

SMALL AND RURAL INDUSTRIES: AN AREA OF EMPHASIS

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1. INTRODUCTION

The purpose of this paper is mainly to identify the keys that unlock the engine to get the economy moving which, hitherto, were believed to be the barriers. Creating an awareness and revitalizing the importance of rural and small scale industries, a once neglected area, and identifying the "package of efforts" to promote and make them play their role to development is basically the crux of the matter.

1.1 Background

Though all developing countries have stressed their priority on large-scale ventures as a way out of backwardness, the efforts had come out to be disappointing. Development pursued along the path of large scale ventures did not generate the expected economic impacts. For the large majority of developing countries, industrialization had remained a far cry. And given the present macro economic environment, as Criss (1992, P.21) stated, industry may well face a problem of survival rather than development, a fact shared by Ethiopia too.

Wealth generated from these large scale ventures did not trickle down to the poor. Agriculture and industry did not progress on a synchronized manner, one lags behind the other. This calls then for assessing options to development. Especially, it calls for attention to the once neglected area - to small and rural industries.

Small and rural industries are a base for large industrial development. It is these small and rural industries that did develop to medium and large size factories in Japan and Europe. It is the small firms that know better the behavior of the local markets, and operate to suit those markets. It is small and rural industries that are a training ground for entrepreneurs. It is small and rural industries which mobilize resources that could have been remained untapped, generate employment, facilitate balanced growth and hasten development. The question is, therefore, how to promote rural and small industries in Ethiopia - the focal point of this paper.

1.2 Objective

One of the major drawbacks of industrialization policy in pre-revolution Ethiopia was the denial of investment incentives to small industries with capital less than Birr 200,000. Their contribution to socio-economic development was under-rated, and highly concessional incentives were only granted to medium and large industries. The Derg government too put excess emphasis on large state agricultural schemes and large factories. Small and rural industries were a neglected area by both late governments, Imperial and Derg.

misleading, as well. Those small-scale industries located in predominantly agrarian areas and affect the life of the agrarian population better be referred as rural industry.

In many countries, non-farm activities, mainly rural and small industries, used to be quantitatively important in many aspects of rural life.

In India, village and small industries (which approach rural industry) provides maximum employment next only to the agricultural sector and account for one third of total exports of the country and about fifty percent of manufacturing value-added (see Gupta, P. 4). A detailed survey of rural industries' share of employment in total manufacturing for Korea and Taiwan is reported in Table 2. From the table, one could witness that rural industry used to play an important role in the economic development of these countries.

In Ethiopia, information about the importance of non-farm activities or rural industry as a source of employment and income has yet to be generated. To what extent the importance of non-farm activities both in creating employment and generating income in Ethiopia is hard to guess. This also applies to rural industry. Let alone their importance, facts about small-scale industries are not well-documented. The only effort made to this end was by HASIDA in 1986. But, it was a survey, not a census, still not up-dated and it did not include crafts and artisans, secondary activities, villages and those with capital exceeding Birr one million (See HASIDA, P. Vi). An attempt could be made to show the importance of rural industry in employment from this survey by considering the regional distribution aspect. But it will not be a telling statistics, since the survey excluded secondary activities, villages and family based industrial activities.

3. SMALL AND RURAL INDUSTRIES: PRO-ARGUMENTS

3.1 Small and Rural Industries are a Springboard to Large Ones

In the early stages of development, village or cottage industries - smiths, shoemakers, garment makers, handicrafts etc - used to be dominant simply because the economic system only sustained such village activities. It was from these experiences, with some rudimentary modernization (using diesel engines or electrification) along with the expansion of markets that the transition to factory-based manufacturing occurred. And it persisted to be influential for a long period of time. Hoselitz, as quoted by Anderson, said

Of greater interest than the ... decline of dwarf industries is the divergent development of small industries ... in Germany and Japan. In Germany the proportion of the labour force in small industry increased from 18.6 % in 1882 to 25 % in 1907, and thereafter began decline. Japanese Industry ... shows the rather unusual feature of smaller plants growing faster than larger ones in a period of rising prosperity." (Anderson, P. 920).

