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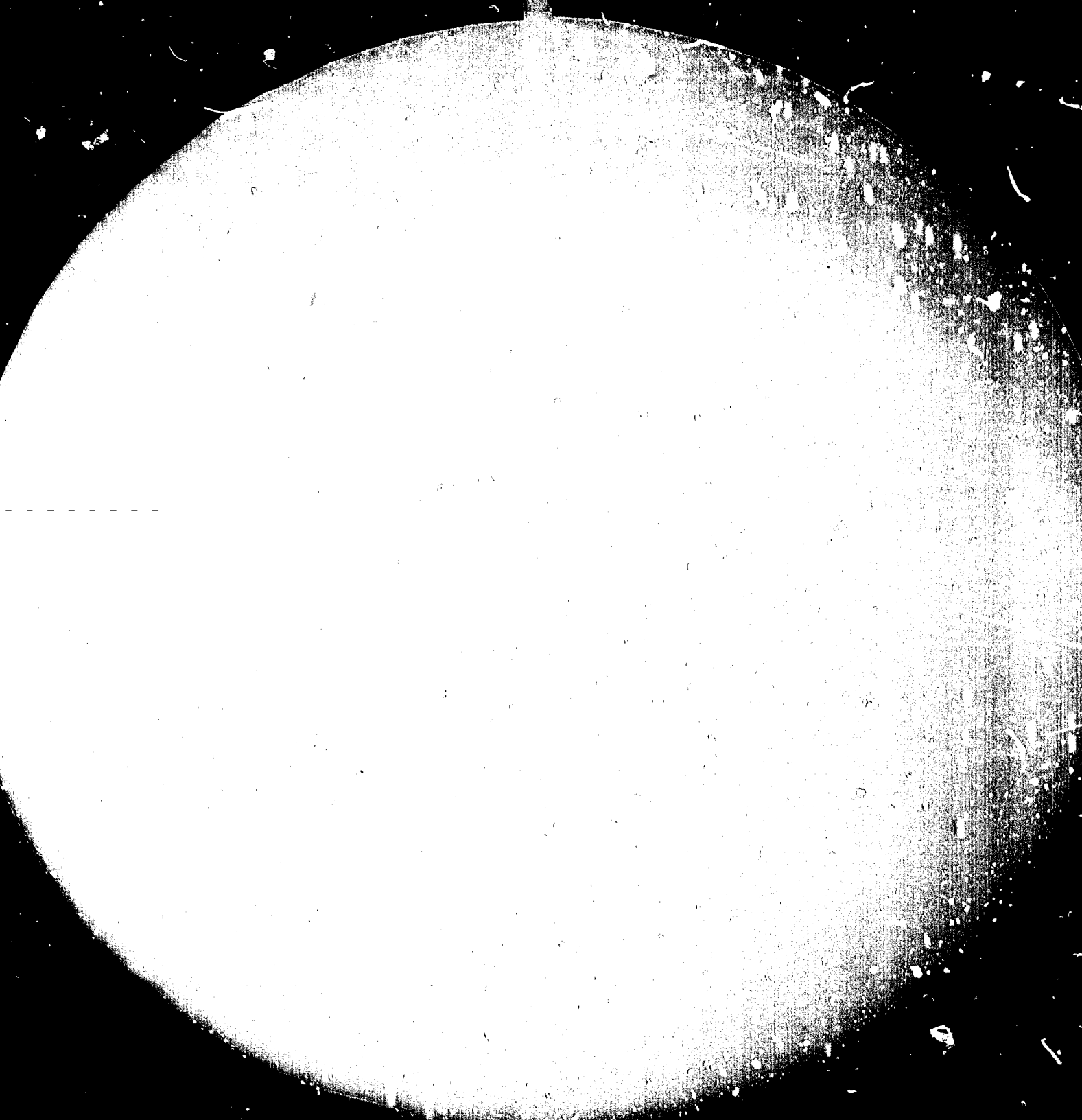

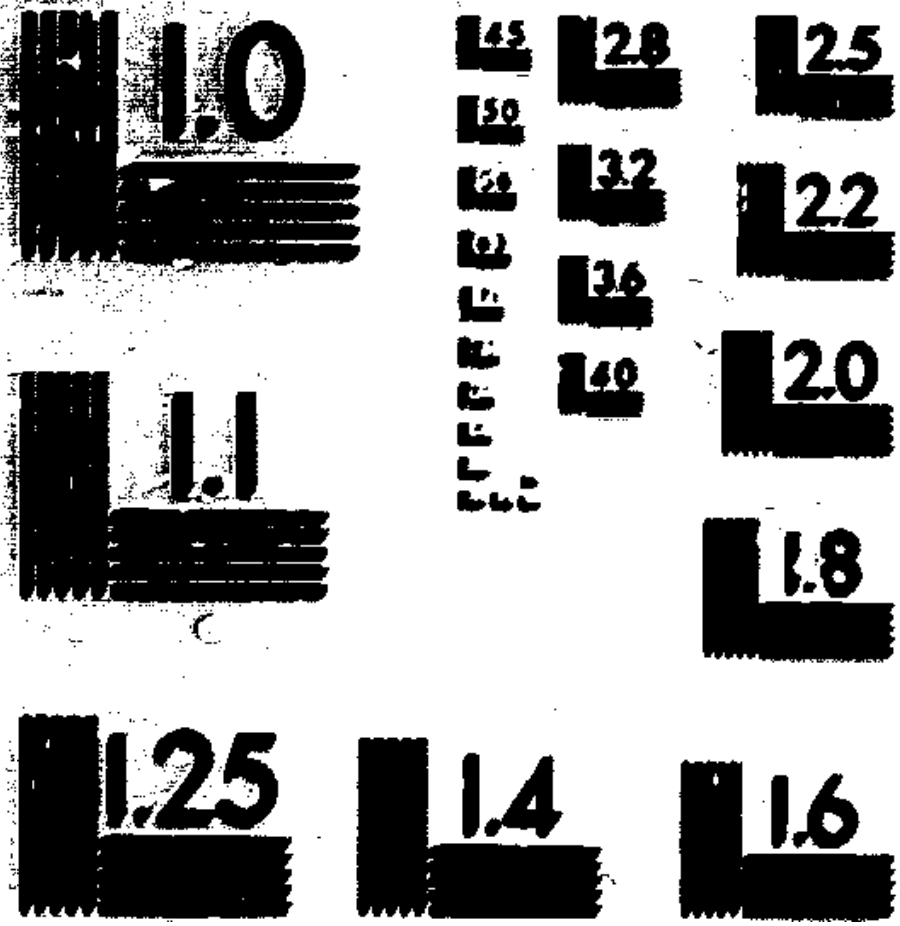

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ADJUSTMENTS FOR CUT-OFF POINTS IN INDUSTRIAL STATISTICS

An Empirical Review

Vienna, September 1984

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3036

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Table of Contents.

On Limited Coverage of Establishments in the Industrial Statistics of the UNIDO Data Base

Differences in coverage of establishments is a major weakness of industrial statistics. This study addresses the cut-off point (c.o.p.) problem, which may be defined as "systematic" limitation of coverage. No attempts were made to adjust for occasional, unsystematic limitations of coverage such as limited regional coverage or non-response. Furthermore, this study is limited to cases where a cut-off point higher than "five persons engaged per establishment" has been used. In addressing the cut-off point problem, UNIDO chose as a desired standard the coverage of all manufacturing establishments with five or more employees. However, no attempts have been made to adjust the data for countries where all establishments are covered.[1/]

The study of industrial growth is to a large extent based on regression methods and the calculation of statistical indicators. The quality of such studies relies on the comparability and reliability of the statistical data. The attempts to adjust for cut-off points as presented in this paper should, where successful, improve the comparability of the data.

The scope of the cut-off point problem in the UNIDO Data Base

The UNIDO Data Base includes data on some 150 countries. For 121 countries, industrial statistical data cover most of the desired variables (employment, wages and salaries, gross output, value added).

Forty-nine countries - 40 per cent of the total - report for all establishments, according to the information given in the Yearbook of Industrial Statistics.[2/] In the case of some African countries the data

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1/ Compare: The UNIDO Data Base; Primary Sources and Data Base Design, Vienna 1984, pp. 5; 8f.

2/ Yearbook of Industrial Statistics (formerly, The Growth of World Industry), various issues, United Nations, New York.

refer to the "modern sector" only, which might imply that some kind of c.o.p. has been used. However, it was not possible to obtain further information on the definition of the modern sector or any c.o.p. employed in these cases. (A regional breakdown of the countries is shown in Table 1). Another 20 per cent, or 24 countries, use c.o.p.s of "establishments with less than five persons engaged".

One European country uses a c.o.p. of 6 persons engaged, one Latin American country one of seven persons engaged. Because of the relative insignificance of the excess over the desired standard (5 persons engaged), the last two cases should be included in the number of countries considered to be in compliance with the desired standard.

This makes a total of 75 (i.e. 62 per cent) of all countries in which no significant c.o.p. problem existed.

Data for two of the remaining 46 countries were marred by limited regional or sectoral coverage.

Another seven countries (of which five are African countries) employed a c.o.p. defined exclusively by other criteria than number of persons engaged, workers, or employees - for instance size of turnover or capital endowment.

Thirty-seven countries employed c.o.p.s of at least 10 persons engaged.

In 23 of the 46 countries the c.o.p. has been changed one or more times within the last 20 years. In three countries the c.o.p. changed by variables. Only 20 countries employed a consistent c.o.p. as defined by employment. In four cases the definition of the c.o.p. included a criterion additional to the number of persons engaged (as for instance the use of power driven machinery).

Table 2 shows an overview of the countries which employed a c.o.p.

Table 1
Scope of the cut-off point problem in the UNIDO Data Base
(number of countries, by region)

Region	Countries with no c.o.p.	C.o.p. of 5 or less persons engaged	C.o.p.of 6 or 7 persons engaged	C.o.p. of 10 or more persons engaged	C.o.p. using only other definitions	Limited regional or sectoral coverage
Africa	13	2	-	14	5	1
Asia	9	6	-	12	1	-
Latin America	10	9	1	5	1	-
Eastern Europe including USSR	7	-	-	-	-	-
Europe, North America, Australia and New Zealand	10	7	1	6	-	1
Total	49	24	2	37	7	2
Percentage	40.5	19.8	1.7	30.6	5.8	1.7

Table 2

Countries employing a cut-off point of 10 or more persons engaged or a cut-off point using other definitions than size of employment

Countries	Consistent c.o.p.	Changing c.o.p. over time	Changing c.o.p. over variables	C.o.p. by size of employment	C.o.p. by other definition
1. Burundi		x			x
2. Congo	x				x
3. Ethiopia		x		x+ 1/	x
4. Ghana	x			x	
5. Ivory Coast	x		x		x
6. Kenya	x			x	
7. Malawi		x		x	x
8. Mauritius		x		x	
9. Morocco		x		x	x
10. Nigeria	x			x+	x
11. Rwanda	x				x
12. Swaziland		x		x	
13. Tunisia		x		x	
14. Uganda	x			x	
15. Egypt	x			x	
16. Tanzania	x			x	
17. Burkina-Faso	x				x
18. Algeria		x		x	
19. Liberia	x			x	
20. Bangladesh	x			x	
21. Hong Kong		x		x+	x
22. India	x			x+	x
23. Indonesia		x		x	
24. Iran		x		x	
25. Iraq	x			x	
26. Libyan A.J.	x			x	
27. Pakistan		x		x	
28. Philippines		x		x	
29. Singapore	x			x	
30. Thailand		x		x	
31. U.Arab Emir.	x			x	
32. Nepal	x			x	x
33. Bolivia		x		x	x
34. Chile		x		x	
35. Colombia		x		x	x
36. Nicaragua		x		x	
37. Peru		x	x	x	
38. Trinidad and Tobago	x			x	
39. Austria	x			x	
40. Denmark	x		x	x	
41. Germany, Fed. Rep.		x		x	
42. Greece	x			x	
43. Italy	x			x	
44. Luxembourg		x		x	
45. Portugal		x			x
46. Turkey		x		x	x
Total	23	23	3	40	16

1/ X+ = These countries use a combination of size of employment and other criteria as c.o.p.

In order to evaluate the impact of the problem it may be worthwhile to consider the size of the population and the economic standard (as measured by GDP per caput) of the countries enumerated.

Table 3

Countries with a cut-off point, by size of population

Size of population (in millions)	Number of countries	In percentage of total
under 1	3	6.5
1 to 5	10	21.7
5 to 10	8	17.4
10 to 25	11	23.9
25 to 50	7	15.2
50 to 100	5	10.9
over 100	2	4.3
Total	46	100

Table 4

Countries with a cut-off point, by size of GDP per caput

GDP per capita (in US dollars)	Number of countries	In percentage of total
under 200	4	8.7
200-500	11	23.9
500-1,000	10	21.7
1,000-2,500	10	21.7
2,500-5,000	4	8.7
5,000-7,500	1	2.2
over 7,500	6	13.0
Total	46	100

Thirteen of the 46 countries using a c.o.p. were excluded from the target file because of unspecified conceptual problems and/or because adjustments would not change the data significantly in a regional aggregation or comparison; or because data were only available for a few years; or because data were reported for all establishments in the last few years. These countries are Burundi, Congo, Liberia, Malawi, Mauritius, Rwanda, Swaziland (reports for all establishments since 1980), Morocco and Burkina-Faso (conceptual problems), Uganda (no data since 1971), Algeria (data for two years only), Nepal (three years only), and Peru (reports gross output and value added for all establishments). Nigeria and Portugal were excluded because of limited regional or sectoral coverage.

The target file, i.e. the countries for which adjustments for cut-off points were found highly desirable, therefore consisted of 32 countries.

On Small-Scale Industry

While it was the primary aim of this study to improve the comparability of the industrial statistic, studies on small-scale industries have merits of their own.

Small-scale industry as opposed to big business may be defined by quantitative criteria (number of persons engaged, size of turnover, capital endowment, etc.) for practical reasons. Nevertheless, there are qualitative differences which become apparent if modes of production, management methods, organization, marketing, personnel management, etc. are observed. At the Rencontre de St. Gall, a regular biannual conference of small business specialists, 'small business' was defined as "businesses which are characterized by the participation of the entrepreneur in the actual production, non-automatized production process and the application (necessity) of industrial skills". This definition provides some insight in the different nature of small businesses (that these enterprises will not exceed a certain size, as defined by quantitative criteria, is implicitly included) but can not be applied in the process of data collection or taxation, etc. Therefore most countries have employed quantitative criteria to define small business. These criteria vary from country to country and from industry to industry. Number of persons engaged is the most frequently used criterion. However, this criterion is frequently supplemented or substituted by other criteria as for instance turnover, initial investment, etc.

The following gives a few examples of definitions used by some European countries.[1/]

1/ Definitions of Small and Medium-sized Enterprises and the Artisanat, Commission of the European Communities, number 413/III/76-EC, 1976.

Federal Republic of Germany

	Number of employees	Turnover
Industry - small	up to 50	up to 2 mio. DM
- medium	50 to 499	2 to 25 mio. DM
Artisanat - small	up to 2	up to 0.1 mio. DM
- medium	3 to 9	0.1 to 2 mio. DM
Retailing - small	up to 2	up to 0.5 mio. DM
- medium	3 to 99	0.5 to 10 mio. DM
Belgium		
- small	-	up to 10 mio. BFr.
- medium	up to 50	up to 50 mio. BFr.
Denmark		
- small	6 to 20	-
- medium	21 to 50	-

In the manufacturing sector, small-scale industries include what is sometimes defined as "Artisanat" or "Gewerbe". In the developing countries a large part of small business is sometimes addressed as the "informal sector". As defined by an ILO study, the informal sector in Kenya, for instance, is characterized by ease of entry, reliance on indigenous resources, family ownership, small scale of operation, labour intensity and adapted technology, skills largely acquired outside the formal school system, and unregulated and competitive markets.[1/] While this definition drew attention to the informal sector, it represented a danger that the differentiation between a formal and informal sector would be misunderstood as dichotomy of "modern" and "traditional".

1/ Employment, Income and Equality - a Strategy for Increasing Productive Employment in Kenya, International Labour Office, Geneva 1972, p.5f.

As with the Rencontre de St. Gall definition, the boundaries determined by such criteria have been found too transient to make identification and statistical recognition possible. In the search for more manageable criteria, size of firms as measured by number of persons engaged has proved to be more unambiguous. In Kenya this sector has been termed small business or small-scale industry in Kenya. It now includes modern, traditional and home or cottage industries of the urban informal, formal and rural non-farm sectors.[1/]

Traditional artisans such as blacksmiths and watchmakers made it possible for late-developing European countries and even Japan to develop without important machinery imports.[2/] Bairoch called this the "diffusion mechanism" and described it as historically "important in translating an initial impulse, notably the increase in agricultural productivity, into a process of cummulative economic growth...".

Today in the developing countries this diffusion is affected by several unfavourable factors including increased disparity of traditional and modern technologies, increased capital requirements, reduced natural protection because of reduced transport cost, and excessive income differentials between the modern and the traditional sector. (These conclusions are theoretical and

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1/ Neck, Philip A., Policies, Structures and Programmes for the Development of Small Enterprises, Paper for the ILO Symposium on Small Enterprise Development Schemes in Africa, Geneva, December 1976, p.6.

2/ Bairoch, P.: Revolution Industrielle et Sous-Developpement, Paris, 1964, cited in: Johnston, B.F.: Agriculture and Structural Transformation in Developing Countries, in Journal of Economic Literature, June 1970, p. 388f.

