeneration: Research and policy issues, *Labour and Society*, 16(1).
- Sethuraman, S.V., 1976, The urban informal sector: Concept measurement and policy, *International Labour Review*, 114.
- Sethuraman, S.V., 1981, *The urban informal sector in developing countries: Employment, poverty and environment*, Geneva: ILO.
- Schmitz, H., 1982, Growth constraints in small-scale manufacturing in developing countries: A critical review, *World Development*, 10(6).
- Schmitz, H., 1992, On the clustering of small firms, *IDS Bulletin*, 23(3).
- Stiglitz, Joseph E., 1987, The economic consequences of the dependence of quality on price, *Journal of Economic Literature*, 25(1).
- Taubman, P., and M.L. Wachter, 1986, Segmented labour markets, in: O. Ashenfelter and R. Layard, eds., *Handbook of labour economics*, Amsterdam: Elsevier.
- Tokman, V.A., 1978, An exploration into the nature of informal-formal sector relationships, *World Development*, 6(9-10).
- Weeks, J., 1975, Policies for expanding employment in the informal urban sector of developing economies, *International Labour Review*, 111(1).
- World Bank, 1990, *World Development Report*, New York: Oxford University Press.