Unless the market for the product reaches a certain minimum level, the cost of running a large industry operating below installed capacity seems heavier than the so-called inefficiencies of smaller units. Besides, some types of industries, usually those claimed to have advantage of location (Anderson, P. 921) have to operate on local demand basis which is basically limited in size in LDC's like Ethiopia, which again, entails establishments to be local and small. In this respect, Anderson warns as follows:

Comparison of the economic efficiencies of small and large firms rarely examine ... questions of location critically... If the former are serving the provincial markets that the latter have ignored on account of high transport and marketing costs, it would be wrong to infer that they are technically inefficient... since presumably the costs to large firms of producing for those markets would become significantly higher if they attempted to reach them before the infrastructure, and also, the size of the market, had developed significantly (Anderson, PP. 921-922).

After all, it is the small firms that do know better the behavior of the local markets, and operate to suit those markets.

3.3 Rural Industries Develop the Quality of Entrepreneurship

To get rural industries developed in countries like Ethiopia government should encourage and mobilize indigenous entrepreneurs. As entrepreneurs are "those that find themselves in a given set of circumstances and manage to operate and/or manipulate their environment to their best advantage" (Bar-El & Felsentstein, P. 266), strategies for rural industrialization need to focus on indigenous entrepreneurs. Studies proved that "new firms are started by entrepreneurs in their own locale... founders of firms tend to be local and are likely to set up in their home area" (Bar-El & Felsentstein, P. 259).

Rural industrialization needs the participation of indigenous entrepreneurs. Conversely, its expansion would speed up indigenous entrepreneurial development both in quantity and quality. Any government move towards achieving rural industrialization is at the same time a move towards creating and developing indigenous entrepreneurship.

3.4 Rural Industries Mobilize Resources to Development

The mass of the population in Ethiopia live in rural areas. If there is a need to involve the mass in the development process (which becomes a prerequisite in most development programmes), the economic sphere, next to agriculture, is non-agricultural activities, mainly rural and small industries. Sand said "if structural reforms are to involve the poor in the development process, it is crucially important to build up a system of independent small scale private enterprises" (Klemens Van De Sand, P. 27). A failure to initiate independent small scale private enterprises in small towns and rural areas to development is to neglect the essential components of any development process. In this respect, Anderson said

more widely dispersed in provincial towns, it is believed that they can assist in coping with the growing unemployment problems.

A strategy for rural industrialization is, as well, a means to bring about a decentralized patterns of industrialization, and studies witnessed that " a decentralized pattern of industrialization has enabled many farm household members to shift from agriculture to non-agricultural employment with out changing their residence" (Ho, P.20). This mitigates migration and unnecessary urbanisation, enhances agricultural productivity, and generates additional income.

But, according to Kashyap, the argument that small firms are quite frugal in the use of capital and create more jobs per unit of capital is becoming far from conclusive. Studies have shown that labour-intensity need not decline with size and small-scale enterprises may not always possess capital-saving virtue (See Kashyap, P. 974). Labour absorption, rather than being a function of scale of production, is becoming a function of output composition. The World Bank already stated in 1985 that "the only way to increase labour intensity of the economy would be to increase the demand for products of industries which are typically labour-intensive and have high labour productivity" (quoted by Kashyap, P.674). Kashyap himself said,

...the success of Korea's and Taiwan's manufacturing sectors in absorbing labour is due, to a large part, to the development of industries that produce labour-intensive products rather than to any special attention to small scale manufacturing... Thus, if the objective is employment creation, the development of the small enterprises may not be the most appropriate policy to pursue" (Kashyap, P. 674)

Whatever are the arguments, it is observed that practically, though not exclusively, small firms show greater concentration in labour intensive industrial activities. Thus, the development of small enterprises especially rural ones would help soak the growing under- and unemployed rural and urban labour force. The process also helps improve labour productivity in agriculture and expand markets for industrial products.

3.6 Rural Industrialization Facilitates a Balanced Development

Development was traditionally conceived as reaching a 'high mass consumption' society by increasing per-capita income and its growth rate. But challenges emerge "whether the concept of a 'high mass consumption' society was really the goal to which developing countries should aspire" (Conyers and Hills, p. 25). Economic growth need not necessarily bring about the well-being of the people which development should adhere to. That is why Dudley Seers stated:

the questions to ask about a country's development are: What has been happening to poverty? What has been happening to unemployment? What has been happening to inequality? If all three of these have declined from high levels, then beyond doubt this has been a period of development for the country concerned. If one or two of these central problems have been growing worse, especially if

4. SMALL AND RURAL INDUSTRIES: PERFORMANCE IN ETHIOPIA

4.1 Trends

4.1.1 Contributions to GDP

It is not only the contribution of handicrafts and small-scale industries (HSSI) to National GDP that is falling, but its share to industrial GDP has also been dwindling. In 1960/61, industry contributed 8.98 percent to the national GDP, of which 4.15 percent was from handicrafts and small-scale industries, almost half (46.22%) of Industry's contribution.