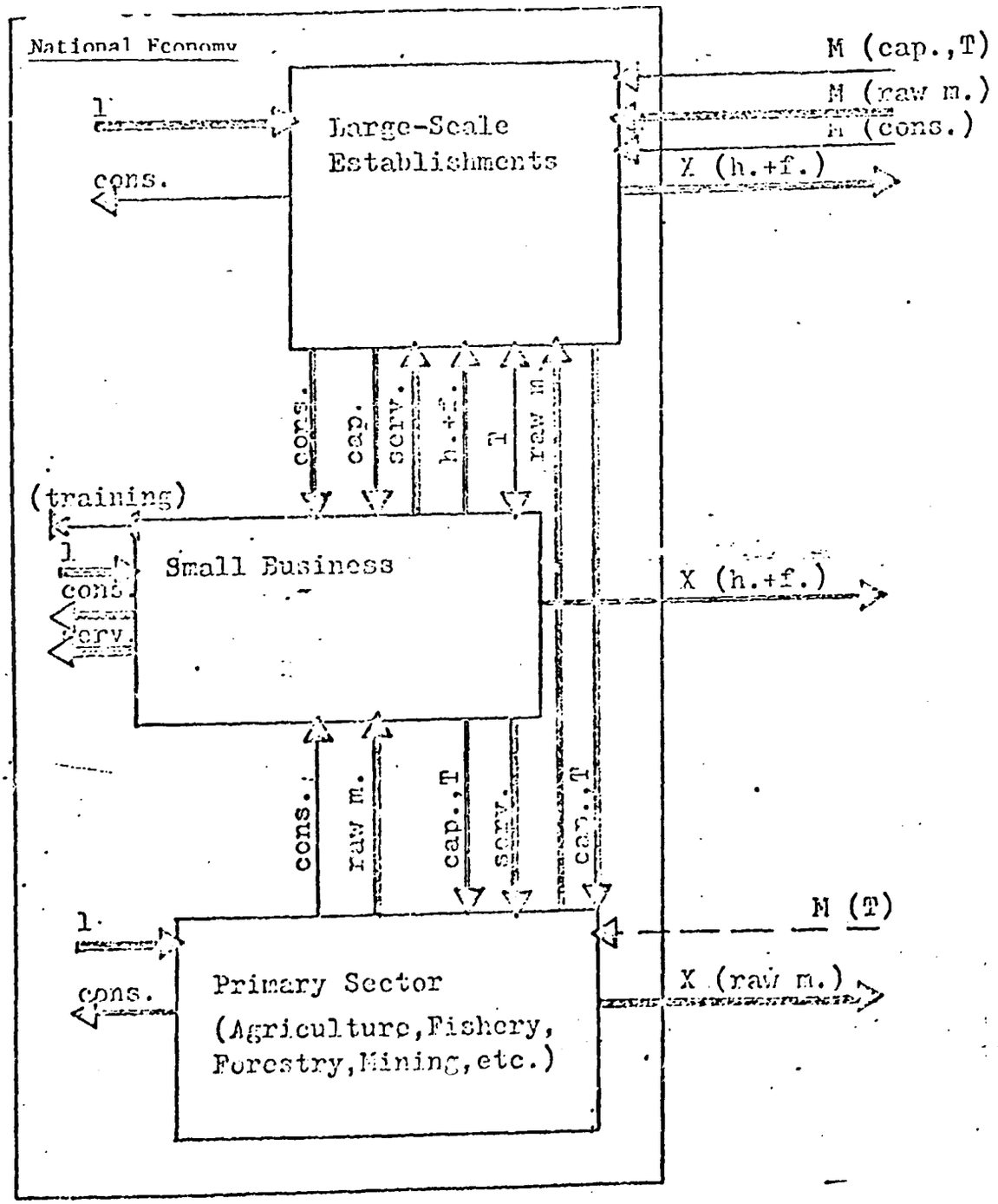
have not been empirically tested.) The factors mentioned might affect the diffusion process but do not diminish the basic importance and functions of the sector since small-scale industry is also an integral part of a balanced (and developed) economy.

Some of the functions of small business have been changed in the course of industrialization process of the European countries; some functions were lost and some were added due to emerging competition and cooperation with large-scale industries, due to technological changes and due to changing patterns of demand. However, small business did not disappear as prophesized by, for instance, Karl Marx; it still plays an important role in the developed countries. Taking this into account it is likely that small-scale industries will play a similarly vital role in the economic development of the developing countries despite the present limitations to the diffusion process. Figure 1 schematizes the linkage function and import substitution effects of the small-scale-industry sector in an economy.

The use of mostly indigenous inputs (labour, raw material, etc.) by small-scale industry and labour-intensive techniques seem more appropriate for labour-surplus countries than capital-intensive methods or the use of imported raw materials. Despite the less sophisticated technology, these production processes usually require considerable skills. Most of these skills are acquired on the job - either in the more formal setting of an apprenticeship or training programme or just by doing. The less sophisticated technology also facilitates the location of small enterprises in areas with a poor infrastructure, the more so since most of such enterprises serve only geographically limited markets and seek locations near their potential

Figure 1.

Small Business: A schematized presentation of its functions and inte-dependencies with the other sectors of an economy



Abbreviations

l=labour (unskilled, skilled, managerial);
cons.=consumer goods; cap.=capital goods; serv.=services;
raw m.=raw materials; h.+f.=half-finished and finished products;
X=exports; M=imports; T=technology

customers. Supply of goods and services, and employment possibilities in a decentralized fashion; the linkage function between large-scale industry and agriculture, between rural and urban areas; training of unskilled labour for their own needs as well as the needs of large-scale industry, and social transience are the main contributions of small-scale industries to the economy.

Table 1 shows the distribution of establishments by size of employment for Kenya in 1971, 1975 and 1968 (on contribution of small-scale industry to manufacturing see also page 32 onwards) and should illustrate their quantitative importance and the fact that the small business sector (measured by number of establishments) grew faster than the large-scale industry in the years from 1968 to 1975.

However, relatively little research has been done on the small-scale industry sector, its contribution to today's development, its structure, appropriate support programmes for the sector, and cross-country comparisons. One of the reasons for that is the lack of data, because of a c.o.p. employed by the national statistical office or the failure to report the data by classes of size of employment.

The following classes of employment size, defined in terms of average number of persons engaged, have been recommended by the Statistical Office of the United Nations: 1-4, 5-9, 10-19, 20-49, 50-99, 100-199, 200-499, 500-999, 1,000 and more.[1/]

The existence of c.o.p.s, on the other hand, is mainly a consequence of the problems of collecting data from small firms. While small firms account

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1/ International Recommendations for Industrial Statistics, Series M, No.48, Rev.1, United Nations, New York 1983, p.30.

Table 5

Kenya - Distribution of establishments by size of employment, 1975a/

	Number of firms with ... employees		
	0	1-19	Total number of firms
Manufacturing	2,063	933	3,765
Electricity and water	6	20	45
Construction	1,023	284	1,526
Wholesale, retail, restaurants, hotels	11,828	4,519	16,837
Transport, communication	750	478	1,440
Finance, real estate, bus services	1,500	804	2,560
Community, social, personal services	3,366	1,790	5,700
Total	20,536	8,828	31,873
Percentage	64.4	27.7	100
Total 1968b/		8,416	9,737
Percentage		86.4	100
Total 1971b/		11,058	13,818
Percentage		80.0	100
Percentage increase 1968-75	+249		+227
Percentage increase 1971-75	+166		+130

Source: Kenya Statistical Abstract 1968, 1971 and 1976.

a/ Without agriculture, mining and quarrying.

b/ Because of statistical changes only limited comparable.

in general for well over 50 per cent of all establishments, their contribution to (paid) employment, gross output or value added may not be more than 5-10 per cent in many cases. Therefore, many statistical offices may find that the advantage of full coverage does not relate well to the additional cost for collection and processing of small business data. Some countries solve this problem by restricting data collection to a sample of small firms and estimation of the sector and/or attempting full coverage only every five or ten years. Others restrict collection of small business data to some variables, for instance number of establishments, employees and wages and salaries. Still some other countries are not able to achieve full coverage, because establishments are not registered and are therefore unknown to the authorities; others do not attempt to cover the small business sector at all.

Unfortunately this situation not only affects the comparability of the statistical data but also leads to a certain invisibility of the small-scale industry, which is reflected by development programmes and general economic decision makers who do not take much notice of this sector. That development and promotional programmes for small businesses are difficult to administer adds to the problem. Since small businesses are qualitatively different from large business, any successful means of providing and administering support will differ from the methods applied to large business.

Despite the various efforts undertaken with growing frequency in the last 10 years, much work remains to be done in the area of small business research in order to develop effective procedures. Attempts to adjust for limited coverage of establishments could be viewed as a contribution to increase visibility of the small-scale sector as well as a necessary condition for further research.

Methods for Adjustments for Cut-off Points

A. Adjustments on the basis of additional information

The bulk of the data in the UNIDO data base is supplied by the United Nations Statistical Office (UNSO). It is supplemented by the incorporation of data from national sources as well as by data compiled by the World Bank, OECD, United Nations regional commissions and EUROSTAT.[1/]

The use of additional information in order to adjust for c.o.p.s mainly requires searching for information, checking the comparability of the information with the existing data and testing the reliability of the information (source), but imposes few technical or conceptual difficulties.

However, the national differences in the definitions of c.o.p. used and the variety of possible additional information make it impossible to propose one or a few methods which should be used to incorporate additional information: for a particular country, a tailor-made method is nearly always necessary.

The sources of additional information can be divided into: a) national industrial statistics; b) other national statistics (national accounts, employment statistics etc.); and c) statistics compiled by international organizations such as UN agencies (ILO, Economic Commissions etc.), The World Bank or EUROSTAT.

The main source of additional information is industrial censuses, which are conducted in most countries every five or ten years and which often attempt to cover establishments of all sizes. Census information is either presented as a total figure (for all establishments) or divided by classes of size of employment (and sometimes by classes of gross output). In some cases censuses display separate data for "large" and "small" establishments.

1/ See UNIDO, "The UNIDO Data Base: Primary Sources and Data Base Design" (UNIDO/IS.463), p.3.

If only summary data for all establishments are displayed they can be linked to the data in the data base for the same year. The difference between the existing data and the additional information constitutes the contribution of the small-scale industries. If explicit data for the otherwise uncovered small establishments and the (covered) large establishments are available the latter should be compared to the data in the data base in order to trace major deviances, which might occur if the reported data and the published data come from different sources. If such deviances are found they should be adjusted on the basis of information on the different concepts, before the additional information is used to adjust for uncovered small-scale industries. Where such deviances cannot be explained, adjustments of small-scale industries should be made by using other information or other methods.

Different aggregations of industries in national industrial classifications might impose other major difficulties in the application of additional information. This could prevent adjustments at the three-digit ISIC level and/or require estimates in order to split aggregates which do not translate into three-digit ISIC. Estimates on the distribution across industries also have to be made in cases where only manufacturing totals are displayed.

Non-adjustments for non-response (defined as the number of establishments registered but not responding to the census inquiry) by the national statistical offices imposes a usually insolvable problem. Where the degree of non-response is specified, it is generally expressed as a single percentage with neither reference to the varying degrees in the industry groups nor indication of the size of the non-responding firms.

As censuses are usually conducted only every five or ten years, adjustments on the basis of this source can only be made for "bench-mark" years. Some national offices, however, estimate the proportion of the small-scale industries for the intervening years and publish them in their annual industrial or statistical yearbooks. Where no such time series are available estimates have to be made for the missing years.

But censuses are not necessarily conducted in regular time intervals; they might constitute single efforts or the planned time interval might be interrupted for institutional or political reasons. (For instance, in the Federal Republic of Germany the last census was conducted in 1970; the 1980 census had be to cancelled because of legal problems).

Additional information on small-scale industry as provided by censuses or annual surveys is frequently limited to a small number of variables as number of establishments, employees and wages and salaries. As in the case of other national publications on specified topics as employment, estimates have to be made for the missing variables.

A major source of information could be national accounts displaying GDP originating as a total or occasionally at the two-digit level. National accounts provide information on value added and, occasionally, on gross output. National accounts are supposed to cover all establishments irrespective of their size whereas censuses even when they attempt to cover all establishments do not include non-registered firms or households engaged in cottage/small industries. Conceptual differences may exist because of the different treatment of non-industrial activities (which are usually included in industrial statistics but not in the national accounts), of depreciation and of indirect taxes and subsidies in the two sources. Conceptual differences may also occur because of different methods of estimation.

While differences between census value added and national accounts data should be expected for above reasons both data sets should show similar patterns of distribution across industries and similar growth rates, that is, deviations should be consistent.

In practice, the two sets of data differ largely even in cases where national accounts are derived from industrial statistics

Chile, where industrial statistics cover only establishments with 50 or more persons engaged, may serve as an example: total manufacturing value added as reported by the industrial statistic, 1979 amounted to 179,950 mio. pesos; the correspondent national account figure was 155,142 mio. pesos. The case of Chile is not unique. As has been noted by other authors, the differences between industrial inquiry data and national accounts remain an unsolved difficulty, which makes them frequently non-comparable as long as the impacts of different treatments of non-industrial services, indirect taxes and subsidies and depreciation cannot be measured.

The use of additional information from international organizations imposes much the same difficulties as data from national sources.

Coefficients for the adjustments of data were usually calculated in a way which expresses the contribution of the small-scale industry as a fraction of large scale industry.

(1) $\frac{M_S}{M_L} = C$

C = coefficient

M_S = small-scale industry

M_L = large scale industry

(2) $M = M_S + M_L$

In order to calculate the total manufacturing the contributions of large scale industries (covered portion) have to be multiplied by the coefficient augmented by 1:

(3) $M = M_L \cdot (C + 1)$

B. Adjustments on the basis of additional information and estimates

In general, it is unlikely that sufficient additional information can be found for all variables, industry groups or years, which are necessary to construct a consistent time series. In cases where data for two or more benchmark years (To, Tn) are available, coefficients for the intervening years $(T_{o+1} - T_{n-1})$ can be estimated by interpolation.

(4) $$C_{tx} = C_{to} + \frac{C_{tn} - C_{to}}{T_n - T_o} \cdot (T_x - T_o)$$

C = coefficient

tx = suffix designating the year

T = year

To = benchmark year (1)

Tn = benchmark year (2)

Data for years after the latest available benchmark year have to be adjusted with the unmodified coefficients for the last benchmark year. Upon availability of additional information for a new benchmark year these adjustments should be corrected by applying interpolated coefficients.

In cases where supplementary information is available for consecutive years adjustments for data of earlier and later years can be either made on the basis of the coefficients for the first and the last year available or an average of the coefficients for all years per industry group and variable. Averages shall be used if coefficients for the year which would be used otherwise deviate strongly from the coefficients for other years.

In other cases where additional information for only one year is available, adjustments have to be incorporated on the basis of unmodified coefficients.

This can be done by (a) application of the coefficient by industry groups or (b) application of the coefficient for total manufacturing (ISIC 300) only and distribution of the estimated total contribution of small-scale industries across industry groups on the basis of the distributional weights of the benchmark year. While approach (a) makes the assumption that small establishments developed equally to the large establishments, approach (b) makes the assumptions (1) that the small business sector as a whole developed equally to the large establishments and (2) that the distribution across industry groups of the contributions of the small business sector remained stable over time.

For practical reasons it was decided to use approach (a) which has the advantage of being more straightforward and makes it more likely that the estimates will yield "consistent" results.

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For practical reasons it was decided to use approach (a) which has the advantage of being more straightforward and makes it more likely that the estimates will yield "consistent" results.

However, if in addition to detailed information for a benchmark year, information on the total contribution (ISIC 300) is also available for other years, distributional weights from the benchmark year should be used to distribute the known contribution across industry groups.

If information on the contribution of small-scale industry ("the uncovered portion") is generally limited to total manufacturing, distributional weights must be derived by other means. Since the distribution across industries of large firms is distinctly different from the distribution of small firms, average weights derived from the covered large establishments should not be used. (See also chapter on distribution of small-scale industries). If the data on the covered portion, i.e. the large establishments, are broken down by size of employment, weights could be derived from the distribution of the contribution of the smallest covered establishments with 10-19 or 20-49 persons engaged. It can be assumed that the distribution of these firms approximates the distribution of the uncovered establishments more closely than the total of the covered establishments. Assumptions about the distribution of small-scale industries could be also based on cross-country comparisons.

Where additional information on the uncovered portion does not refer to all variables, for which adjustments should be made, i.e. employment, wages and salaries, gross output and value added, estimates should be made for the missing variables. If complete information for at least one year is available, ratios (gross output per employee, value added per employee etc.) can be calculated from the data of the benchmark year and applied in order to estimate missing variables in other years. This approach has the disadvantage

that, depending on the variables known, increases or decreases in productivity cannot be captured.

A basic problem is that the ratios based on the number of (paid) employees tend to underestimate the contribution of small establishments. The proportion of (paid) employees to persons engaged (paid and unpaid workers) varies considerably in large and small firms. Paid employment is usually proportionately lower in small establishments. For instance, in 1975 in Greece 155,553 persons or 60 per cent of all persons engaged in establishments with less than 10 persons engaged were working proprietors and non-paid family members; in establishments with 10 or more persons engaged, working proprietors and unpaid family workers only constituted 3 per cent of total employment (or 10,567 persons).

While there is a direct relationship between the number of (paid) employees and wages and salaries, the variables gross output and value added relate better to the number of persons engaged. Therefore, estimates on the contribution of small-scale industry to gross output and value added should be rather made on the basis of the number of persons engaged than on the number of paid employees.

Ideally, estimates should be based on additional information for at least two variables, namely employment and gross output or value added.

In cases where only additional information on employment in small-scale industries is available, and where the information on large scale industries is displayed by size of employment, estimates for the missing variables should be made on the basis of ratios (gross output/employee, etc.) derived from the data on the smallest class of employment (establishments with 10-19 (or 20-49) persons engaged). Paige-Bombach argue that for instance net output per worker

of the smallest firms recorded differed markedly from the average. In most industries net output per worker in small firms is lower than for large firms, but for certain industries it is substantially higher.[1/] Therefore, they recommend estimates derived from the ratios of the smallest firms recorded rather than overall average of large firms.

C. Cross-country comparisons

All methods of adjustments on the basis of cross-country comparisons rely on the assumption of similarity between different countries, either in regard to basic structures or basic relations of variables and establishments of different sizes. As cross-country comparisons require relatively large data files, it was decided to concentrate efforts on adjustments by additional information and estimates rather than the creation of a data file from countries which data already cover the whole spectrum. If sufficient similarity can be assumed then cross-country comparisons can lead to realistic escimates of the contribution of small-scale industry. Similar distributions across industries might indicate if such an assumption is realistic.

Cross-country comparisons, depending on the method applied, may not yield a synthetic adjustment procedure, but still require extensive calculations for each country. The main advantage of methods using analagous conclusions are that no data on the uncovered portion are needed.

A detailed description of three methods on the basis of cross-country comparisons can be found in the World Bank Paper (draft) on the "Methodology for production of consistent industry statistics for developing

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1/ D. Paige and G. Bombach, A Comparison of National Output and Productivity of the United Kingdom and the United States, Paris 1959, p.127.

countries".[1/] Two of the methods, the "density function method" and the "direct method" require a test of similarity per country and industry group and data which are displayed by employment size. The "mean size method" relies on similar relations between average size of all establishments and average size of large establishments.

The disadvantages of the first two methods are mainly that no adjustments are made for annual variations and that similarity of industries across countries is assumed. The "mean size method" recognizes annual variations but assumes invariant mean size of small establishments over countries.

These methods are used to estimate number of establishments with 5 to n-1 persons, n being the cut-off point used by a particular country. The remaining variables (persons engaged, wages and salaries etc.) are either estimated by cross-country regression (persons engaged) or by average ratios in the basic country file. If the number of establishments is derived by the mean size method, the number of persons engaged is also determined. If one of the other two methods is used, persons engaged in the target countries has to be estimated by a cross-country regression based on data relating to the proportion of employment in the small establishments to total employment in the reference countries. Wages and salaries are estimated on the basis of employment; value added on the basis of wages and salaries and gross output on the basis of value added. The World Bank paper does not discuss the problems of distinctly different proportions of persons engaged and paid employees in large and small establishments.

1/ J. Weeks, "Methodology for production of consistent industrial statistics for developing countries" (draft), The World Bank, September 1979.

The adjustments in the course of this study might also serve as part of a future country file for attempts of further adjustments on the basis of cross-country comparisons. Such a file should include data of at least some thirty countries, representing countries from all major groupings as for instance "developed countries", "developing countries" and from all geographical regions.

Distribution of Small-Scale Industry across Industry Groups

The importance of an industry group for the manufacturing sector of a country, that is its distributional or structural weight expressed as a percentage of total manufacturing, is to a large extent dependent on the natural endowment of raw materials, traditional skills, geographical location, size, standard of economic development as well as technology and other human capital resources.

Distributional weights of industries will vary from country to country because of these particular characteristics. However, if the industries are ranked by size of their distributional weights, similar patterns of rankings can be expected among most countries.