At the eve of the revolution, as industry's share to GDP raised to 16.76 percent, handicrafts and stress scale industries' share as well rose to 5.11%, though its importance in industry shrinks from 46.2 to 30.5 percent.

There after, both its contribution to GDP and its share to industry had started to fall. In 1989/90, HSSI's share to GDP was 3.43 percent and its share to industrial GDP was only 20.8 percent. Two important reasons might be cited for the case. One is that the manufacturing sector had got the speed to play the role that small industries used to play. The manufacturing sector's contribution to the industrial GDP grew from 20.6 in 1960/61 to 46.9 percent in 1989/90. The second reason could be the adverse economic and political environment which small scale industries faced that haunt not only their expansion but also their existence in post revolution Ethiopia.

4.1.2 Number of Establishment

No adequate information is available to assess the trends of the number of establishments of small-scale industries. Only two of the sources, namely a survey made by HASIDA in 1976/78 and CSA/CSO annual survey on the manufacturing sector, has got time series data to serve the purpose, though insufficiently.

According to the former source, the number of establishments in 1966/67 (as per defined then) were 246, majority (153) of them being grain mills. In 1976/77, they reached 963, of which grain mills accounting for 55 percent. This indicates that in pre-revolution Ethiopia, 72 small-scale establishments were to come into existence per annum, on average.

On the other hand, CSO/CSA surveys compiled for 14 years (1976/77-1989/90) witnessed that the number of private establishments (as per defined) had been declining from 283 in 1976/77 to 206 in 1989/90, at an average rate of 3.5% per annum.

4.2 Structure

The structure of the sector manifests concentration in all respect. Ownership structure, activity and regional distribution reveal lopsidedness in one way or another. Food and textiles industries, to speak of sectoral distribution, hold the lion share in employment, number of establishment and output. According to 1984 survey of HASIDA, food and textiles together accounted for 80, 67 and 70 percent of total number of establishments, employment and gross value of production respectively.

The picture for 'ten and above' group, according to CSA survey, as well, did follow the same pattern, though the share of food and textile is not significantly exorbitant. Regarding to structural shift, it looks disappointing. The structure remained consistent through time, food and textile being dominant.

Ownership wise (on legal form of organization), of 7,684 establishments in 1984/85, 7,129 (or 93 percent of the total) were sole proprietorship, mass organization following in far distance holding only a share of 4 percent. Partnership, share company or private limited company were a rare phenomena.

Regionally, majority of the activities (34%) are located in Addis Ababa, followed by Shoa and Hararghe, accounting for 12.1 and 6 percent respectively.

4.3 Productivity

To assess the performance of the sector especially to shed a light on the productive content of inputs in production and its trend, output per establishment, output per man-year and output per total factor inputs are considered.

Productivity in the sector, especially its trend, is generally not disappointing compared to the trend of number of establishments, output and employment. Output per establishment in the sector was birr 96,840 on average in 1976/77; and, despite the fact that the number of firms were declining, it revealed an increasing trend overtime. In 1989/90, it reached birr 180,079, exhibiting annual average growth rate of 4.53 percent. The factors responsible for its increment could possibly be increase in scale and/or increase in efficiency of resource use. The former possibility, however, seems practically unfounded. Employment, which usually goes positively with scale, was declining. This, therefore, leads to the conclusion that efficiency in resource use is the major factor.

That seems why then output per man-year (labour productivity) were consistently showing a positive growth over the period understudy (1976 - 1989), almost 6 percent per annum. Output per man-year (an average labourer produced within the year) in 1976/77 was birr 2,552, 2.4 fold more than its wage. The same labourer, however, was producing birr 5,667 in 1989/90, 2.2

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There are different measures to indicate whether the sector reveals learning or not. One is total factor productivity (TFP). Its growth rate measures that part of output growth which is not accounted for by changes in total factor inputs and it serves as a learning rate indicator. Different expressions can be used to capture TFP growth rate.

A) Solow's Index (Mabro and Radwan, P.177)

$$GA = GQ - (aGL + bGK) \text{ ---- (3.5.1)}$$

B) Kerdrick's arithmetic measure (Mabro and Radwan, P.177)

$$\frac{A_2}{A_1} \frac{\frac{Q_2}{q_1}}{\frac{L_1}{L_2} + b \frac{K_2}{K_1}} \text{ ---- (3.5.2)}$$

C) that given by kazashi and Nobukiyo (see P.4)

$$GA = a(GQ - GL) + b(GQ - GK) \text{ ---- (3.5.3)}$$

In all cases, A, K, L, and Q represent respectively TFP, capital, labour and output. G stands for growth rate and a and b are labour and capital elasticity of output respectively.