As to small-scale industry and large-scale industry within the secondary sector of an economy, one can assume that their distributions across industries will differ strongly from each other. While some industry groups, as for instance ISIC 311/12 (food products), are typically important within the structure of both small and large industries, other industries as ISIC 371 (iron and steel), 321 (textiles), 313 (beverages), 353 (petroleum refineries), 383 (electrical machinery), and 384 (transport equipment) tend to be predominantly large-scale operations.

Table 6 shows the ranks of industries (ISIC 3-digit level) by their structural weight in the large and the small business sectors in Kenya, for manufacturing employment (persons engaged) and value added. The comparison between the rankings in the large and small business sectors, as displayed in column C for employment and column F for value added, is an indication of different weight. A difference of 20 (ranks) would mean that this industry group has the highest rank in one sector and the lowest in the other; a difference of zero would mean that the industry has the same rank in both sectors.

Table 6. Ranks of industries by size of contribution to employment and value added in the small and large business sectors in Kenya

ISIC	Employment: Large establishments	Employment: Small establishments	Employment: A-B	Value Added: Large establishments	Value Added: Small establishments	Value Added: D-E
	A	B	C	D	E	F
311/2	1.0	4.0	-3.0	1.0	5.0	-4.0
313	7.0	19.0	-12.0	2.0	19.0	-17.0
314	14.0	22.5	-8.5	9.0	22.5	-13.5
321	3.0	16.0	-13.0	6.0	10.0	-4.0
322	11.0	2.0	9.0	16.0	2.5	13.5
323	20.0	14.0	6.0	22.0	16.0	6.0
324	16.0	1/	...	9.0	1/	...
331	4.0	10.0	-6.0	15.0	12.0	3.0
332	15.0	1.0	14.0	20.0	2.5	17.5
341	12.0	13.0	-1.0	8.0	15.0	-7.0
342	10.0	5.0	5.0	13.0	1.0	12.0
351	13.0	17.5	-4.5	10.0	18.0	-8.0
352	9.0	1/	...	4.0	1/	...
353	24.0	8.0	16.0	12.0	7.0	5.0
354	27.0	1/	...	27.0	1/	...
355	17.0	12.0	5.0	14.0	13.5	0.5
356	19.0	15.0	4.0	18.0	13.5	4.5
361	25.0	22.5	2.5	25.0	22.5	2.5
362	22.0	22.5	-0.5	21.0	22.5	-1.5
369	8.0	6.0	2.0	5.0	11.0	-6.0
371	18.0	22.5	-4.5	17.0	22.5	-5.5
372	27.0	22.5	4.5	27.0	22.5	4.5
381	5.0	3.0	2.0	7.0	4.0	3.0
382	23.0	7.0	16.0	24.0	6.0	18.0
383	6.0	17.5	-11.5	11.0	17.0	-6.0
384	2.0	11.0	-9.0	3.0	9.0	-6.0
385	27.0	22.5	4.5	27.0	22.5	4.5
390	21.0	9.0	12.0	23.0	8.0	15.0

1/ Included in another ISIC group

The following review has been performed on the basis of a small country file which was generated in the course of adjustments on the basis of supplementary information and estimates. The data refer always to the last year for which country data were available. The country file included Austria, Chile, Colombia, Greece, Indonesia, Iraq, Kenya, Singapore and Turkey. (For information on adjustments made for these countries see Appendix 1).

Average ranks (9 countries) of distributional weights are displayed in tables 7 and 8. The tables show means and medians of the industrial ranks by industry groups. The ranks of the industries in the small and large sector were compared with a Spearman correlation. Only for two ISIC groups was the correlation coefficient higher than 0.65 (ISIC 332 and 385), that is no correlation between ranks of industries in small and large business was indicated. Despite the fact that the significance of correlation coefficients was in general under a desirable 10 per cent level it can be concluded that the results support the hypothesis of different distributions in the small and large business sectors.

Table 7 Average ranks of industries by size of contribution to total manufacturing employment in the small and large business sectors[1/]

ISIC	Small establishments Mean rank	Small establishments Median rank	Large establishments Mean rank	Large establishments Median rank	Spearman correlation coefficient	Significance of Spearman correlation coefficient
311/12	1.5	1.0	2.8	2.0	0.306	0.423
313	13.4	14.0	12.7	11.0	-0.008	0.982
314	17.5	20.5	14.4	16.0	0.585	0.098
321	10.1	9.0	10.1	2.0	0.396	0.290
322/24	4.9	4.0	7.1	7.0	0.165	0.671
323	14.5	14.0	17.9	18.0	0.297	0.437
331	9.3	9.0	11.6	9.0	0.479	0.192
332	5.9	5.0	16.6	17.0	0.716	0.030
341	16.5	16.0	13.6	13.0	-0.231	0.550
342	8.4	8.0	11.2	12.0	0.547	0.128
351/52	12.9	14.0	6.8	7.0	0.254	0.509
353/54	18.7	20.5	18.2	20.0	-0.116	0.766
355	13.0	14.0	15.5	15.0	0.019	0.964
356	16.6	17.0	14.3	14.0	0.245	0.558
361-9	6.3	6.0	7.2	6.0	0.611	0.081
371/72	17.6	18.0	12.1	12.0	0.123	0.772
381	4.4	4.0	6.3	6.0	0.420	0.261
382	7.1	7.0	9.2	9.0	0.630	0.062
383	13.7	12.0	8.7	9.0	0.051	0.897
384	9.0	8.0	6.7	8.0	0.076	0.846
385	18.1	18.0	19.8	22.0	0.749	0.020
390	11.7	11.0	18.2	19.0	0.487	0.184

1/ The sample of countries included data for 9 countries, which employed different cut-off points. Country data refer to different years. Because of the small number of countries the significance of correlation coefficients is generally low.

Table 8 Average ranks of industries by size of contribution to total manufacturing value added in the small and large business sectors[1/]

ISIC	Small establishments Mean rank	Small establishments Median rank	Large establishments Mean rank	Large establishments Median rank	Spearman correlation coefficient	Significance of Spearman correlation coefficient
311/12	1.8	1.0	2.9	1.0	0.151	0.699
313	13.5	14.0	9.3	10.0	-0.013	0.974
314	18.3	20.5	9.7	9.0	0.574	0.106
321	9.9	9.0	5.2	4.0	0.542	0.131
322/24	5.3	3.0	11.1	11.0	0.240	0.535
323	15.1	16.0	19.3	19.0	0.648	0.059
331	10.0	8.0	15.4	16.0	0.444	0.232
332	7.0	5.0	18.8	20.0	0.760	0.018
341	15.6	15.0	12.9	12.0	0.173	0.656
342	8.5	9.0	12.7	13.0	0.529	0.143
351/52	11.8	12.5	4.6	4.0	0.086	0.826
353/54	16.5	19.0	9.0	5.0	-0.165	0.672
355	12.3	12.8	15.9	17.0	0.246	0.558
356	16.1	15.8	16.2	16.0	0.125	0.768
361-9	7.8	8.0	6.9	6.0	0.509	0.162
371/72	18.2	20.5	9.7	10.0	0.494	0.177
381	4.9	3.0	7.7	8.0	0.345	0.363
382	7.1	6.0	10.1	11.0	0.511	0.160
383	13.6	13.0	8.9	9.0	0.222	0.566
384	8.6	8.0	7.2	7.0	-0.388	0.302
385	17.8	18.0	20.4	22.0	0.672	0.047
390	11.7	11.5	19.0	19.0	-0.136	0.727

1/ See previous table.

Differences between distributions of employment and value added

Differences between average ranks of distributional weights of small-scale industries for employment and value added are generally small.

While the ranks of industries are in general in accordance with what one might expect, it should be noted that industry groups 381 (metal work), 382 (non-electrical machinery) and 384 (transport equipment) are among the eight highest ranked groups.

Table 9 Industries by mean rank of contribution to employment and value added of small establishments

Employment			Value added		
ISIC	Mean rank	Median rank	ISIC	Mean rank	Median rank
311/12	1.5	1.0	311/12	1.8	1.0
381	4.4	4.0	381	4.9	3.0
322/24	4.9	4.0	322/24	5.3	3.0
332	5.9	5.0	332	7.0	5.0
361-9	6.3	6.0	382	7.1	6.0
382	7.1	7.0	361-9	7.5	8.0
342	8.4	8.0	342	8.5	9.0
384	9.0	8.0	384	8.6	8.0
331	9.3	9.0	321	9.9	9.0
321	10.1	9.0	331	10.0	8.0
390	11.7	11.0	390	11.7	11.5
351/52	12.9	14.0	351/52	11.8	12.5
355	13.0	14.0	355	12.3	12.8
313	13.4	14.0	313	13.5	14.0
383	13.7	12.0	383	13.6	13.0
323	14.5	14.0	323	15.1	15.0
341	16.3	16.0	341	15.7	15.0
356	16.6	17.0	356	16.1	15.8
314	17.5	20.5	353/54	16.5	19.0
371/72	17.6	18.0	385	17.8	18.0
385	18.1	18.0	371/72	18.2	20.5
353/4	18.7	20.5	314	18.3	20.5

Contribution of Small Establishments to Manufacturing Employment and Value Added

The contribution of small establishments was expressed as a fraction of the contribution of large establishments (see also "coefficients" in Appendix 1). Because of the different cut-off points of the different countries, a comparison of the coefficients as such did not seem useful. Therefore, industry groups were ranked by the size of the coefficients, that is according to the contribution of small establishments to manufacturing at the branch level.

Correlations between distributional weights and coefficients

A Spearman rank correlation between the ranks of structural weights and of contributions of small establishments yielded fairly high correlation coefficients for most industry groups.

Only in the industry groups ISIC 311/12 (food products), 321 (textiles), 322/24 (wearing apparel and footwear), 332 (furniture and fixtures), 383 (electrical machinery) and 390 (other industries) neither for employment nor for value added was such a correlation observed. In generally large ISIC groups as 311/12 (food), 321 (textiles), 322/24 (wearing apparel/footwear) and to a lesser degree 383 (electrical machinery) as compared to other industry groups, the contribution of small establishments is less important to the manufacturing of all establishments (small and large) in the industry group than to total manufacturing (ISIC 3000) of small establishments. On the other hand, in generally smaller industry groups such as 323 (leather) and 390 (other industries), small business contribution might be rather important to manufacturing in the industry but account for only a small share in total manufacturing of small business.

Table 10 Correlation of average ranks of structural weights and contribution by small establishments to overall manufacturing by industry groups, employment (9 countries)

ISIC	Structural weight Mean rank	Structural weight Median rank	Contribution Mean rank	Contribution Median rank	Spearman correlation coefficient	Significance of Spearman correlation coefficient
311/12	1.5	1.0	5.8	4.5	0.224	0.595
313	13.4	14.0	13.2	12.5	0.849	0.008
314	17.5	20.5	17.3	20.3	0.764	0.027
321	10.1	9.0	16.9	16.5	0.422	0.298
322/24	4.9	4.0	7.3	5.0	0.356	0.387
323	14.6	14.0	6.9	4.0	0.302	0.468
331	9.3	9.0	8.4	7.3	0.790	0.020
332	5.9	5.0	2.3	1.5	0.416	0.306
341	16.3	16.0	15.0	15.0	0.830	0.011
342	8.4	8.0	7.4	7.5	0.878	0.004
351/52	12.9	14.0	16.3	16.5	0.503	0.204
353/54	18.7	20.5	18.1	19.8	0.939	0.001
355	13.0	14.0	11.3	12.5	0.904	0.002
356	16.6	17.0	15.8	15.5	0.945	0.001
361-9	6.3	6.0	10.9	11.0	0.321	0.438
371/72	17.6	18.0	17.4	19.0	0.975	0.000
381	4.4	4.0	8.4	7.5	0.738	0.037
382	7.1	7.0	7.8	8.5	0.539	0.168
383	13.7	12.0	15.2	14.5	0.418	0.303
384	9.0	8.0	11.9	13.0	0.690	0.058
385	18.1	18.0	13.0	13.0	0.721	0.043
390	11.7	11.0	6.9	7.0	0.352	0.393

Table 11 Correlation of average ranks of structural weights and contribution by small establishments to overall manufacturing by industry group, value added (9 countries)

ISIC	Structural weight Mean rank	Structural weight Median rank	Contribution Mean rank	Contribution Median rank	Spearman correlation coefficient	Significance of Spearman correlation coefficient
311/12	1.8	1.0	7.4	7.0	0.559	0.150
313	13.5	14.0	13.6	13.5	0.879	0.004
314	18.3	20.5	19.2	20.0	0.849	0.008
321	9.9	9.0	15.5	16.0	0.494	0.213
322/24	5.3	3.0	6.6	4.0	0.599	0.117
323	15.1	16.0	7.1	4.5	0.006	0.988
331	10.0	8.0	7.8	5.0	0.395	0.333
332	7.0	5.0	2.1	1.0	0.439	0.276
341	15.6	15.0	15.3	16.5	0.825	0.012
342	8.5	9.0	8.3	9.0	0.699	0.054
351/52	11.8	12.5	16.4	17.5	0.728	0.041
353/54	16.5	19.0	17.7	20.3	0.970	0.000
355	12.3	12.8	10.8	14.0	0.578	0.133
356	16.1	15.8	13.9	14.0	0.901	0.006
361-9	7.8	8.0	12.7	12.0	0.792	0.019
371/72	18.2	20.5	17.7	19.0	0.938	0.001
381	4.9	3.0	9.4	8.0	0.815	0.014
382	7.1	6.0	7.6	8.0	0.723	0.043
383	13.6	13.0	14.9	14.0	0.432	0.285
384	8.6	8.0	11.4	11.5	0.743	0.035
385	17.8	18,0	11.9	11.0	0.758	0.030
390	11.7	11.5	5.9	4.8	0.548	0.160

Small-scale industries ranked by size of coefficients for employment and value added

The ranking of small-scale industries by size of coefficients for employment varies to the ranking for value added. Differences are a result from either a higher proportion of unpaid employees or lower (higher) productivity (defined as value added per person engaged) of small establishments as compared to large establishments.

The average ranks (mean ranks) of employment coefficients of the following small-scale industries were higher than average ranks of coefficients for value added: ISIC 311/12 (food products), 314 (tobacco), 342 (printing and publishing), 361-9 (pottery, china, glass and other non-metal products) and 381 (metal products).

The opposite was true for industry groups 322/24 (wearing apparel/footwear), 331 (wood products), 385 (professional goods) and 390 (other industries).

Most important are contributions of small firms in light industries such as ISIC 332 (furniture), 311 (food), 322 (wearing apparel), 324 (footwear), 323 (leather), 331 (wood products) and 342 (printing and publishing). Still, small business' contributions to non-electrical machinery (ISIC 382), metal work (381) and transport equipment (384) were ranked among the first eleven industries, which points to the valuable role small firms play even in some of the heavy industries.

Table 12 Industries ranked by size of contribution of small establishments to employment or value added (contribution of small establishments expressed as fraction of contribution of large establishments)

Employment			Value added		
ISIC	Mean rank	Median rank	ISIC	Mean rank	Median rank
332	2.3	1.5	332	2.1	1.0
311/12	5.8	4.5	390	5.9	4.8
323	6.9	4.0	322/24	6.6	4.0
390	6.9	7.0	323	7.1	4.5
322/24	7.3	5.0	311/12	7.4	7.0
342	7.4	7.5	382	7.6	8.0
382	7.8	8.5	331	7.8	5.0
331	8.4	7.3	342	8.3	9.0
381	8.4	7.5	381	9.4	8.0
361-9	10.9	11.0	355	10.8	14.0
355	11.3	12.5	384	11.4	11.5
384	11.9	13.0	385	11.9	11.0
385	13.0	13.0	361-9	12.7	12.0
313	13.2	12.5	313	13.6	13.5
341	15.0	15.0	356	13.9	14.0
383	15.2	14.5	383	14.9	14.0
356	15.8	15.5	341	15.3	16.5
351/52	16.5	16.5	321	15.5	16.0
321	16.9	16.5	351/52	16.4	17.5
314	17.3	20.3	371/72	17.7	19.0
371/72	17.4	19.0	353/54	17.7	20.3
353/54	18.1	19.8	314	19.2	20.0

However, actual contribution of small establishments to value added, expressed as fraction of the c ntribution of large establishments (see Appendix 1), were in almost every industry and country lower than the contribution to employment.

In some cases, though - most frequently in ISIC groups 321 (textiles), 322 (wearing apparel), 324 (footwear), 331 (wood products), 324 (footwear), 331 (wood products), 332 (furniture and fixtures) and 390 (other industries) - the contribution to value added exceeded contribution to employment, indicating higher productivity in small than in large business.

The contribution to value added of small establishments amounted in some countries to over 20 per cent of the contribution of large firms. This sizeable contribution of the statistically uncovered small business sector underlines the necessity of adjustments for cut-off points. Even in countries such as Singapore and the United Arab Emirates (both countries employ a cut-off point of establishments with 10 or more persons engaged), where the contribution of small-scale industry constituted less than 5 per cent of the value added of large firms, contributions to some industry groups comprised over 10 per cent.

By contribution to value added small-scale industries are represented strongly in the following countries of the sample: Iraq, Greece, Turkey, Indonesia, Austria and Kenya.

Results of the Project

The goals of the project were (a) to develop methods to adjust existing data to meet a standardized definition for establishment coverage, (b) to test methods for their applicability to the available industrial statistics, and (c) to perform actual adjustments examining to what extent small-scale industries' contributions remain constant over time.

The target file as described on the first pages of this report included 32 countries for which adjustments seemed desirable.

Adjustments on the basis of supplementary information and estimates have been made for 14 countries, with the following restrictions: in a few cases adjustments were only possible for later years; in most cases adjustments were made for all missing establishments or establishments with one or more employee rather than establishments with 5 or more persons engaged because no sufficient information was available; in one case (Chile) adjustments were made only for establishments with 10-49 persons engaged.

Information on the adjustments - procedures and results - for these 14 countries are given in Appendix 1. No adjustments on the basis of supplementary information were possible for the following countries: Africa - Ethiopia, Ghana, Ivory Coast, Liberia, Tunisia, Egypt, Tanzania; Asia - Bangladesh, Hong Kong, India, Iran, Libyan Arab Jamahiriya, Pakistan, Thailand; Latin America - Nicaragua, Trinidad and Tobago; Europe - Italy, Luxembourg. Information on cut-off points used in these countries are given in Appendix 2.

As mentioned above, differences in cut-off points and supplementary information require tailor-made approaches for almost every case even though the basic procedures described remain the same. The contribution

of small-scale industries remained fairly stable over time, in some cases indicating a trend. Application of coefficients derived from benchmark years to other years, either unmodified or interpolated, can be justified by the stability of the coefficients as long as no specific information is available.

While the project was successful in respect of improvements in the comparability of some country data, the cut-off point problem remained in more than 50 per cent of the countries included in the target file.

On the basis of the review as described in the sections on distribution across industries and on contribution of small-scale industries adjustments on the basis of cross-country comparisons could be a worthwhile attempt and would provide a method which is not dependent on supplementary outside information. As rankings of industries are fairly stable over countries, simple similarity checks between the target countries and countries to be used as reference would suffice to secure "realistic" estimates of the contributions of small (uncovered) establishments.

Appendix 1

Description of cut-off points and adjustments for:

Austria
Bolivia
Chile
Colombia
Denmark
Germany, Federal Republic
Indonesia
Iraq
Kenya
Philippines
Singapore
Turkey
United Arab Emirates

(including tables for coefficients and distributions where applicable).

AUSTRIA:

-c.-o.point : establishments of the "Gewerbe"- section with less than 2o persons engaged are not covered.

- adjustments: Coefficients have been calculated on the basis of "Gewerbestatistik, 2.Teil, Österreichisches Statistisches Zentralamt, various editions" for establishments of the "Gewerbe" section with 1-19 persons engaged and for the years 1973, 1974, 1976, 1977, 1979 and 1980 (for all variables). Coefficients for 1973 shall be also applied to data for 1969 - 1972; for 1974 also to data for 1975; for 1979 also to 1978; and for 1980 also to 1981. Otherwise, coefficients shall be applied to the corresponding year only.

1977, 1977 AND 1980

ISIC GROUP		Employment 1973	1974	1976	1977	1979	1980	Average
311/2	Food products	.661	.663	.568	.581	.618	.573	.6073333
313	Beverages	.069	.071	.074	.078	.064	.065	.07
314	Tobacco	0	0	0	0	0	0	0
321	Textiles	.04	.044	.047	.051	.047	.047	.046
322	Wearing apparel	.214	.221	.223	.226	.18	.177	.2063333
323	Leather and products	.208	.236	.213	.208	.193	.196	.207
324	Footwear	.043	.045	.047	.048	.049	.05	.0463333
331	Wood products	0	0	0	0	0	0	0
332	Furniture and Fixtures	1.035	1.114	1.016	1.036	1.02	1.078	1.049833
341	Paper and products	.036	.037	.039	.042	.041	.037	.0386667
342	Printing, publishing	.202	.206	.161	.158	.18	.167	.179
351	Industrial chemicals	.05	.05	.051	.046	.047	.042	.0476667
352	Other chemical prod.	0	0	0	0	0	0	0
353	Petroleum refineries	0	0	0	0	0	0	0
354	Petroleum, coal prod.	0	0	.019	.051	.052	.052	.029
355	Rubber products	.128	.134	.157	.177	.171	.137	.1506667
356	Plastic products nec	0	0	0	0	0	0	0
361	Pottery, china, etc.	0	0	0	0	0	0	0
362	Glass and products	.041	.046	.06	.058	.052	.053	.0516667
369	Non-metal products, nec	.127	.128	.129	.135	.113	.12	.1253333
371	Iron and steel	.002	.002	.003	.003	.003	.002	.0025
372	Non-ferrous metals	0	0	0	0	0	0	0
381	Metal products	.196	.197	.194	.195	.189	.223	.199
382	Machinery nec	.101	.102	.099	.123	.11	.085	.1033333
383	Electrical machinery	.035	.035	.035	.034	.032	.029	.0333333
384	Transport equipment	.531	.524	.556	.543	.509	.497	.5266667
385	Professional goods	.185	.184	.165	.168	.166	.179	.1745
390	Other industries	0	0	.065	.059	.059	.064	.0411667
300	Total industry	.175	.179	.176	.183	.181	.179	.1788333

(Of the "Schedule" Called For the Years 1973, 1974, 1975, 1977, 1977 and 1983

ISIC GROUP		WAGES and SALARIES 1973	1974	1976	1977	1979	1980	Average
311/2	Food products	.522	.499	.454	.447	.493	.45	.4775
313	Beverages	.052	.052	.053	.055	.048	.051	.0518333
314	Tobacco	0	0	0	0	0	0	0
321	Textiles	.04	.037	.042	.042	.042	.044	.0411667
322	Wearing apparel	.171	.174	.184	.18	.152	.147	.168
323	Leather and products	.187	.2	.211	.18	.186	.2	.194
324	Footwear	.035	.037	.044	.048	.047	.051	.0436667
331	Wood products	0	0	0	0	0	0	0
332	Furniture and Fixtures	.822	.807	.824	.824	.791	.811	.8131667
341	Paper and products	.026	.025	.025	.025	.026	.025	.0253333
342	Printing, publishing	.209	.204	.172	.172	.178	.168	.1838333
351	Industrial chemicals	.042	.039	.038	.038	.037	.033	.0378333
352	Other chemical prod.	0	0	0	0	0	0	0
353	Petroleum refineries	0	0	0	0	0	0	0
354	Petroleum, coal prod.	0	0	.023	.054	.062	.063	.0336667
355	Rubber products	.107	.102	.124	.139	.131	.17	.1228333
356	Plastic products nec	0	0	0	0	0	0	0
361	Pottery, china, etc.	0	0	0	0	0	0	0
362	Glass and products	.033	.033	.044	.039	.037	.039	.0375
369	Non-metal products, nec	.107	.104	.11	.113	.103	.06	.0995
371	Iron and steel	.003	.003	.002	.002	.002	.002	.0023333
372	Non-ferrous metals	0	0	0	0	0	0	0
381	Metal products	.166	.149	.163	.161	.154	.195	.1646667
382	Machinery nec	.078	.077	.077	.092	.084	.062	.0783333
383	Electrical machinery	.03	.029	.03	.028	.027	.025	.0281667
384	Transport equipment	.359	.336	.364	.341	.332	.309	.3401667
385	Professional goods	.175	.165	.149	.146	.143	.149	.1543333
390	Other industries	0	0	.064	.056	.05	.053	.0371667
399	Total industry	.135	.13	.135	.137	.136	.132	.1341667

(... THE "BASELINE" SOLUTION) FOR THE YEARS 1973, 1974, 1976, 1977, 1979 AND 1980

ISIC	GROUP	GROSS OUTPUT 1973	1974	1976	1977	1979	1980	Average
311/2	Food products	.55	.556	.396	.368	.39	.336	.4326667
313	Beverages	.072	.073	.064	.067	.057	.06	.0655
314	Tobacco	0	0	0	0	0	0	0
321	Textiles	.045	.046	.046	.044	.04	.041	.0436667
322	Wearing apparel	.164	.171	.166	.2	.149	.146	.166
323	Leather and products	.214	.235	.215	.198	.195	.194	.2085
324	Footwear	.054	.061	.054	.055	.05	.048	.0536667
331	Wood products	0	0	0	0	0	0	0
332	Furniture and Fixtures	.851	.852	.832	.855	.735	.721	.8076667
341	Paper and products	.019	.014	.014	.016	.013	.012	.0146667
342	Printing, publishing	.264	.262	.166	.162	.177	.162	.1983333
351	Industrial chemicals	.051	.038	.039	.041	.034	.034	.0395
352	Other chemical prod.	0	0	0	0	0	0	0
353	Petroleum refineries	0	0	0	0	0	0	0
354	Petroleum, coal prod.	.081	.073	.057	.074	.107	.127	.0865
355	Rubber products	.126	.102	.114	.147	.127	.113	.1215
356	Plastic products nec	0	0	0	0	0	0	0
361	Pottery, china, etc.	0	0	0	0	0	0	0
362	Glass and products	.056	.056	.048	.043	.038	.038	.0465
369	Non-metal products, nec	.111	.099	.091	.102	.087	.068	.0963333
371	Iron and steel	.002	.001	.002	.002	.002	.001	.0016667
372	Non-ferrous metals	0	0	0	0	0	0	0
381	Metal products	.19	.167	.138	.14	.141	.177	.1588333
382	Machinery nec	.102	.1	.086	.107	.096	.068	.0931667
383	Electrical machinery	.029	.027	.024	.024	.023	.022	.0248333
384	Transport equipment	.504	.455	.369	.45	.377	.367	.4203333
385	Professional goods	.203	.217	.173	.197	.176	.209	.1958333
390	Other industries	0	0	.059	.055	.048	.052	.0356667
300	Total industry	.161	.143	.129	.133	.127	.119	.1353333

(OF THE "GENERAL"-SECTOR) FOR THE YEARS 1973, 1974, 1976, 1977, 1979 AND 1980

ISIC GROUP		VALUE ADDED 1973	1974	1976	1977	1979	1980	Average
311/2	Food products	.485	.529	.422	.423	.465	.413	.4561667
313	Beverages	.054	.058	.052	.052	.045	.044	.0508333
314	Tobacco	0	0	0	0	0	0	0
321	Textiles	.052	.057	.062	.058	.059	.061	.0581667
322	Wearing apparel	.17	.185	.184	.202	.156	.146	.1738333
323	Leather and products	.209	.232	.218	.191	.203	.233	.2143333
324	Footwear	.068	.076	.068	.07	.072	.067	.0701667
331	Wood products	0	0	0	0	0	0	0
332	Furniture and Fixtures	.831	.918	.939	.866	.774	.788	.861
341	Paper and products	.022	.017	.022	.027	.023	.021	.022
342	Printing, publishing	.162	.217	.168	.169	.185	.164	.1775
351	Industrial chemicals	.04	.029	.046	.045	.033	.033	.0335
352	Other chemical prod.	0	0	0	0	0	0	0
353	Petroleum refineries	0	0	0	0	0	0	0
354	Petroleum, coal prod.	0	0	.043	.059	.033	.09	.0458333
355	Rubber products	.119	.104	.124	.133	.128	.121	.1215
356	Plastic products nec	0	0	0	0	0	0	0
361	Pottery, china, etc.	0	0	0	0	0	0	0
362	Glass and products	.037	.039	.044	.041	.033	.037	.0385
369	Non-metal products, nec	.1	.098	.103	.116	.095	.097	.1015
371	Iron and steel	.004	.003	.003	.003	.003	.002	.003
372	Non-ferrous metals	0	0	0	0	0	0	0
381	Metal products	.196	.175	.18	.176	.16	.202	.1815
382	Machinery nec	.084	.083	.083	.097	.089	.066	.0846333
383	Electrical machinery	.03	.029	.028	.025	.025	.023	.0266667
384	Transport equipment	.365	.335	.323	.369	.317	.331	.34
385	Professional goods	.214	.203	.194	.192	.18	.237	.2033333
390	Other industries	0	0	.066	.059	.05	.053	.038
300	Total industry	.138	.131	.135	.139	.132	.123	.1339333

...OF ESTABLISHMENTS WITH ... SECTOR),
1973 and 1980

ISIC GROUP		Employment 1973	Employment 1980	Wages & Salar 1973	Wages & Salar 1980
311/2	Food products	24.6	24.6	25.2	25.1
313	Beverages	.9	.7	1	.7
314	Tobacco	0	0	0	0
321	Textiles	2.2	2	2.2	1.9
322	Wearing apparel	7.1	5	4.7	4.9
323	Leather and products	.6	.6	.6	.6
324	Footwear	.5	.6	.4	.7
331	Wood products	0	0	0	0
332	Furniture and Fixtures	21.7	24.6	19.4	24.6
341	Paper and products	.8	.7	.8	.6
342	Printing, publishing	3.5	3.6	5.2	3.3
351	Industrial chemicals	.9	.7	1.2	.7
352	Other chemical prod.	0	0	0	0
353	Petroleum refineries	0	0	0	0
354	Petroleum, coal prod.	0	0	0	0
355	Rubber products	1.3	1	1.4	1.3
356	Plastic products nec	0	0	0	0
361	Pottery, china, etc.	0	0	0	0
362	Glass and products	.4	.4	.4	.4
369	Non-metal products, nec	3.2	2.7	4.2	2.7
371	Iron and steel	.1	.1	.3	.2
372	Non-ferrous metals	0	0	0	0
381	Metal products	11.2	11.1	12.5	11.4
382	Machinery nec	4.6	4.9	5.1	4.6
383	Electrical machinery	2	1.7	2.2	1.8
384	Transport equipment	12.9	13.3	12.2	12.9
385	Professional goods	1.5	1.3	1.6	1.2
390	Other industries	0	.3	0	.3
300	Total industry	100	100	100	99.9

...OF ESTABLISHMENTS WITH
LESS THAN 20 EMPLOYEES FROM THE "MODERN" SECTOR),
1973 and 1980

ISIC GROUP		Gross Output 1973	Gross Output 1980	Value Added 1973	Value Added 1980
311/2	Food products	37.6	34.4	25.9	25.1
313	Beverages	1.4	1.1	1.4	1
314	Tobacco	0	0	0	0
321	Textiles	2	1.7	2.5	2.5
322	Wearing apparel	3.3	2.7	4.3	3.2
323	Leather and products	.6	.5	.6	.6
324	Footwear	.5	.5	.6	.7
331	Wood products	0	0	0	0
332	Furniture and Fixtures	15.9	16.3	20.4	20.8
341	Paper and products	.5	.4	.6	.7
342	Printing, publishing	3.3	3.6	4.6	5
351	Industrial chemicals	1.4	1.5	1.1	1.2
352	Other chemical prod.	0	0	0	0
353	Petroleum refineries	0	0	0	0
354	Petroleum, coal prod.	.1	.3	0	.1
355	Rubber products	1.1	1.2	1.4	1.4
356	Plastic products nec	0	0	0	0
361	Pottery, china, etc.	0	0	0	0
362	Glass and products	.4	.3	.4	.4
369	Non-metal products, nec	3.3	3.3	4.1	3.9
371	Iron and steel	.1	.1	.3	.1
372	Non-ferrous metals	0	0	0	0
381	Metal products	9.2	9.7	12.2	12.7
382	Machinery nec	4.7	5.4	4.9	5.4
383	Electrical machinery	1.7	1.6	2	1.8
384	Transport equipment	11.8	14	10.9	11.5
385	Professional goods	1.1	1.1	1.5	1.5
390	Other industries	0	.3	0	.4
300	Total industry	100	100	99.7	100

BOLIVIA

-c.-o.point: 1963-1968: all establishments (the data suggest however, that not all establishments were covered!)
1969-1980: all registered establishments (from 1975 onwards establishments with capital of 50,000 pesos or more.)

Value added is missing for 1969, 1978 and 1979.

No adjustments have been made for non-response before 1978.

-adjustments: since data for Bolivia are inconsistent over time and non-adjustment for non-response before 1978 and conceptual problems (definition of c.o.p.) do not allow adjustments, it was decided to substitute the figures for value added and gross output as reported to UNSO, by national account data for the years 1970 to 1979. National account gross output and value added are presented in market prices (producer values) and on the two digit level. (Source: Yearbook of National Account Statistics, 1981, UN, New York). To distribute the aggregates across three digit groups distributional weights were derived from the base weights for 1970 and 1975.(For value added only; however, these weights shall be applied to gross output as well.) The weights should be interpolated in the years between 1970 and 1975. After 1975 unmodified 1975 weights shall be used.
Total number of employees was derived from a different source: Yearbook of Labour Statistics 1980, ILO, Geneva, table 6a, for the years 1970 to 1979. Distributional weights (three digit level) for employment and the years 1970 and 1975 were derived from the base weights also. They should be applied in the same way as the weights for value added.
The Yearbook of National Account Statistics displays also data on wages & salaries (compensation of employees) on the two digit level for the years 1970 to 1979 (pages 150f). They should be distributed across three digit ISIC groups by the distributional weights for value added as derived from the base weights 1970 and 1975. For application see above (value added).

CHILE

- c.-o. p.: 1963 - 1967: est. with 10 or more employees
  1968 - 1979: est. with 50 or more persons engaged (p.e.)

- adjustments: for est. with 10 - 49 p.e. and the year 1977 on the basis of World Bank data; estimates for the years 1968 to 1976 and 1978 to 1979: coefficients for 1977.

TABLE : CHILE: COEFFICIENTS FOR ESTABLISHMENTS WITH 10-49 PERSONS ENGAGED, 1977

ISIC GROUP		Employment 1977	Wages & Sal. 1977	Gross Output 1977	Value Added 1977
311/2	Food products	.217	.103	.144	.09
313	Beverages	.119	.072	.092	.083
314	Tobacco	0	0	0	0
321	Textiles	.014	.01	.01	.01
322	Wearing apparel	.087	.055	.069	.063
323	Leather and products	.154	.083	.081	.082
324	Footwear	.043	.024	.024	.014
331	Wood products	.171	.13	.173	.128
332	Furniture and Fixtures	.259	.161	.232	.215
341	Paper and products	0	0	0	0
342	Printing, publishing	.098	.059	.036	.039
351	Industrial chemicals	.055	.04	.062	.059
352	Other chemical prod.	.026	.017	.03	.034
353	Petroleum refineries	0	0	0	0
354	Petroleum, coal prod.	0	0	0	0
355	Rubber products	.048	.054	.092	.112
356	Plastic products nec	.029	.016	.021	.021
361	Pottery, china, etc.	.025	.003	.005	.004
362	Glass and products	.011	.001	.015	.016
369	Non-metal products, nec	.093	.039	.051	.04
371	Iron and steel	.004	.002	.001	.001
372	Non-ferrous metals	0	0	0	0
381	Metal products	.069	.036	.04	.036
382	Machinery nec	.083	.049	.073	.083
383	Electrical machinery	.008	.008	.022	.026
384	Transport equipment	.034	.023	.019	.02
385	Professional goods	.107	.11	.08	.138
390	Other industries (1)	.1	.06	.09	.08

(1) Estimate!

ISIC GROUP		Employment 1977	Wages & Sal. 1977	Gross Output 1977	Value Added 1977
311/2	Food products	48.1	44.3	59.7	41.3
313	Beverages	4.9	5.2	5.9	7.8
314	Tobacco	0	0	0	0
321	Textiles	2.1	2	1	1.4
322	Wearing apparel	3.8	2.9	2.3	2.9
323	Leather and products	2.1	1.9	1.7	1.8
324	Footwear	1.5	1	.7	.6
331	Wood products	10.5	9.3	5.8	7
332	Furniture and Fixtures	2.5	2	1.1	1.7
341	Paper and products	0	0	0	0
342	Printing, publishing	3.8	5.9	1.7	3.2
351	Industrial chemicals	1.7	2.7	3.3	5.2
352	Other chemical prod.	1.4	2.5	2.8	5.1
353	Petroleum refineries	0	0	0	0
354	Petroleum, coal prod.	0	0	0	0
355	Rubber products	1	1.9	1.9	3.1
356	Plastic products nec	.5	.5	.3	.5
361	Pottery, china, etc.	.3	.1	0	.1
362	Glass and products	.2	0	.2	.3
369	Non-metal products, nec	2.3	2.2	1.1	1.7
371	Iron and steel	.3	0	0	0
372	Non-ferrous metals	0	0	0	0
381	Metal products	4.9	4.5	2.7	3.5
382	Machinery nec	5	6.9	4.1	7
383	Electrical machinery	.3	.7	1.1	2
384	Transport equipment	1.9	2.7	1.9	3.1
385	Professional goods	.3	.4	.2	.3
390	Other industries (1)	.7	.6	.6	.2
		100.1	100.2	100.1	99.8

(1) Estimate!

COLOMBIA

-c.-o-point: 1971 - 1980: establishments with 10 or more persons engaged
(1963-1970: establishments with 5 or more p.e. or 24.000 or more pesos annual production)

-adjustments: for establishments with 5-9 p.e. on the basi of "Industria manufacturera 1973,1977, 1978 and 1979" and " Perfil estadistico de la pequena y mediana industria 1970-1975" and estimates. 1)

1) The national publications provided information on total contribution to manufacturing (ISIC 300) by establishments with 5-9 p.e. in 1970.
The statistic provided also information on a) contribution to manufacturing by three digit ISIC groups by establishments with 5 or more p.e. in 1970 and b) contribution to manuf. by three digit ISIC groups by establishments with 10 or more p.e. in 1971. Using this information coefficients for the share of establishments with 5-9 p.e. in employment in 1970 have been calculated as follows:

(1) For ISIC 300: $M_{70} - M_{L70} = M_{S70}$

M= establishments with 5 or more p.e.