The other one is technical progress (also referred as technical change), a concept representing any kind of shift in the production function (see Solow P. 312). There are different ways to handle technical progress. In this paper, Solow's (1957) and Massell's (1960) methods are used to capture technical progress².

Besides, there is another econometric technique to capture technical progress like estimating a variant of production function of a form:

$$Y = Ae^{mt} L^a K^b e^{ut} \text{ ---- (3.5.10)}$$

where e^m represents a constant proportional rate of technical progress; and t is time³.

The direction and extent of TFP in the sector for the period 1976/77-1989/90, therefore, is investigated using the above expressions. Output, labour and capital are respectively value-added at 1981 factor cost (in national accounts concept), man-year and net fixed assets as

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and returns to scale for the sector. But, the estimate made on cross section data by Wogayehu (1991, PP. 58-59) revealed:

...the estimate of the elasticity of substitution ... was significantly greater than unity... Hence, the results ... lead to the conclusion that substitution possibility between labour and capital, is fairly great in the private small-scale manufacturing industries. The scale parameter estimated from the same equation was 0.858, showing that, in 1984/85, diminishing returns to scale prevailed in the private small-scale manufacturing industries.

The shortcoming, in this case, is that any estimate using cross-sectional data does not reveal the extent of factor substitution and the way output changes with a change in factor inputs in the sector. It is more of a time-series issue.

5. PROMOTIONAL ISSUES

5.1 Creating an Enabling Environment

- i) **create a stable political system.** "36 nations are poor today than were a generation ago - 19 of them in Sub-Sahara Africa (Summers, p. 6). The reasons, according to Summers, are not lack of aid, deteriorating terms of trade, debt crisis or not their inherent absolute physical limitations, but war. "war stops development. Almost all of the 36 countries that have lost ground over the last 25 years have been involved in a substantial military conflict... Sub-Saharan African governments spend four times as much on the military as on health..." (Summers, p. 6).

And it is typical in Ethiopia as its history is mainly that of conflict. For rural industrialization to be successful, and development to occur, conflict should get a permanent solution. Entrepreneurs need get a confidence to invest, a guarantee to be long-sighted and an assurance to be innovative. Security is a pre-requisite and to give security is the classic function of a state.

- ii) **Design a sound macroeconomic policies.** "Right policy and regulatory framework to provide an environment for dynamic enterprise growth, an appropriate organizational and institutional context that enables factors of production and firms to interact and mediate among themselves; the development of market driven business support system" (Schloss, p. 7) and etc., looks a pre-requisite to bring about development specially rural industrialization in Ethiopia.

5.3 Building up Industrial Estates

The process of building industrial estates is even called 'industrialization by invitation'. Building industrial estates seems more essential in Ethiopia, a country still indigenous entrepreneurs, rural and small industries are in their infancy.

Industrial estates as an encouragement and aid to industrial development have been adopted by a number of developing countries such as India, Srilanka, Malaysia, Iran, Mexico, Poetro Rico, Nigeria, Pakistan, Kenya, Tanzania, and they are also well-known and well-tried features of development in DC's such as USA, Canada, UK, Holland and Denmark. Because of their effectiveness for promoting small industries in USA, their number grew from about 300 in 1957 to nearly 1,500 in 1962. In India 120 estates were established during the 1956-1961 five year plan, and about 300 medium- and large-scale additional estates and 500-1,000 small rural estates were planned to be established (See Ethiopian Economic Review, No.7, P.89).

UNIDO said, 'industrial estates have long been regarded as being the best and most economical tools for promoting the development of manufacturing industries especially in the medium-and small-scale sector, in countries in the process of industrialization" (UNIDO, P. iii). Their contribution in reducing the entrepreneurs' investment costs; their role in promoting new industrial growth centres in rural areas, by steering small industries away from big cities to relatively less developed rural areas; their stimulative effect on the activities of industrial and commercial enterprises, trade and services in the surrounding area are very considerable.

However, as much as there are successes in industrial estate programmes, such programmes also have sometimes fallen short of expectations; for reasons such as unrealistic nature of the objectives of the programs, the inadequacy of supporting institutions, the lack of adequate pre-planning, and the vacillating attitudes of the government towards the programme (see UNIDO, P.88).