M_L= establishments with 10 or more p.e.

M_S= establishments with 5-9 p.e.

(2) For ISIC 300: $$\frac{M_{L71}}{M_{L70}} = \Delta M_L$$

(3) For ISIC three digit: (estimate)

(3a) $$\frac{M_{Li71}}{\Delta M_L} = M_{Li70}$$

(3b) $$M_{i70} - M_{Li70} = M_{Si70}$$

i=ISIC-311,.....,390

Note: a) assumption: equal growth rates of M_L, 1970 to 71 across industries. (36)

b) the results of the first estimate were for some ISIC groups negative and the total (Σi) was considerably bigger than the known total for M_{S70}. Therefore it was assumed that in ISIC group where the estimation procedure yielded negative results the contribution of small establishments was zero; the remaining values from the estimate were used as weights to distribute the known total across industries.

COLOMBIA (continued)

$$(4)\ \text{Coefficient} = \frac{M_{Si70(adjusted)}}{M_{Li70}}$$

Note: this coefficient was only calculated for "employmen

The national statistics for 1973, 1977, 1978 and 1979 also provid information on the contribution of large establishments by size of employment and by three digit industry group. They also showed data for some establishments with 5-9 p.e..(These are establishments which had 10 or more p.e. in the previous year and were therefore included in the sample.) Using the data for the smaller establishments (5-9 p.e., 5-19p.e.) rather than the data for all establishments with 10 or more p.e., ratios (wages and salaries per employee, gross output per employee and value added per employee) were used to estimate the contribution of the small enterprises to total manufacturing for the years 1973, 1977, 1978, and 1979. The number of employees was estimate by using the 1970 coefficients.

The consequently calculated coefficients for 1973 should be applied to 1971, 1972, 1973, 1974 and 1975 data, for 1977 to 1976 and 1977 data, for 1978 to 1978 data, for 1979 to 1979 and 1980 data.

It should be noted however, that these estimates only provide a rough indication of the contribution of small establishments to manufacturing.

[illegible] : [illegible] FOR ECONOMIC DATA PLAN 7 FACTORS INCLUDED
FOR THE YEARS 1976, 1977, 1978 AND 1979

ISIC GROUP		Employment 1976	1977	1978	1979	Average
311/2	Food products	.105	.105	.103	.105	.1045
313	Beverages	.01	.01	.01	.01	.01
314	Tobacco	.103	.102	.103	.102	.1025
321	Textiles	.017	.017	.017	.017	.017
322	Wearing apparel	.004	.004	.004	.004	.004
323	Leather and products	0	0	0	0	0
324	Footwear	0	0	0	0	0
331	Wood products	.094	.095	.127	.094	.1025
332	Furniture and Fixtures	.049	.049	.049	.049	.049
341	Paper and products	.03	.03	.03	.03	.03
342	Printing, publishing	.042	.042	.042	.042	.042
351	Industrial chemicals	0	0	0	0	0
352	Other chemical prod.	.043	.043	.043	.043	.043
353	Petroleum refineries	.041	.041	.042	.042	.0415
354	Petroleum, coal prod.	0	0	0	0	0
355	Rubber products	.229	.23	.23	.23	.22975
356	Plastic products nec	.026	.026	.026	.026	.026
361	Pottery, china, etc.	.064	.064	.064	.064	.064
362	Glass and products	0	0	0	0	0
369	Non-metal products, nec	.061	.061	.061	.061	.061
371	Iron and steel	.083	.083	.082	.083	.08275
372	Non-ferrous metals	.083	.083	.082	.083	.08275
381	Metal products	.035	.035	.035	.035	.035
382	Machinery nec	.035	.033	.033	.033	.0335
383	Electrical machinery	0	0	0	0	0
384	Transport equipment	.028	.028	.028	.028	.028
385	Professional goods	.072	.072	.073	.072	.07225
390	Other industries	.071	.071	.071	.071	.071

TABLE : [illegible] FOR [illegible] WITH 5-9 [illegible]
FOR THE YEARS 1973, 1977, 1978 AND 1979

ISIC GROUP		Wages & Salaries 1973	1977	1978	1979	Average
311/2	Food products	.062	.061	.067	.061	.06275
313	Beverages	.003	.004	.005	.004	.004
314	Tobacco	.018	.04	.042	.038	.0345
321	Textiles	.004	.009	.013	.009	.00875
322	Wearing apparel	.004	.003	.003	.003	.00325
323	Leather and products	0	0	0	0	0
324	Footwear	0	0	0	0	0
331	Wood products	.068	.067	.127	.069	.08275
332	Furniture and Fixtures	.037	.04	.04	.047	.041
341	Paper and products	.008	.015	.011	.014	.012
342	Printing, publishing	.018	.023	.025	.023	.02225
351	Industrial chemicals	0	0	0	0	0
352	Other chemical prod.	.018	.017	.017	.017	.01725
353	Petroleum refineries	.027	.042	.041	.04	.0375
354	Petroleum, coal prod.	0	0	0	0	0
355	Rubber products	.082	.01	.076	.1	.067
356	Plastic products nec	.014	.016	.021	.02	.01775
361	Pottery, china, etc.	.029	.028	.04	.038	.03375
362	Glass and products	0	0	0	0	0
369	Non-metal products, nec	.027	.032	.038	.032	.03225
371	Iron and steel	.04	.083	.083	.043	.06225
372	Non-ferrous metals	.04	.083	.083	.043	.06225
381	Metal products	.032	.023	.025	.023	.02575
382	Machinery nec	.013	.02	.026	.025	.021
383	Electrical machinery	0	0	0	0	0
384	Transport equipment	.032	.013	.013	.036	.0235
385	Professional goods	.024	.024	.054	.076	.0445
390	Other industries	.051	.054	.049	.06	.0535

TABLE : [illegible] FOR [illegible] WITH 5-9 [illegible]
FOR THE YEARS 1973, 1977, 1978 AND 1979

ISIC GROUP		Gross Output 1973	1977	1978	1979	Average
311/2	Food products	.055	.045	.053	.05	.057
313	Beverages	.002	.003	.006	.002	.00325
314	Tobacco	.003	.012	.011	.009	.01
321	Textiles	.006	.012	.014	.008	.01
322	Wearing apparel	.003	.004	.005	.006	.0045
323	Leather and products	0	0	0	0	0
324	Footwear	0	0	0	0	0
331	Wood products	.136	.084	.126	.09	.109
332	Furniture and Fixtures	.041	.041	.049	.052	.04575
341	Paper and products	.006	.008	.006	.021	.01025
342	Printing, publishing	.015	.02	.022	.022	.01975
351	Industrial chemicals	0	0	0	0	0
352	Other chemical prod.	.033	.018	.016	.012	.01975
353	Petroleum refineries	.056	.042	.042	.042	.0455
354	Petroleum, coal prod.	0	0	0	0	0
355	Rubber products	.145	.15	.076	.075	.1115
356	Plastic products nec	.006	.012	.012	.016	.0115
361	Pottery, china, etc.	.023	.027	.038	.028	.029
362	Glass and products	0	0	0	0	0
369	Non-metal products, nec	.021	.02	.022	.021	.021
371	Iron and steel	.043	.033	.033	.025	.0585
372	Non-ferrous metals	.043	.033	.033	.025	.0585
381	Metal products	.023	.023	.024	.023	.0245
382	Machinery nec	.014	.022	.03	.019	.02125
383	Electrical machinery	0	0	0	0	0
384	Transport equipment	.018	.014	.008	.014	.0135
385	Professional goods	.046	.037	.053	.074	.0525
390	Other industries	.042	.067	.057	.054	.055

ISIC GROUP		Value Added 1973	1977	1978	1979	Average
311/2	Food products	.048	.048	.051	.047	.0485
313	Beverages	.002	.002	.004	.002	.0025
314	Tobacco	.004	.006	.006	.005	.00525
321	Textiles	.003	.008	.011	.007	.00725
322	Wearing apparel	.003	.004	.005	.005	.00425
323	Leather and products	0	0	0	0	0
324	Footwear	0	0	0	0	0
331	Wood products	.088	.055	.126	.054	.08075
332	Furniture and Fixtures	.046	.041	.048	.055	.0475
341	Paper and products	.007	.007	.006	.026	.0115
342	Printing, publishing	.016	.017	.02	.02	.01875
351	Industrial chemicals	0	0	0	0	0
352	Other chemical prod.	.027	.015	.013	.011	.0165
353	Petroleum refineries	.043	.042	.042	.042	.04225
354	Petroleum, coal prod.	0	0	0	0	0
355	Rubber products	.109	.12	.114	.075	.1045
356	Plastic products nec	.009	.014	.013	.019	.01375
361	Pottery, china, etc.	.027	.024	.033	.03	.0285
362	Glass and products	0	0	0	0	0
369	Non-metal products, nec	.017	.022	.022	.022	.02075
371	Iron and steel	.019	.033	.083	.027	.053
372	Non-ferrous metals	.019	.033	.033	.027	.053
381	Metal products	.028	.017	.022	.019	.0215
382	Machinery nec	.007	.021	.024	.019	.01775
383	Electrical machinery	0	0	0	0	0
384	Transport equipment	.018	.013	.012	.015	.0145
385	Professional goods	.038	.044	.051	.055	.0495
390	Other industries	.037	.055	.057	.049	.0495

[illegible] : [illegible] OF THE
CONTRIBUTION OF ESTABLISHMENTS WITH 5 - 9
PERSONS EMPLOYED FOR THE YEARS 1973 AND 1979

ISIC GROUP		Employment 1973	Employment 1979	Wages & Salar 1973	Wages & Salar 1979
311/2	Food products	32.6	36	31.9	32.5
313	Beverages	1.1	1.2	.8	1.1
314	Tobacco	2	1.4	.8	.9
321	Textiles	6.9	5.9	3.8	5.2
322	Wearing apparel	.8	.9	.8	.7
323	Leather and products	0	0	0	0
324	Footwear	0	0	0	0
331	Wood products	4.3	2.5	4.2	2.2
332	Furniture and Fixtures	1.8	1.7	1.7	1.7
341	Paper and products	1.6	1.6	1.3	1.7
342	Printing, publishing	3.5	3.7	3.4	3.3
351	Industrial chemicals	0	0	0	0
352	Other chemical prod.	5.1	5.4	5.9	4.3
353	Petroleum refineries	.7	1	2.1	3.5
354	Petroleum, coal prod.	0	0	0	0
355	Rubber products	10.1	9.4	9.7	9
356	Plastic products nec	1.4	1.7	1.3	1.7
361	Pottery, china, etc.	1.7	1.8	1.3	1.5
362	Glass and products	0	0	0	0
369	Non-metal products, nec	6.4	5.8	5.5	5
371	Iron and steel	5.7	5.1	6.7	5.6
372	Non-ferrous metals	-	-	-	-
381	Metal products	5.4	5.5	8	5.2
382	Machinery nec	2.7	2.5	2.1	2.7
383	Electrical machinary	0	0	0	0
384	Transport equipment	2.2	3.2	5	8.1
385	Professional goods	.8	.8	.4	1
390	Other industries	3.2	2.9	3.4	3
300	Total industry	100	100	100	99.9

TABLE : [illegible]

ISIC GROUP		Gross Output 1973	Gross Output 1979	Value Added 1973	Value Added 1979
311/2	Food products	43	50.7	33.7	34.3
313	Beverages	.5	.8	1.2	1.4
314	Tobacco	.5	.5	.7	.6
321	Textiles	3.5	3.8	2.5	4.7
322	Wearing apparel	.4	.8	.5	.9
323	Leather and products	0	0	0	0
324	Footwear	0	0	0	0
331	Wood products	4.2	2.2	4.7	2
332	Furniture and Fixtures	.7	.9	1.4	1.4
341	Paper and products	.8	3.3	1.3	4.6
342	Printing, publishing	1.2	1.8	2.5	2.6
351	Industrial chemicals	0	0	0	0
352	Other chemical prod.	7.2	3.1	10.7	4
353	Petroleum refineries	7.3	7.6	8.9	12.1
354	Petroleum, coal prod.	0	0	0	0
355	Rubber products	9.3	5.9	11.4	7.4
356	Plastic products nec	.4	1.5	.8	2
361	Pottery, china, etc.	.3	.5	.7	.9
362	Glass and products	0	0	0	0
369	Non-metal products, nec	2.3	2.4	3.5	3.6
371	Iron and steel	4.1	2.7	2.8	4.1
372	Non-ferrous metals	-	-	-	-
381	Metal products	4.1	4	6.7	4.3
382	Machinery nec	1.1	1.6	1.1	2.2
383	Electrical machinery	0	0	0	0
384	Transport equipment	2.4	3.6	2.3	3.5
385	Professional goods	.4	.5	.7	.6
390	Other industries	1.2	1.8	2	2.6
300	Total industry	99.9	100	100.1	99.8

DENMARK:

-c.o.p.: employment and wages & salaries: establishments with 6 or more operatives;(after1965 "employees");

gross output and value added:
1963 - 1972: establishments with 6 or more operatives (employees)

1973 - 1981: kind of activity units with 20 or mor employees

-adjustments: on the basis of "Industristatistik" (various editions 1971 - 75), tables 3.01 coefficients for establishments (enterprises) with 6 - 19 employees for value added and gross output and the years 1973, 1974 and 1975 were calculated. They should be applied to the respective years Years 1976 to 1980 should be adjusted with average coefficients (average of coefficients 73-75) in order to circumvent discrepancies of 1975 coefficients, which are most probably due to inconsistencies of 1975 data in the data base (i.e. the UNSO data).

TABLE : DENMARK: COEFFICIENTS FOR ESTABLISHMENTS WITH 6-19 EMPLOYEES FOR THE YEARS 1973, 1974, AND 1975

ISIC GROUP		Gross Output 1973	1974	1975	AVERAGE
311/2	Food products	.057	.058	.048	.0543333
313	Beverages	.038	.047	.026	.037
314	Tobacco	.099	.059	.091	.083
321	Textiles	.122	.087	.181	.13
322	Wearing apparel	.139	.13	.139	.136
323	Leather and products	.108	.117	.1	.1083333
324	Footwear	.129	.121	.161	.137
331	Wood products	.198	.171	.116	.1616667
332	Furniture and Fixture	.229	.205	.244	.2256667
341	Paper and products	.049	.093	.033	.0583333
342	Printing, publishing	.14	.122	.124	.1286667
351	Industrial chemicals	.053	.068	.021	.0473333
352	Other chemical prod.	.053	.068	.021	.0473333
353	Petroleum refineries	.043	.102	.024	.0563333
354	Petroleum, coal prod.	.043	.102	.024	.0563333
355	Rubber products	.078	.09	.042	.07
356	Plastic products nec	.149	.136	.127	.1373333
361	Pottery, china, etc.	.06	.038	.062	.0533333
362	Glass and products	.06	.038	.062	.0533333
369	Non-metal products	.139	.146	.153	.146
371	Iron and steel	.052	.018	.072	.0473333
372	Non-ferrous metals	.052	.018	.072	.0473333
381	Metal products	.115	.103	.078	.1003333
382	Machinery nec	.083	.094	.05	.0756667
383	Electrical machinery	.047	.038	0	.0283333
384	Transport equipment	.03	.044	.029	.0343333
385	Professional goods	.063	.076	.062	.067
390	Other industries	.208	.188	.2	.1986667
300	Total industry		.082	.064	

TABLE : ESTIMATED COEFFICIENTS FOR ESTIMATING GNP WITH 6-19 ESTIMATES
FOR THE YEARS 1973, 1974, AND 1975

ISIC GROUP		Value Added 1973	1974	1975	AVERAGE
311/2	Food products	.05	.049	.051	.05
313	Beverages	.019	.017	0	.012
314	Tobacco	.016	.005	.003	.008
321	Textiles	.076	.078	.318	.1573333
322	Wearing apparel	.116	.122	.159	.1323333
323	Leather and products	.089	.108	.138	.1116667
324	Footwear	.098	.139	.171	.136
331	Wood products	.152	.164	.074	.13
332	Furniture and Fixture	.193	.197	.26	.2166667
341	Paper and products	.051	.042	.056	.0496667
342	Printing, publishing	.114	.108	.121	.1143333
351	Industrial chemicals	.031	.03	.035	.032
352	Other chemical prod.	.031	.03	.035	.032
353	Petroleum refineries	.038	.093	.102	.0776667
354	Petroleum, coal prod.	.038	.093	.102	.0776667
355	Rubber products	.068	.044	.062	.058
356	Plastic products nec	.124	.12	.126	.1233333
361	Pottery, china, etc.	.048	.036	.034	.0393333
362	Glass and products	.048	.036	.034	.0393333
369	Non-metal products, n	.101	.097	.118	.1053333
371	Iron and steel	.072	.038	.038	.0493333
372	Non-ferrous metals	.072	.038	.038	.0493333
381	Metal products	.101	.097	.118	.1053333
382	Machinery nec	.06	.058	.072	.0633333
383	Electrical machinery	.013	.013	.017	.0143333
384	Transport equipment	.031	.029	.03	.03
385	Professional goods	.031	.032	.04	.0343333
390	Other industries	.153	.134	.138	.1416667
300	Total industry		.065	.078	

GERMANY, FEDERAL REPUBLIC OF

-c.-o-point: employees, wages & salaries, gross output:
1963 - 1976: local units with 10 or more Persons engaged, excluding handicrafts and nonindustrial activities;
1977 - 1981: local units of enterprises with 20 or more persons engaged (including handicrafts and nonindustrial activities).
value added: 1963 - 1981: national account estimates - industrial enterprises and licensed handicrafts are included.

-adjustments: no adjustments are necessary for value added; adjustments for years before 1977 are not possible because of the definition of c.-o. point.
The "Arbeitsstättenzählung vom 27. Mai 1970, Fachserie C, Unternehmen und Arbeitsstätten, Heft 4,Statistisches Bundesamt Wiesbaden, 1973" supplies information on employment and wages & salaries for local units by size of employment. Employment data refer to 1970, wages & salaries data to 1969. On the basis of this information coefficients for local units with 1-19 persons engaged (= M_s; coefficient= M_s/M_l; M_l=local units with 20 or more persons engaged) for employment (1970) and wages & salaries (1969) have been calculated. In the absence of more recent information - a census scheduled for 1980 has been cancelled - these coefficients shall be used to adjust employment and wages&salaries 1977 through 1981, to estimate gross output.
Another source "Produzierendes Gewerbe, Fachserie 4, Reihe 4.3.1, Kostenstruktur der Unternehmen im Bergbau, Grundstoff- und Produktionsgütergewerbe, Statistisches Bundesamt Wiesbaden (annual publication)" supplies information on gross output and gross output/employee of establishments by size of employment, starting with establishments with 20-49 persons engaged. The ratios of the smallest employment class (20-49 p.e.) shall be applied to the estimated number of employees for the years 1977 to 1981.
All informations are given on the branch level; the national classification of industries has to be converted to ISIC three digit groups on the basis of "Gegenüberstellung: ISIC Rev.2/ AZ 1970/Az 1961; IB Nr. 15/72, Statistisches Bundesamt Wiesbaden, 1972".