Even in Ethiopia, mostly for political reasons, the first pilot industrial estate of Addis Ababa is now found in a very disastrous situation. The success of industrial estates rests on a detailed feasibility study on the programme and governments' commitment to that end; and this should be taken into consideration critically.

5.4 Encourage Sub-contracting

Sub-contacting is frequently mentioned for success of Japanese industrialization. "In Japan, small enterprises and industrial sub-contacting has played and are still playing an important role in the economy's rapid industrialization" (Schmitz, P.436). The arguments for sub-contracting are cited⁴ by Anderson (1982), Schmitz (1982) and Kashyap (1988).

Leaving rural and small industry to fend itself might be not only dangerous but also will be ruinous to indigenous learning. A study in Culcatta stated that "... the market for small producers is effectively controlled by large firms; the only way they can gain access to this market is by selling to the large industrial or commercial houses, which sell these products under their brand names" (See Schmitz, P. 438). And this is what the Kenyan soap industry is encountered (see Schmitz, 1982).

Besides promotional measures, therefore, there is a need for protection measures. In India, a country claimed to be "more sophisticated in technological capabilities than those of other NIC's" (See Fransman, P. 992), a number of protective measures have been introduced. Firstly, scale of production is demarcated for the purpose of official assistance. Secondly, some items have been exclusively reserved for village and small scale enterprises. As of March 1984, the number of reserved products were 874 (see Kashyap, P.668 & Gupta, P. 15)

To reach a level of sophisticated technological capability as that of India or to attain an international competitiveness as that of Korea, their experience can shed a light as to how to protect indigenous small scale industries.

6. SUMMARY AND RECOMMENDATION

Nowadays, the significant development potential of the small-scale industry in both developed and developing countries has increasingly been recognized by researchers and policy makers alike. Because of the immense contributions of the sector to economic development and social progress, development minded governments have accorded special priorities to the promotion and motivation of small-scale industrialization.

Small-scale and rural industrialization plays more dynamic and particular role to achieve the national goals of growth, welfare and self-reliance in the daily basic needs of the people. Its viability and positive influence must, therefore, be considered highly for any economically and socially balanced industrialization process. Its advantages are self-evident as it was summarized in part III of this paper.

The formulation and pursuance of an effective and successful rural industrialization strategy, however, entails certain preconditions.

Rural industrialization is a local affair. For efficiency and effectiveness, to satisfy the practical demands of the people, it looks essential to set up and structure a localized administrative scheme. But it is also important that local decision making bodies be linked with central institutions, especially to those related to technology and extension services.

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where Q = output, k = capital input, L = labour input and t = time. The variable t for time appears in equation (3.5.4) to all technical change. Assuming technical progress to be neutral (it may necessarily not be), the equation turns out to be:

$$Q = A(t)F(k,L) \text{ ---- (3.5.5)}$$

and the multi-factor $A(t)$ measures the technical progress; it denoted changes in output due to factors other than changes in the volume of inputs. Its magnitude tells the level at which the function raised due to technical progress. Assuming linear homogeneity and competitive market (factors are paid their marginal productivity), through differentiation, one could arrive at the expression:

$$\frac{dQ}{Q} = \frac{dA}{A} + w_L \frac{dL}{L} + w_k \frac{dk}{k} \quad (3.5.6)$$

and from time series of dQ/Q , dK/K , w_L and dL/L , one could estimate dA/A and, hence, the year to year technical progress $A(t)$ itself. Or if we let $q = Q/L$, $R = K/L$, $w_k = 1-w_L$ note that $dq/q = dQ/Q - dL/L$, etc and equation (3.5.6) becomes:

$$\frac{dq}{q} = \frac{dA}{A} + w_k \frac{dR}{R} \quad (3.5.7)$$

and from the series of dq/q , w_k and dR/R , one could derive dA/A and the entire $A(t)$ series through the expression:

$$\frac{dA}{A} = \frac{dq}{q} - w_k \frac{dR}{R} \quad (3.5.8)$$

and

$$A(t+1) = A(t) \left[1 + \frac{dA(t)}{A(t)} \right] \quad (3.5.9)$$

letting t ranges from t_0 to t_n and setting $A(t_0) = 1$.

3. Technical progress here is Hick's neutral type (which raises the efficiency of both factors) and disembodied. Labour or capital augmenting technical progress can, as well, be estimated.
4. The arguments for sub-contracting both for the efficiency of large ones and expansion of the small-scale activities include:
 - sub-contracting can lessen the obstacles to small entrepreneurs setting up in business and can help them, once they are established, to survive and flourish (See Schmitz, P. 437)
 - it enables a significant number of small producers to accumulate sufficient capital and know-how in order to expand and increase their labour demand (See Schmitz, P.437)

Table 1

Percentage of Rural Labour Force with Primary Employment
In Non-farm Activities

Country	Year	Percentage
Bangladesh	1961	14
Thailand	1972	18
India	1961	18
Korea	1970	19
Pakistan	1961	31
	1951	27
Indonesia	1971	28
Philippines	1970	32

Source: Samuel P.S Ho. *The Asian Experience in Rural Non-agricultural Development and Its Relevance for China*, P.4

Table 2

Rural Industry's Share of Manufacturing Employment
In Percentage for Selected Years

Country	1930	1956	1960	1966	1975
Korea	84	-	41	-	21
Taiwan	63	37	-	41	-

Source: Samuel P.S Ho. *Economic Development and Rural Industry in South Korea and Taiwan*, *World Development*, V.10 No. 11 P. 976.

Table 5

**Pattern of the Number of Private Industries
from 1976/77 - 1989/90**

Year	Total	Food	Textile	Wood and Cork
1976/77	283	73	33	52
1977/78	259	85	21	53
1978/79	254	84	18	52
1979/80	237	79	19	44
1980/81	216	21	25	32
1981/82	210	66	26	30
1982/83	230	75	34	17
1983/84	221	69	34	17
1984/85	208	70	28	12
1985/86	205	74	24	8
1986/87	199	64	24	7
1987/88	203	66	26	6
1988/89	206	69	25	7
1989/90	206	68	23	5

Source: Results of Survey of Manufacturing Industries 1976/77-1989/90.

Table 7
Productivity in the Private Small-scale Industries

Year	Output Per			
	Establishment	Man-year	Wage bill	Total Inputs
1976/77	96.8	2.55	1432.10	1,074
1977/78	103.9	2.76	1265.20	1,112
1978/79	93.0	2.41	1028.60	1,162
1979/80	109.9	2.84	976.90	1,256
1980/81	136.7	3.47	1083.60	1,424
1981/82	130.8	3.50	980.50	1,485
1982/83	127.8	4.08	1032.90	1,536
1983/84	137.9	4.32	1042.30	1,656
1984/85	137.7	4.32	1106.80	1,623
1985/86	150.7	4.62	937.90	1,483
1986/87	177.7	5.83	1049.20	1,614
1987/88	165.3	5.44	957.90	1,593
1988/89	214.2	6.58	1171.80	1,953
1989/90	180.1	5.67	1052.30	1,675
Growth Rate	4.53%	5.86%	-1.74%	3.22%

Table 8
Regression Results

Sector	Coefficient	T-test	F-ratio	R ²	D.W
Food	-0.3	2.6	6.8	0.11	2.0
Beverages	0.63	2.6	5.8	0.32	1.9
Textiles	-0.27	0.65	0.43	0.03	1.8
Tanneries	-0.01	0.02	0.00	0.00	1.5
Wood	0.72	4.4	19.3	0.16	1.8
Paper	0.66	0.59	0.35	0.28	1.8
Printing	-0.1	0.18	0.03	0.00	1.2
Rubber	0.12	0.94	0.88	0.07	1.8
Total	1.7	3.05	9.3	.44	.57

Table 11
TFP Annual Growth Rates of Private
Industries in Percent for the Period 1976/77-1989/90

Sector	Expression (3.5.1)	Expression (3.5.2)	Expression (3.5.3)
Food	3.858	4.175	3.853
Beverage	-1.574	-8.886	-1.529
Textiles	-3.109	-6.826	-3.061
Wearing apparel	5.253	5.151	5.223
Tanneries	9.21	9.521	9.122
Foot wear	3.118	6.877	3.064
Wood and cork	3.679	-16.379	3.064
Furniture	7.708	7.622	7.651
Paper	12.598	13.327	12.551
Printing	5.274	7.401	5.244
Other Chemical	-0.625	0.432	-0.631
Rubber	-8.128	6.815	-8.116
Plastic	-0.288	1.612	-0.279
Non-metallic	7.249	6.927	7.229
Fabricated Metal	5.147	6.601	5.137
Electrical App.	4.115	5.968	4.113
Total	4.891	7.102	4.881

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