TABLE : GERMANY FED.REP.: COEFFICIENTS FOR LOCAL UNITS WITH 1-19 PERSONS ENGAGED FOR EMPLOYMENT (1970) AND WAGES & SALARIES (1969)

ISIC GROUP		Employment 1970	Wages & Sal. 1969
311/2	Food products	.7	.477
313	Beverages	.138	.101
314	Tobacco	.043	.047
321	Textiles	.051	.044
322	Wearing apparel	.137	.111
323	Leather and products	.297	.253
324	Footwear	.028	.024
331	Wood products	.352	.297
332	Furniture and Fixtures	.555	.452
341	Paper and products	.043	.033
342	Printing, publishing	.179	.154
351	Industrial chemicals	.031	.025
352	Other chemical prod.	.031	.025
353	Petroleum refineries	.023	.017
354	Petroleum, coal prod.	.023	.017
355	Rubber products	.031	.028
356	Plastic products nec	.101	.091
361	Pottery, china, etc.	.033	.027
362	Glass and products	.053	.042
369	Non-metal products, nec	.19	.174
371	Iron and steel	.009	.008
372	Non-ferrous metals	.029	.025
381	Metal products	.142	.117
382	Machinery nec	.03	.043
383	Electrical machinery	.023	.022
384	Transport equipment	.014	.01
385	Professional goods	.157	.126
390	Other industries	.229	.201

- c.-o.point: 1963 - 1968: no information.
1969, 1974 and 1975 no c.-o.point
1970 - 1973 and 1976 - 1977: establishments with 10 or more persons engaged

- adjustments: coefficients for establishments with 1-9 persons engaged and the years(1969), 1970 1974, 1975. Adjustments should be made using 1970 coeff. for 1970; interpolated coefficients (1970 - 1974,1975) for the years 1971, 1972 and 1973; coefficients 1975 for 1976 and 1977.
No adjustments should be made for data befor 1969!

Source: Statistical Yearbook of Greece, various editions

ISIC GROUP		Employment 1969	1970	1974	1975	Average
311/2	Food products	.624	.545	.525	.574	.567
313	Beverages	.548	.412	.117	.159	.309
314	Tobacco	.023	.023	.018	.018	.02175
321	Textiles	.206	.127	.099	.107	.13475
322	Wearing apparel	1.199	.935	.238	.245	.65425
323	Leather and products	.721	.884	.575	.689	.71725
324	Footwear	1.199	.935	.238	.245	.65425
331	Wood products	.645	.901	.764	.874	.796
332	Furniture and Fixtures	2.344	.892	.758	1.181	1.29375
341	Paper and products	.187	.124	.086	.097	.1235
342	Printing, publishing	.409	.379	.336	.306	.3575
351	Industrial chemicals	.095	.09	.076	.082	.08575
352	Other chemical prod.	.095	.09	.076	.082	.08575
353	Petroleum refineries	0	0	0	0	0
354	Petroleum, coal prod.	.184	.124	.055	.064	.10675
355	Rubber products	.162	.233	.197	.156	.187
356	Plastic products nec	.162	.233	.197	.156	.187
361	Pottery, china, etc.	.459	.449	.36	.339	.40175
362	Glass and products	.459	.449	.36	.339	.40175
369	Non-metal products, nec	.459	.449	.36	.339	.40175
371	Iron and steel	.005	.005	.003	.002	.00375
372	Non-ferrous metals	0	0	0	0	0
381	Metal products	.624	.477	.487	.512	.525
382	Machinery nec	.466	.486	.395	.444	.44775
383	Electrical machinery	.378	.193	.218	.2	.24725
384	Transport equipment	.271	.4	.234	.217	.2805
385	Professional goods	0	0	0	0	0
390	Other industries	1.247	.93	.624	.811	.903
300	Total industry	.454	.355	.285	.304	.357

TABLE : CHANGE: COEFFICIENTS FOR ESTABLISHMENTS WITH 1-9 PERSONS ENGAGED FOR THE YEARS 1969, 1970, 1974 AND 1975

ISIC GROUP		WAGES & SALARIES 1969	1970	1974	1975	Average
311/2	Food products	.501	.483	.426	.48	.4725
313	Beverages	.314	.258	.07	.093	.18375
314	Tobacco	.025	.023	.019	.018	.02125
321	Textiles	.158	.094	.079	.076	.10175
322	Wearing apparel	.764	.651	.186	.186	.44675
323	Leather and products	.44	.567	.365	.441	.45325
324	Footwear	.764	.651	.186	.186	.44675
331	Wood products	.567	.621	.531	.551	.5675
332	Furniture and Fixtures	1.927	.629	.556	.856	.99275
341	Paper and products	.131	.063	.059	.068	.08025
342	Printing, publishing	.242	.23	.198	.174	.211
351	Industrial chemicals	.056	.058	.055	.055	.056
352	Other chemical prod.	.056	.058	.055	.055	.056
353	Petroleum refineries	0	0	0	0	0
354	Petroleum, coal prod.	.108	.096	.028	.036	.067
355	Rubber products	.098	.148	.133	.119	.1245
356	Plastic products nec	.098	.148	.133	.117	.1245
361	Pottery, china, etc.	.256	.283	.198	.206	.23575
362	Glass and products	.256	.283	.198	.206	.23575
369	Non-metal products, nec	.256	.283	.198	.206	.23575
371	Iron and steel	.004	.005	.002	.002	.00325
372	Non-ferrous metals	0	0	0	0	0
381	Metal products	.375	.272	.256	.311	.3035
382	Machinery nec	.329	.226	.244	.24	.27475
383	Electrical machinery	.205	.12	.121	.127	.14325
384	Transport equipment	.13	.167	.089	.082	.117
385	Professional goods	0	0	0	0	0
390	Other industries	.723	.624	.47	.563	.59625
300	Total industry	.284	.239	.174	.189	.2215

[illegible] Projected Industrial Production and Capital Formation
For the Years 1969, 1970, 1974 and 1975

ISIC GROUP		GROSS OUTPUT 1969	1970	1974	1975	Average
311/2	Food products	.498	.451	.403	.438	.4475
313	Beverages	.446	.377	.118	.117	.2645
314	Tobacco	.019	.014	.016	.019	.017
321	Textiles	.188	.135	.1	.111	.1335
322	Wearing apparel	1.416	1.396	.51	.579	.97525
323	Leather and products	.649	.977	.778	.821	.80625
324	Footwear	1.416	1.396	.51	.579	.97525
331	Wood products	.808	.704	.806	.781	.77475
332	Furniture and Fixtures	2.886	4.454	1.555	1.404	2.57475
341	Paper and products	.093	.077	.076	.078	.081
342	Printing, publishing	.497	.334	.29	.262	.34575
351	Industrial chemicals	.062	.068	.074	.064	.067
352	Other chemical prod.	.062	.068	.074	.064	.067
353	Petroleum refineries	0	0	0	0	0
354	Petroleum, coal prod.	.03	.015	.008	.006	.01475
355	Rubber products	.112	.123	.181	.19	.1515
356	Plastic products nec	.112	.123	.181	.19	.1515
361	Pottery, china, etc.	.181	.227	.262	.26	.2325
362	Glass and products	.181	.227	.262	.26	.2325
369	Non-metal products, nec	.181	.227	.262	.26	.2325
371	Iron and steel	0	0	0	0	0
372	Non-ferrous metals	0	0	0	0	0
381	Metal products	.498	.413	.436	.442	.44725
382	Machinery nec	.508	.441	.363	.398	.4275
383	Electrical machinery	.178	.106	.114	.131	.13325
384	Transport equipment	.31	.277	.179	.169	.23375
385	Professional goods	0	0	0	0	0
390	Other industries	1.901	1.116	.632	.786	1.10875
300	Total industry	.334	.293	.221	.233	.27025

[illegible] for the Years 1967, 1970, 1974 to 1975

ISIC GROUP		VALUE ADDED 1967	1970	1974	1975	Average
311/2	Food products	.547	.459	.409	.482	.47425
313	Beverages	.329	.253	.085	.099	.1915
314	Tobacco	.014	.007	.013	.012	.0115
321	Textiles	.164	.112	.085	.084	.11125
322	Wearing apparel	1.758	1.456	.593	.566	1.09325
323	Leather and products	.633	.939	.775	.956	.82575
324	Footwear	1.758	1.456	.593	.566	1.09325
331	Wood products	.931	.825	.911	.936	.90075
332	Furniture and Fixtures	2.372	1.601	1.433	1.483	1.72225
341	Paper and products	.074	.062	.043	.063	.0605
342	Printing, publishing	.406	.295	.283	.286	.3175
351	Industrial chemicals	.039	.036	.056	.048	.04475
352	Other chemical prod.	.039	.036	.056	.048	.04475
353	Petroleum refineries	0	0	0	0	0
354	Petroleum, coal prod.	.019	.022	.018	.021	.02
355	Rubber products	.072	.112	.136	.163	.12075
356	Plastic products nec	.072	.112	.136	.163	.12075
361	Pottery, china, etc.	.163	.209	.224	.274	.2175
362	Glass and products	.163	.209	.224	.274	.2175
369	Non-metal products, nec	.163	.209	.224	.274	.2175
371	Iron and steel	0	0	0	0	0
372	Non-ferrous metals	0	0	0	0	0
381	Metal products	.534	.495	.357	.514	.475
382	Machinery nec	.412	.452	.397	.45	.42775
383	Electrical machinery	.113	.128	.14	.16	.13525
384	Transport equipment	.234	.337	.215	.18	.2415
385	Professional goods	0	0	0	0	0
390	Other industries	1.472	1.213	.758	.68	1.03075
300	Total industry	.318	.318	.228	.258	.2805

[illegible] 1 - 9
[illegible] EXPECTED, 1970 AND 1975

ISIC GROUP		Employment 1970	Employment 1975	Wages & Salar 1970	Wages & Salar 1975
311/2	Food products	20.2	24.6	24.9	28.6
313	Beverages	2.9	1.4	3.3	1.5
314	Tobacco	.3	.1	.3	.2
321	Textiles	5.8	6.2	6.1	6.4
322	Wearing apparel	15.3	7.6	12.1	6.4
323	Leather and products	3.3	2.5	2.9	2.1
324	Footwear	(1)			
331	Wood products	6.4	7.4	5.6	6.4
332	Furniture and Fixtures	5	7.8	4.4	6.7
341	Paper and products	.8	.7	.7	.8
342	Printing, publishing	3.1	2.7	3.8	3.2
351	Industrial chemicals	1.3	1.5	1.9	2.1
352	Other chemical prod.	(1)			
353	Petroleum refineries	0	0	0	0
354	Petroleum, coal prod.	.3	.2	.6	.3
355	Rubber products	2	1.9	2.1	2.3
356	Plastic products nec	(1)			
361	Pottery, china, etc.	8.6	7.3	9.5	7.9
362	Glass and products	(1)			
369	Non-metal products, nec	(1)			
371	Iron and steel	0	0	.1	.1
372	Non-ferrous metals	0	0	0	0
381	Metal products	8	11	7	10.4
382	Machinery nec	4.3	4.6	3.8	3.9
383	Electrical machinery	2.8	3.5	2.9	3.7
384	Transport equipment	7	6.1	5.6	4.6
385	Professional goods	0	0	0	0
390	Other industries	2.5	2.8	2.3	2.4
300	Total industry	99.9	99.9	99.9	100

(1) These groups are included in other ISIC groups.

TABLE : [illegible] DISTRIBUTION [illegible] OF THE
[illegible] OF ESTABLISHMENTS WITH SIZE 1 - 9
PERSONS EMPLOYED, 1970 AND 1975

ISIC GROUP			Gross Output 1970	Gross Output 1975	Value added 1970	Value added 1975
311/2	Food products		27.6	31.1	19.1	23
313	Beverages		4.9	1.7	3.3	1.3
314	Tobacco		.2	.3	0	.1
321	Textiles		6.6	6.7	5.6	5.4
322	Wearing apparel		16.1	11.1	17.2	11.5
323	Leather and products		3.7	2.9	3.1	2.7
324	Footwear	(1)				
331	Wood products		6.1	6.1	6.2	6.8
332	Furniture and Fixtures		5.7	5.5	8.2	7.2
341	Paper and products		.8	.7	.5	.5
342	Printing, publishing		2.5	2	3.4	2.8
351	Industrial chemicals		1.7	2.2	1.1	1.8
352	Other chemical prod.	(1)				
353	Petroleum refineries		0	0	0	0
354	Petroleum, coal prod.		.2	.3	.2	.3
355	Rubber products		1.2	2.4	1.4	2.5
356	Plastic products nec	(1)				
361	Pottery, china, etc.		4.6	5.7	6.2	7.7
362	Glass and products	(1)				
369	Non-metal products, nec	(1)				
371	Iron and steel		0	0	0	0
372	Non-ferrous metals		0	0	0	0
381	Metal products		7.6	10.2	8.9	11.3
382	Machinery nec		2.8	3.6	3.6	4.4
383	Electrical machinery		2.3	2.4	2.6	3
384	Transport equipment		3.5	3.1	6.3	5.3
385	Professional goods		0	0	0	0
390	Other industries		1.9	1.8	2.8	2.6
300	Total industry		100	99.8	99.7	100.2

(1) These groups are included in other ISIC groups.

INDONESIA

-c.-o. p.: 1964: establishments with 50 or more persons engaged (only employment)

1965 - 1968: missing

1969: estimates on basis of input/output tables

1970 - 1973: data have been adjusted to a c.o.p. of establishments with 20 or more persons engaged (sources: census 1974 and World Bank, Report No. 2490-IND, 1979; see country file!)

1974: census.

1975 - 1980: establishments with 20 or more persons engaged.

-adjustments: on the basis of an extract of the Survey of Small-Scale Manufacturing Establishments for 1979, coefficients for 1979 have been calculated. Since the information is restricted to ISIC 2-digit level and does not define "small-scale" the distribution across ISIC 3-digit groups was estimated and assumed that the definition of small-scale industries was the same as the one used in 1975, i.e. establishments with 5-19 persons engaged.
Additional problems result from missing data on ISIC 353, 354 and the treatment of ISIC 372.

The coefficients for 1979 should be applied to years 1975 to 1980 only!

TABLE : INDONESIA: COEFFICIENTS FOR ESTIMATIONS WITH S-19 PERSONS ENGAGED, 1977 (CLASSIFICATION AVAILABLE ON TWO-DIGIT LEVEL ONLY; ESTIMATE OF DISTRIBUTION AND COEFFICIENTS ON THREE-DIGIT LEVEL)

ISIC GROUP		Employment 1979	Wages & Sal. 1979	Gross Output 1979	Value Added 1979
311/2	Food products	1.305	.338	.31	.242
313	Beverages	.439	.418	.613	.394
314	Tobacco	.353	.201	.084	.09
321	Textiles	.017	.007	.006	.008
322	Wearing apparel	7.08	4.146	5.012	3.935
323	Leather and products	2.655	.915	.273	.984
324	Footwear	.585	.134	.166	.112
331	Wood products	.37	.186	.078	.111
332	Furniture and Fixtures	13.042	8.569	9.848	10.156
341	Paper and products	.203	.071	.032	.04
342	Printing, publishing	.461	.175	.172	.158
351	Industrial chemicals	.118	.024	.023	.025
352	Other chemical prod.	.118	.024	.023	.025
353	Petroleum refineries	0	0	0	0
354	Petroleum, coal prod.	0	0	0	0
355	Rubber products	.177	.058	.022	.049
356	Plastic products nec	.184	.097	.084	.125
361	Pottery, china, etc.	2.372	.621	.179	.162
362	Glass and products	2.372	.621	.179	.162
369	Non-metal products, nec	2.372	.621	.179	.162
371	Iron and steel	0	0	0	0
372	Non-ferrous metals	0	0	0	0
381	Metal products	.213	.076	.038	.066
382	Machinery nec	1.473	.389	.291	.216
383	Electrical machinery	.266	.071	.029	.048
384	Transport equipment	.139	.033	.016	.02
385	Professional goods	4.696	2.819	1.838	1.265
390	Other industries	1.101	.524	.226	.415
300	Total industry	.685	.23	.133	.145

TABLE : INDICATORS OF DISTRIBUTION OF EMPLOYMENT WITH 5-19 PERSONS ENGAGED, 1979 (INFORMATION AVAILABLE ON 120-DIGIT LEVEL ONLY; ESTIMATE OF DISTRIBUTION AND COEFFICIENTS ON THREE-DIGIT LEVEL)

ISIC GROUP		Employment 1979	Wages & Sal. 1979	Gross Output 1979	Value Added 1979
311/2	Food products	31.9	24.1	40.1	30.2
313	Beverages	4.6	3.4	5.7	4.3
314	Tobacco	9.1	6.9	11.5	8.6
321	Textiles	.6	.5	.6	.7
322	Wearing apparel	9.4	8.3	9.8	11.8
323	Leather and products	1.2	1	1.2	1.5
324	Footwear	.6	.5	.6	.7
331	Wood products	2.8	4.6	2.4	3.4
332	Furniture and Fixtures	11.1	18.4	9.5	13.6
341	Paper and products	.4	.5	.4	.5
342	Printing, publishing	1.4	2	1.5	1.9
351	Industrial chemicals	1	1.3	1.5	1.9
352	Other chemical prod.	(1)			
353	Petroleum refineries	0	0	0	0
354	Petroleum, coal prod.	0	0	0	0
355	Rubber products	1	1.3	1.5	1.9
356	Plastic products nec	.5	.6	.8	.9
361	Pottery, china, etc.	16.9	17.2	6.3	9.8
362	Glass and products	(1)			
369	Non-metal products, nec	(1)			
371	Iron and steel	0	0	0	0
372	Non-ferrous metals	0	0	0	0
381	Metal products	1.3	1.6	1.2	1.5
382	Machinery nec	2.6	3.3	2.3	3
383	Electrical machinery	1.3	1.6	1.2	1.5
384	Transport equipment	.6	.8	.6	.7
385	Professional goods	.6	.8	.6	.7
390	Other industries	1.1	1.2	.7	.9
300	Total industry	100	99.9	100	100

(1) INCLUDED IN OTHER ISIC GROUP.

IRAQ

-c.-o.point: establishments with 10 or more employees

-adjustments: for "small industrial establishments" (since the source does not give an explicit definition of the term it was assumed that it covers at least all establishments with 5 - 9, most likely all establishments with 1 - 9 employees) and ISIC 300 for the years 1973, 1974, 1975(estimate), 1976 on the basis of the "Annual Abstract of Statistics, 1978". For 1977 data on groups of three di ISICs were available. This distribution was used to estimate a distribution across three digit ISICs.
Coefficients for 1973 should be applied to all years up to 1973, coefficients for 1974 - 1977 to the corresponding year - coefficients for ISIC 300 only. The contribution of the small scale industries shall be distributed using the 1977 weights across industries:

ISIC 3000:

$$M_l \cdot C = M_s$$

3-digit ISIC:

$$M_s \cdot W_{i77} = M_{si}$$

$$M_{si} + M_{li} = M_i$$

M = Manufacturing (total)
M_s = Manufacturing of small establishments
M_l = Manufacturing of large est.

C= Coefficient

i = industry (three digit ISIC)

W = distributional weight

TABLE: BASIC COEFFICIENTS FOR SMALL ESTABLISHMENTS, 1977
(ISIC 300, MANUFACTURING)

VARIABLE	ISIC 300 total industry				
	1973	1974	1975(1)	1976	1977
Employment	.224	.2	.24	.271	.304
Wages & Salaries	.139	.107	.18	.254	.291
Gross Output	.294	.266	.32	.371	.422
Value Added	.288	.358	.43	.493	.465

[illegible]
Distribution of Basic Establishments, 1977 (%)
Two-Digit Level and Estimate for Three-Digit Sa

ISIC Group		Employment 1977	Employment 1977(1)	Wages & Salar 1977	Wages & Salar 1977(1)
311/2	Food products	25.3	20	30.3	23
313	Beverages		3.3		5.3
314	Tobacco		2		2
321	Textiles	20.3	5	19.6	4.8
322	Wearing apparel		11.6		11.4
323	Leather and products		2.1		1.8
324	Footwear		1.6		1.6
331	Wood products	9.7	1.6	10.6	1.6
332	Furniture and Fixtures		8.1		9
341	Paper and products	1	.1	.9	.1
342	Printing, publishing		.9		.8
351	Industrial chemicals	1.8	.8	1.6	.2
352	Other chemical prod.		.2		.7
353	Petroleum refineries				
354	Petroleum, coal prod.		.2		.2
355	Rubber products				
356	Plastic products nec		.6		.5
361	Pottery, china, etc.	9	4.6	10	5
362	Glass and products		1.8		2
369	Non-metal products, nec		2.6		3
371	Iron and steel	0		0	
372	Non-ferrous metals				
381	Metal products	30.7	12.1	24.8	10.2
382	Machinery nec		7.5		6
383	Electrical machinery		4		3
384	Transport equipment		6.3		4.8
385	Professional goods		.8		.8
390	Other industries	2.2	2.2	2.3	2.3
300	Total industry	100	100	100.1	100.1

(1) Estimate.

TABLE 3 [illegible] DISTRIBUTION OF GROSS OUTPUTS BY THE
CONTRIBUTION OF SMALL ESTABLISHMENTS, 1977 (GW
TWO-DIGIT LEVEL AND ESTIMATE FOR THREE-DIGIT GR

ISIC GROUP		Gross Output 1977	Gross Output 1977(1)	Value added 1977	Value added 1977(1)
311/2	Food products	19.6	16	18	15.5
313	Beverages		2.5		2.2
314	Tobacco		.9		.5
321	Textiles	20.7	5	23.3	6
322	Wearing apparel		11.7		12
323	Leather and products		2.4		3.3
324	Footwear		1.6		2
331	Wood products	12.1	2.4	12.7	2.7
332	Furniture and Fixtures		9.7		10
341	Paper and products	1.2	.2	.9	.1
342	Printing, publishing		1		.8
351	Industrial chemicals	2.3	.3	1.4	.2
352	Other chemical prod.		.9		.6
353	Petroleum refineries				
354	Petroleum, coal prod.		.3		.2
355	Rubber products				
356	Plastic products nec		.8		.4
361	Pottery, china, etc.	6.3	3.1	6.2	3
362	Glass and products		1		1
369	Non-metal products, nec		2.2		2.2
371	Iron and steel	0	0	0	0
372	Non-ferrous metals				
381	Metal products	24.8	10.2	30.6	12
382	Machinery nec		6		7.5
383	Electrical machinery		3		4
384	Transport equipment		4.8		6.3
385	Professional goods		.8		.8
390	Other industries	12.9	12.9	6.9	6.9
300	Total industry	99.9	99.7	100	100.2

(1) Estimate.

KENYA

-c.-o.point: private and public firms with 50 or more employees

-adjustments: for firms with 5-49 employees and the years 1972, 1973, 1974, 1975 and 1976.
Coefficients for 1972 should be also applied to years before 1972, coefficients for 1976 also to years after 1976.
Adjustments were made on the basis of the " Report on Surveys of Industrial Production 1973 - 1976" and "Census of Industrial Production, 1972".

[illegible] for the years 1972, 1973, 1974, 1975 and 1976

ISIC GROUP		Persons engaged 1972	1973	1974	1975	1976	Average
311/2	Food products	.146	.131	.145	.094	.112	.1256
313	Beverages	.065	.053	.046	.042	.041	.0494
314	Tobacco	.065	.053	.046	.042	.041	.0494
321	Textiles	.027	.038	.034	.033	.033	.034
322	Wearing apparel	.733	.788	.921	.573	.663	.7356
323	Leather and products	.197	.268	.236	.125	.165	.1982
324	Footwear	.197	.268	.236	.125	.165	.1982
331	Wood products	.222	.217	.173	.218	.196	.2096
332	Furniture and Fixtures	1.012	1.164	1.351	1.123	1.705	1.271
341	Paper and products	.167	.198	.259	.108	.176	.1816
342	Printing, publishing	.764	.942	1.04	.766	.872	.8768
351	Industrial chemicals	.103	.117	.1	.102	.106	.1056
352	Other chemical prod.	.103	.117	.1	.102	.106	.1056
353	Petroleum refineries	.281	.283	.356	.381	.397	.3396
354	Petroleum, coal prod.	.281	.283	.356	.381	.397	.3396
355	Rubber products	.243	.225	.24	.232	.34	.256
356	Plastic products nec	.161	.195	.221	.223	.193	.1986
361	Pottery, china, etc.	0	0	0	0	0	0
362	Glass and products	.041	0	0	0	0	.0082
369	Non-metal products, nec	.205	.217	.223	.18	.264	.2178
371	Iron and steel	0	0	0	0	0	0
372	Non-ferrous metals	0	0	0	0	0	0
381	Metal products	.216	.158	.31	.262	.312	.2516
382	Machinery nec	1.513	1.603	3.379	1.565	2.565	2.125
383	Electrical machinery	.054	.357	.348	.14	.26	.2318
384	Transport equipment	.024	.167	.33	.366	.302	.2378
385	Professional goods	0	0	0	0	0	0
390	Other industries	1.119	.766	.904	.979	1.057	.965
300	Total industry	.179	.231	.265	.212	.234	.2242

TABLE : KENYA: COEFFICIENTS FOR ESTABLISHMENTS WITH 5-49 PERSONS ENGAGED FOR THE YEARS 1972, 1973, 1974, 1975 AND 1976

ISIC GROUP		Wages & Salaries 1972	1973	1974	1975	1976	Average
311/2	Food products	.142	.134	.127	.079	.094	.1132
313	Beverages	.04	.012	.01	.03	.023	.023
314	Tobacco	.04	.012	.01	3	.023	.617
321	Textiles	.035	.063	.032	.061	.066	.0514
322	Wearing apparel	.759	1.039	1.123	.632	.648	.8502
323	Leather and products	.175	.314	.22	.1	.116	.185
324	Footwear	.175	.314	.22	.1	.116	.185
331	Wood products	.309	.348	.283	.213	.283	.2872
332	Furniture and Fixtures	.916	1.283	1.159	.771	1.159	1.0576
341	Paper and products	.123	.165	.131	.187	.121	.1454
342	Printing, publishing	.584	.65	.758	.557	.632	.6362
351	Industrial chemicals	.081	.097	.037	.044	.04	.0598
352	Other chemical prod.	.081	.097	.037	.044	.04	.0598
353	Petroleum refineries	.172	.18	.195	.231	.278	.2112
354	Petroleum, coal prod.	.172	.18	.195	.231	.278	.2112
355	Rubber products	.173	.17	.158	.184	.279	.1928
356	Plastic products nec	.203	.417	.428	.335	.209	.3184
361	Pottery, china, etc.	0	0	0	0	0	0
362	Glass and products	0	0	0	0	0	0
369	Non-metal products, nec	.116	.207	.369	.123	.133	.1896
371	Iron and steel	0	0	0	0	0	0
372	Non-ferrous metals	0	0	0	0	0	0
381	Metal products	.149	.169	.199	.147	.206	.174
382	Machinery nec	2.172	2.791	3.456	1.532	4.207	2.8316
383	Electrical machinery	.068	.177	.326	.098	.242	.1822
384	Transport equipment	.041	.095	.24	.259	.28	.183
385	Professional goods	0	0	0	0	0	0
390	Other industries	1.22	1.091	1.016	1.168	1.298	1.1586
300	Total industry	.184	.233	.238	.174	.202	.2062

TABLE : KENYA: COEFFICIENTS FOR ESTABLISHMENTS WITH 5-49 PERSONS ENGAGED FOR THE YEARS 1972, 1973, 1974, 1975 AND 1976

ISIC GROUP		Gross Output 1972	1973	1974	1975	1976	Average
311/2	Food products	.139	.089	.093	.07	.052	.0886
313	Beverages	.016	.027	.022	.015	.016	.0192
314	Tobacco	.016	.027	.022	.015	.016	.0192
321	Textiles	.054	.121	.091	.123	.136	.103
322	Wearing apparel	.829	.887	.831	.571	.457	.715
323	Leather and products	.091	.237	.155	.088	.145	.1432
324	Footwear	.091	.237	.155	.088	.145	.1432
331	Wood products	.415	.548	.343	.21	.349	.377
332	Furniture and Fixtures	.949	1.328	1.159	.786	1.376	1.1196
341	Paper and products	.14	.135	.423	.343	.256	.2594
342	Printing, publishing	.715	.676	.933	.756	.774	.7708
351	Industrial chemicals	.054	.099	.045	.032	.057	.0574
352	Other chemical prod.	.054	.099	.045	.032	.057	.0574
353	Petroleum refineries	.093	.135	.088	.059	.086	.0922
354	Petroleum, coal prod.	.093	.135	.088	.059	.086	.0922
355	Rubber products	.124	.143	.098	.164	.182	.1422
356	Plastic products nec	.14	.253	.27	.215	.168	.2092
361	Pottery, china, etc.	0	0	0	0	0	0
362	Glass and products	0	0	0	0	0	0
369	Non-metal products, nec	.127	.208	.243	.23	.192	.2
371	Iron and steel	0	0	0	0	0	0
372	Non-ferrous metals	0	0	0	0	0	0
381	Metal products	.124	.099	.13	.128	.213	.1388
382	Machinery nec	2.113	2.255	3.915	1.512	3.928	2.7446
383	Electrical machinery	.123	.157	.136	.045	.185	.1292
384	Transport equipment	.052	.095	.209	.25	.22	.1652
385	Professional goods	0	0	0	0	0	0
390	Other industries	1.724	1.759	1.669	2.578	4.225	2.391
300	Total industry	.16	.163	.163	.136	.138	.152

[illegible] FOR THE YEARS 1972, 1973, 1974, 1975 AND 1976

ISIC GROUP		Value Added 1972	1973	1974	1975	1976	Average
311/2	Food products	.139	.081	.093	.042	.034	.0778
313	Beverages	.007	.006	.006	.002	.002	.0046
314	Tobacco	.007	.006	.006	.002	.002	.0046
321	Textiles	.029	.044	.034	.054	.103	.0526
322	Wearing apparel	.773	1.104	1.078	.588	.471	.8028
323	Leather and products	.116	.197	.299	.063	.107	.1564
324	Footwear	.116	.197	.299	.063	.107	.1564
331	Wood products	.311	.365	.275	.146	.221	.2636
332	Furniture and Fixtures	.979	1.288	1.171	1.008	1.423	1.1738
341	Paper and products	.117	.101	.21	.184	.102	.1428
342	Printing, publishing	.648	.597	.624	.895	.693	.6914
351	Industrial chemicals	.027	.075	.029	.012	.013	.0312
352	Other chemical prod.	.027	.075	.029	.012	.013	.0312
353	Petroleum refineries	.095	.135	.169	.103	.162	.1368
354	Petroleum, coal prod.	.095	.135	.169	.103	.162	.1368
355	Rubber products	.075	.058	.037	.125	.108	.0806
356	Plastic products nec	.16	.229	.306	.183	.121	.1998
361	Pottery, china, etc.	0	0	0	0	0	0
362	Glass and products	0	0	0	0	0	0
369	Non-metal products, nec	.107	.134	.253	.122	.109	.145
371	Iron and steel	0	0	0	0	0	0
372	Non-ferrous metals	0	0	0	0	0	0
381	Metal products	.139	.102	.148	.132	.167	.1374
382	Machinery nec	1.967	2.282	4.813	1.821	4.14	3.0046
383	Electrical machinery	.079	.157	.208	.05	.151	.129
384	Transport equipment	.042	.084	.134	.252	.189	.1502
385	Professional goods	0	0	0	0	0	0
390	Other industries	1.447	1.38	1.626	1.235	1.627	1.463
300	Total industry	.147	.144	.178	.123	.118	.142

ISIC GROUP		Employment 1976	Wages & Sal. 1976	Gross Output 1976	Value Added 1976
311/2	Food products	10.6	9.3	16	10.6
313	Beverages	.2	.2	.2	.2
314	Tobacco (1)				
321	Textiles	1	1.1	3	3.2
322	Wearing apparel	12.4	12.7	8.4	11.1
323	Leather and products	1.4	1.3	1.7	1.2
324	Footwear (1)				
331	Wood products	4.5	3.3	4	2.7
332	Furniture and Fixtures	13	11.3	8	11.1
341	Paper and products	1.7	2	2	1.3
342	Printing, publishing	9.1	13.6	7	14.5
351	Industrial chemicals	.8	.4	.2	.3
352	Other chemical prod. (1)				
353	Petroleum refineries	6.4	7.8	9.7	8
354	Petroleum, coal prod. (1)				
355	Rubber products	2.5	2.5	.8	1.9
356	Plastic products nec	1.2	2.4	1.3	1.9
361	Pottery, china, etc.	0	0	0	0
362	Glass and products	0	0	0	0
369	Non-metal products, nec	7	3.1	3.6	3.1
371	Iron and steel	0	0	0	0
372	Non-ferrous metals	0	0	0	0
381	Metal products	12	9.3	7.3	10.7
382	Machinery nec	6.6	8.6	5.1	8.5
383	Electrical machinery	.8	1.6	.9	1.1
384	Transport equipment	3.8	4.2	4.3	3.4
385	Professional goods	0	0	0	0
390	Other industries	4.9	5.3	16.5	5.2
300	Total industry	99.9	100	100	100

(1) INCLUDED IN OTHER ISIC GROUP.

TABLE : KENYA: DISTRIBUTION OF CONTRIBUTION OF ESTABLISHMENTS WITH 5-49 PERSONS ENGAGED, 1976

ISIC GROUP			Employment 1976	Wages & Sal. 1976	Gross Output 1976	Value Added 1976
311/2	Food products		14.4	11.4	16.7	10.6
313	Beverages		1.1	1.4	.8	.3
314	Tobacco	(1)				
321	Textiles		2.4	2.8	3.8	4.5
322	Wearing apparel		10.6	7.8	5.1	6.3
323	Leather and products		1.8	1.1	1.3	1.3
324	Footwear	(1)				
331	Wood products		6.5	4.5	3.2	3.4
332	Furniture and Fixtures		10.8	7	6.3	7.8
341	Paper and products		2.7	3.3	5.8	4.1
342	Printing, publishing		10.6	13.5	9	13.9
351	Industrial chemicals		1.1	.8	1.1	.4
352	Other chemical prod.	(1)				
353	Petroleum refineries		6.5	10.1	11.4	12.6
354	Petroleum, coal prod.	(1)				
355	Rubber products		2	2.6	1.6	1.7
356	Plastic products nec		1	1.3	1	1.1
361	Pottery, china, etc.		0	0	0	0
362	Glass and products		0	0	0	0
369	Non-metal products, nec		4.5	3.3	4.1	4.9
371	Iron and steel		0	0	0	0
372	Non-ferrous metals		0	0	0	0
381	Metal products		10.2	8.4	9.1	8.9
382	Machinery nec		4.9	10.9	7.3	9.6
383	Electrical machinery		1.5	2.7	1.8	2.3
384	Transport equipment		3	3	2.2	2
385	Professional goods		0	0	0	0
390	Other industries		4.2	4	8.2	4.3
300	Total industry		99.8	99.9	99.8	100

(1) INCLUDED IN OTHER ISIC GROUP.

PHILIPPINES

-c.-o.point: 1963 - 1966 : establishments with 5 or more persons engaged
1967: all establishments (persons engaged instead of employees, GO and VA missing)
1968 - 1971 : see 1963 - 1966
1972: establishments with 10 or more persons engaged
1973, 1974 : see 1963 - 1966
1975: see 1972
1976, 1977: establishments with 1 or more person engaged
1978: missing
1979: see 1976, 1977

Note : the data for GO and VA for 1976 and 1977 are not plausible.

-adjustments: on the basis of the "1976 Annual Survey of Establishments" totals (ISIC 300) for all establishments were calculated (estimates for GO had to be made using GO/employee and VA/GO ratios) for the years 1972 and 1975.

Total (ISIC 300) GO and VA for all establishments were calculated (Census 1967) (estimate for GO) for 1967.

New values for GO and VA were estimated for 1976 and 1977.

The totals shall be distributed across industries according to the distribution of the existing data:
employment and wages & salaries:
1967 like 1967
1972 like 1973
1975 like 1974

gross output and value added:
1967 like 1968
1972 like 1973
1975 like 1974
1976 like 1974
1977 like 1974

SINGAPORE

- c.-o. p.: establishments in the private sector with 10 or more persons engaged

- adjustments: for est. with 5-9 persons engaged and the years 1973 and 1978 on the basis of the "reports on the census of industrial production, 1973 and 1978"; estimates for the intervening years - between 1973 and 1978: interpolated coefficients, after 1978: coefficients 1978 (upon availability of the 1983 report adjustments from 1979 onwards should be recalculated.)

[illegible] FOR THE YEARS 1973 AND 1978

ISIC GROUP		Employment 1973	1978	Average
311/2	Food products	.086	.088	.087
313	Beverages	.008	.008	.008
314	Tobacco	0	0	0
321	Textiles	.017	.008	.0125
322	Wearing apparel	.064	.041	.0525
323	Leather and products	.262	.063	.1625
324	Footwear	.076	.13	.103
331	Wood products	.022	.023	.0225
332	Furniture and Fixtures	.12	.102	.111
341	Paper and products	.036	.036	.036
342	Printing, publishing	.068	.067	.0675
351	Industrial chemicals	0	0	0
352	Other chemical prod.	.053	.027	.04
353	Petroleum refineries	0	0	0
354	Petroleum, coal prod.	0	0	0
355	Rubber products	.011	.003	.007
356	Plastic products nec	.027	.022	.0245
361	Pottery, china, etc.	.027	.083	.055
362	Glass and products	.027	.083	.055
369	Non-metal products, nec	.027	.015	.021
371	Iron and steel	0	0	0
372	Non-ferrous metals	.019	.047	.033
381	Metal products	.069	.047	.058
382	Machinery nec	.096	.04	.068
383	Electrical machinery	.003	.002	.0025
384	Transport equipment	.009	.01	.0095
385	Professional goods	.006	.005	.0055
390	Other industries	.047	.053	.05
		.032	.027	.0295

TABLE : SERVICE COEFFICIENTS FOR ESTABLISHMENTS WITH 5-7 PERSONS ENGAGED FOR THE YEARS 1973 AND 1978

ISIC GROUP		WAGES & SALARIES 1973	1978	Average
311/2	Food products	.046	.044	.045
313	Beverages	.002	.002	.002
314	Tobacco	0	0	0
321	Textiles	.007	.005	.006
322	Wearing apparel	.048	.028	.038
323	Leather and products	.148	.051	.0995
324	Footwear	.056	.089	.0725
331	Wood products	.016	.012	.014
332	Furniture and Fixtures	.082	.066	.074
341	Paper and products	.023	.041	.032
342	Printing, publishing	.037	.036	.0365
351	Industrial chemicals	0	0	0
352	Other chemical prod.	.024	.013	.0185
353	Petroleum refineries	0	0	0
354	Petroleum, coal prod.	0	0	0
355	Rubber products	.007	.004	.0055
356	Plastic products nec	.02	.016	.018
361	Pottery, china, etc.	.01	.034	.022
362	Glass and products	.01	.034	.022
369	Non-metal products, nec	.01	.007	.0085
371	Iron and steel	0	0	0
372	Non-ferrous metals	.009	.018	.0135
381	Metal products	.037	.024	.0305
382	Machinery nec	.051	.023	.037
383	Electrical machinery	.001	.001	.001
384	Transport equipment	.005	.004	.0045
385	Professional goods	.004	.003	.0035
390	Other industries	.034	.033	.0335
		.017	.014	.0155

TABLE : STRUCTURE OF PRODUCTION FOR LARGE ENTERPRISES WITH 5-9 PERSONS ENGAGED
FOR THE YEARS 1973 AND 1978

ISIC CODE		GROSS OUTPUT 1973	1978	Average
311/2	Food products	.032	.025	.0285
313	Beverages	.007	.004	.0055
314	Tobacco	0	0	0
321	Textiles	.011	.01	.0105
322	Wearing apparel	.074	.047	.0605
323	Leather and products	.118	.063	.0905
324	Footwear	.122	.194	.158
331	Wood products	.013	.016	.0145
332	Furniture and Fixtures	.137	.137	.137
341	Paper and products	.038	.035	.0365
342	Printing, publishing	.057	.051	.054
351	Industrial chemicals	0	0	0
352	Other chemical prod.	.021	.001	.011
353	Petroleum refineries	0	0	0
354	Petroleum, coal prod.	0	0	0
355	Rubber products	.003	.001	.002
356	Plastic products nec	.022	.026	.024
361	Pottery, china, etc.	.015	.066	.0405
362	Glass and products	.015	.066	.0405
369	Non-metal products, nec	.015	.005	.01
371	Iron and steel	0	0	0
372	Non-ferrous metals	.005	.016	.0105
381	Metal products	.049	.036	.0425
382	Machinery nec	.066	.03	.048
383	Electrical machinery	.002	.001	.0015
384	Transport equipment	.008	.01	.009
385	Professional goods	.007	.003	.005
390	Other industries	.047	.04	.0435
		.016	.011	.0135

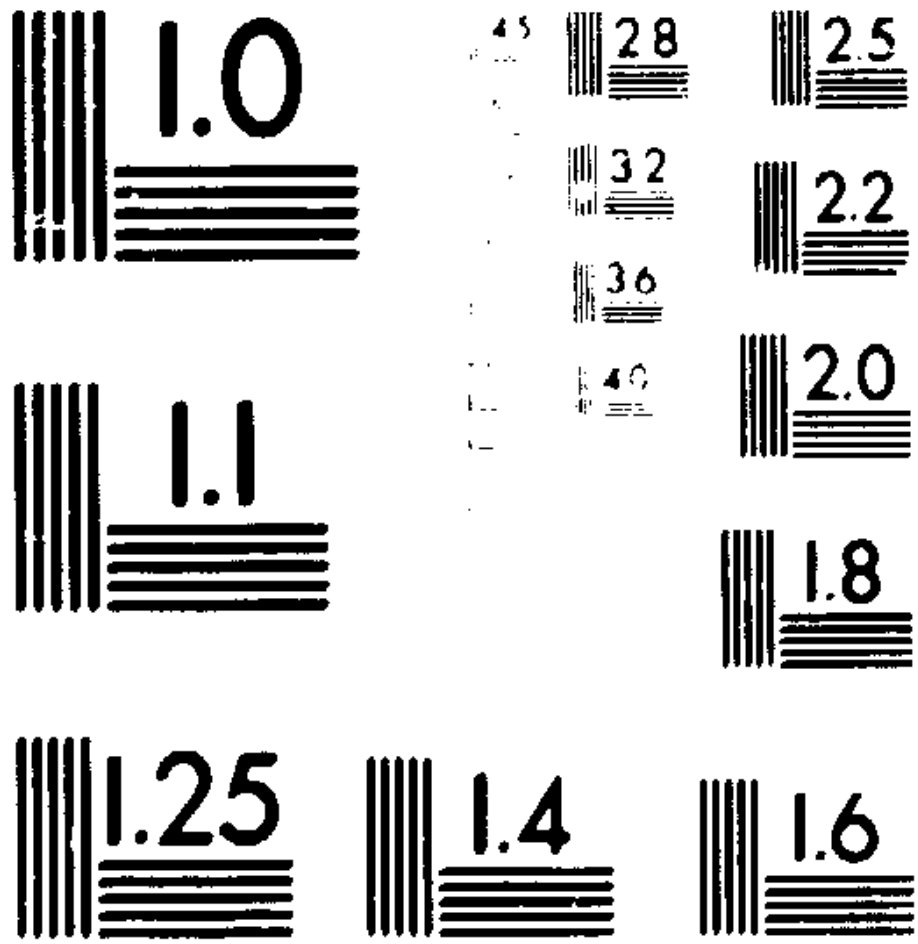
TABLE : [illegible] FOR THE YEARS 1973 AND 1978

ISIC GROUP		VALUE ADDED 1973	1978	Average
311/2	Food products	.045	.044	.0445
313	Beverages	.003	.002	.0025
314	Tobacco	0	0	0
321	Textiles	.009	.009	.009
322	Wearing apparel	.086	.049	.0675
323	Leather and products	.169	.049	.109
324	Footwear	.113	.139	.126
331	Wood products	.018	.017	.0175
332	Furniture and Fixtures	.119	.115	.117
341	Paper and products	.023	.024	.0235
342	Printing, publishing	.048	.046	.047
351	Industrial chemicals	0	0	0
352	Other chemical prod.	.014	.006	.01
353	Petroleum refineries	0	0	0
354	Petroleum, coal prod.	0	0	0
355	Rubber products	.011	.003	.007
356	Plastic products nec	.021	.026	.0235
361	Pottery, china, etc.	.011	.032	.0215
362	Glass and products	.011	.032	.0215
369	Nonmetal products, nec	.011	.007	.009
371	Iron and steel	0	0	0
372	Non-ferrous metals	.004	.011	.0075
381	Metal products	.047	.036	.0415
382	Machinery nec	.075	.028	.0515
383	Electrical machinery	.002	.001	.0015
384	Transport equipment	.006	.008	.007
385	Professional goods	.006	.003	.0045
390	Other industries	.07	.041	.0555
		.018	.015	.0165

Distribution of Establishments with 5 - 9
Persons Engaged for the Years 1973 and 1978

ISIC GROUP		Employment 1973	Employment 1978	Wages & Salar 1973	Wages & Salar 1978
311/2	Food products	13	13.5	12.2	11.9
313	Beverages	.2	.3	.2	.3
314	Tobacco	0	0	0	0
321	Textiles	2.7	1.3	2.1	1.1
322	Wearing apparel	22	18.8	16.1	13.6
323	Leather and products	2.7	1.3	2.1	1.3
324	Footwear	2.8	3.3	2	2.5
331	Wood products	4.3	3.8	5.6	3.2
332	Furniture and Fixtures	4.1	7	4.8	6.6
341	Paper and products	2.1	2.2	1.5	1.6
342	Printing, publishing	7.4	10.4	9.2	12.5
351	Industrial chemicals	0	0	0	0
352	Other chemical prod.	3.2	1.6	2.9	2
353	Petroleum refineries	0	0	0	0
354	Petroleum, coal prod.	0	0	0	0
355	Rubber products	.8	.3	1.2	.4
356	Plastic products nec	2.1	2.4	2	2.6
361	Pottery, china, etc.	1.8	.9	1.7	1.1
362	Glass and products	(1)			
369	Non-metal products, nec	(1)	.9		.9
371	Iron and steel	0	0	0	0
372	Non-ferrous metals	.4	1	.5	1.2
381	Metal products	10.5	9.9	11.4	11.3
382	Machinery nec	10.5	11.3	13.4	14.1
383	Electrical machinery	1.3	1.3	1.4	1.9
384	Transport equipment	3.4	4.1	5.4	5.6
385	Professional goods	.6	.6	.7	.5
390	Other industries	4.2	4	3.5	3.7
300	Total industry	100.1	100.2	99.9	99.9

(1) Included in other ISIC group.



[illegible]
CONTRIBUTION TO EMPLOYMENT BY ISIC 3 - 7
PERCENTS CALCULATED FOR THE YEARS 1973 AND 1978

ISIC GROUP		Gross Output 1973	Gross Output 1978	Value Added 1973	Value Added 1978
311/2	Food products	16.6	13.7	12.4	11.8
313	Beverages	.4	.4	.2	.2
314	Tobacco	0	0	0	0
321	Textiles	2.5	1.5	2.3	1.3
322	Wearing apparel	15.6	13.3	15.1	12.9
323	Leather and products	2.4	1.4	1.9	.8
324	Footwear	2.1	3.1	2.1	2.3
331	Wood products	4.5	4	5.3	3.8
332	Furniture and Fixtures	3.9	7.1	3.9	6.4
341	Paper and products	2.4	2.5	1.6	1.7
342	Printing, publishing	7.1	8.6	9.5	11.3
351	Industrial chemicals	0	0	0	0
352	Other chemical prod.	2.8	2	2.7	1.7
353	Petroleum refineries	0	0	0	0
354	Petroleum, coal prod.	0	0	0	0
355	Rubber products	1.5	.3	1.7	.3
356	Plastic products nec	2	3.4	2	3.4
361	Pottery, china, etc.	1.8	1.4	2	1
362	Glass and products (1)				
369	Non-metal products, nec (1)		.9		1
371	Iron and steel	0	0	0	0
372	Non-ferrous metals	.3	1.3	.4	1.2
381	Metal products	11.7	11.9	11.9	12
382	Machinery nec	10.1	11.1	13.3	14
383	Electrical machinery	1.5	.8	1.6	1.1
384	Transport equipment	4.7	7	4.8	7.6
385	Professional goods	.7	.5	.7	.5
390	Other industries	5.1	3.6	4.7	3.6
300	Total industry	99.7	99.8	100.1	99.9

(1) Included in other ISIC group.

TURKEY:

-c.-o.-point: 1963 - 1968: establishments with 10 or more persons engaged
1969: limited coverage
1970 - 1981: establishments with 10 or more persons engaged in the private sector; all public establishments

-additional problems: 1972, 1973 show persons engaged instead of employees

-adjustments: Coefficients for all variables for 1970 on the basis of the "Statistical Yearbook of Turkey , 1979, for establishments with 1-19 persons engaged.
Coefficients 1970 applied to 1970-1981 (upon availability of the results of the 1980 census, coefficients should be corrected

Note: since the difference between persons engaged and employees is rather small (about 2 %(1970))in large establishments (with 20 or more p.e.) but large in the small establishments the data 1972 and 1973, adjusted with the 1970 coefficients will rather resemble number of employees than persons engaged. It would be also possible to adjust the basic figures by estimating the proportion of employees before adjustments for small scale industries are made.

TABLE : [illegible] ESTABLISHMENTS WITH 1-19 PERSONS ENGAGED FOR 1970

ISIC GROUP		Employment 1970	Wages & Sal. 1970	Gross Output 1970	Value Added 1970
311/2	Food products	.231	.118	.151	.163
313	Beverages	.108	.042	.063	.037
314	Tobacco	0	0	0	0
321	Textiles	.054	.141	.095	.064
322	Wearing apparel	3.24	.975	4.009	5.375
323	Leather and products	.654	.31	.729	.827
324	Footwear	3.24	.975	4.009	5.375
331	Wood products	.991	.47	1.471	1.244
332	Furniture and Fixtures	1.905	1.167	2.702	2.606
341	Paper and products	.046	.027	.082	.032
342	Printing, publishing	.301	.101	.205	.17
351	Industrial chemicals	.034	.013	.073	.03
352	Other chemical prod.	.034	.013	.073	.03
353	Petroleum refineries	0	0	0	0
354	Petroleum, coal prod.	0	0	0	0
355	Rubber products	.117	.043	.077	.06
356	Plastic products nec	0	0	0	0
361	Pottery, china, etc.	.129	.053	.142	.081
362	Glass and products	.129	.053	.142	.081
369	Non-metal products, nec	.129	.053	.142	.081
371	Iron and steel	.003	.001	.003	.002
372	Non-ferrous metals	.003	.001	.003	.002
381	Metal products	.422	.156	.511	.443
382	Machinery nec	.164	.054	.119	.098
383	Electrical machinery	.214	.079	.295	.277
384	Transport equipment	.26	.074	.264	.377
385	Professional goods	0	0	0	0
390	Other industries	.361	.166	.989	.387
300	Total industry	.198	.081	.191	.132

TABLE : INDIA: DISTRIBUTION OF ESTABLISHMENTS BY THE SIZE OF EMPLOYMENT OF SMALL SCALE INDUSTRY BY SIZE OF EMPLOYMENT, 1979

ISIC GROUP		Employment Establishments with ... persons engaged 1	2	3-4	5-9	10-19
311/2	Food products	29.6	11	16.6	21.9	29.4
313	Beverages	.7	.3	1.3	1.4	.9
314	Tobacco	0	0	0	0	.1
321	Textiles	3.6	5.2	6.3	9.6	18.8
322	Wearing apparel	16.7	31.2	17.9	7.9	3.2
323	Leather and products	1	2.3	1.8	1.3	2.1
324	Footwear	(1)				
331	Wood products	7.9	11.1	8.9	7.1	4
332	Furniture and Fixtures	2.9	5.2	5.9	3.7	2.9
341	Paper and products	.2	.6	.6	1.3	1.2
342	Printing, publishing	3.1	1.6	2.3	4.4	3.8
351	Industrial chemicals	0	.5	.7	1.9	4.3
352	Other chemical prod.	(1)				
353	Petroleum refineries	0	0	0	0	.1
354	Petroleum, coal prod.	(1)				
355	Rubber products	5	.5	.7	1.3	1.7
356	Plastic products nec	0	0	0	0	0
361	Pottery, china, etc.	18.3	3.1	4.2	4.8	4.6
362	Glass and products	(1)				
369	Non-metal products, nec	(1)				
371	Iron and steel	0	0	0	.3	2.7
372	Non-ferrous metals	(1)				
381	Metal products	5 8	11.2	14.6	16.1	7.2
382	Machinery nec	1.4	1.6	4	3.8	3.4
383	Electrical machinery	9	2.4	1.7	2.6	2.2
384	Transport equipment	2.8	9.2	9.9	6.9	2.4
385	Professional goods	0	0	0	0	0
390	Other industries	.9	2.9	2.7	3.5	5
300	Total industry	99.9	99.9	100.1	99.8	100

(1) included in another position!

ISIC GROUP		Value added Establishments with ... persons engaged 1	2	3-4	5-9	10-19
311/2	Food products	8.7	15.4	18	21.3	27.2
313	Beverages	.3	.3	1.3	2.5	1.2
314	Tobacco	0	0	0	0	.3
321	Textiles	5.3	4.9	7.6	9.6	20
322	Wearing apparel	32.7	22.6	14.2	6.3	2.6
323	Leather and products	2.1	1.8	1.9	1.2	2.1
324	Footwear	(1)				
331	Wood products	8.5	10.9	9.3	6.2	3.4
332	Furniture and Fixtures	3.1	4.3	5.4	3.8	1.8
341	Paper and products	0	.4	.8	1.4	2.3
342	Printing, publishing	1.5	1.6	2.7	4	3.7
351	Industrial chemicals	.3	1.4	1.1	3.7	7.1
352	Other chemical prod.	(1)				
353	Petroleum refineries	0	0	0	0	.4
354	Petroleum, coal prod.	(1)				
355	Rubber products	.5	.8	.7	1.1	1.5
356	Plastic products nec	0	0	0	0	0
361	Pottery, china, etc.	2.8	2	4	4.1	3.3
362	Glass and products	(1)				
369	Non-metal products, nec	(1)				
371	Iron and steel	0	0	0	.6	2.4
372	Non-ferrous metals	(1)				
381	Metal products	13.4	13.2	14.2	17.9	9.1
382	Machinery nec	1.5	2.5	4.3	3.7	2.5
383	Electrical machinery	2.9	3.3	2.4	2.9	2.3
384	Transport equipment	10.2	10.5	8.6	5.1	1.5
385	Professional goods	0	0	0	0	0
390	Other industries	6.2	4.1	4.4	4.4	5.1
300	Total industry	100	99.9	100.9	99.8	99.8

(1) included in another position!

UNITED ARAB EMIRATES

-c.-o.point: establishments with 10 or more persons engaged (data only available for 1977, 1978 and 1981) (1977:data for wages and salaries are missing

-adjustments: coefficients for establishments with 1-9 persons engaged on the basis of "Annual Industrial Statistic, 1977" for 1977. Estimate on wages and salaries for 1977 using wages and salaries/employee for 1978 and growth rate of VA/employee 1977 to 1978.

Coefficients only on ISIC two-digit level.

[illegible] : [illegible] ESTIMATES: COEFFICIENTS AND ESTIMATORS
WITH 7 OR LESS PERSONS ENGAGED, 1977
(ISIC TWO-DIGIT LEVEL)

ISIC GROUP		Employment 1977	Wages & Sal. 1977(1)	Gross Output 1977	Value Added 1977
311/2	Food products	.011	.011	.007	.02
313	Beverages				
314	Tobacco				
321	Textiles	.285	.285	.368	.351
322	Wearing apparel				
323	Leather and products				
324	Footwear				
331	Wood products	.032	.032	.038	.035
332	Furniture and Fixtures				
341	Paper and products	.006	.006	.006	.01
342	Printing, publishing				
351	Industrial chemicals	.011	.011	.003	.001
352	Other chemical prod.				
353	Petroleum refineries				
354	Petroleum, coal prod.				
355	Rubber products				
356	Plastic products nec				
361	Pottery, china, etc.	.018	.018	.016	.01
362	Glass and products				
369	Non-metal products, nec				
371	Iron and steel	0	0	0	0
372	Non-ferrous metals				
381	Metal products	.005	.005	.002	.002
382	Machinery nec				
383	Electrical machinery				
384	Transport equipment				
385	Professional goods				
390	Other industries	.083	.083	.026	.039
300	Total industry	.027	.027	.015	.018

(1) Estimate!

[illegible] : CAPITAL PER EMPLOYEE: DISTRIBUTION OF THE [illegible]
OF ESTABLISHMENTS WITH 7 OR LESS
PERSONS ENGAGED, 1977 (ISIC TWO-DIGIT LEVEL)

ISIC GROUP		Employment 1977	Wages & Sal. 1977(1)	Gross Output 1977	Value Added 1977
311/2	Food products	5.4	2	5.4	3.9
313	Beverages				
314	Tobacco				
321	Textiles	48.8	39.1	39.2	52.3
322	Wearing apparel				
323	Leather and products				
324	Footwear				
331	Wood products	12.3	8.7	13.9	13.6
332	Furniture and Fixtures				
341	Paper and products	2.1	3.2	2.3	3
342	Printing, publishing				
351	Industrial chemicals	3.4	3	3.1	.5
352	Other chemical prod.				
353	Petroleum refineries				
354	Petroleum, coal prod.				
355	Rubber products				
356	Plastic products nec				
361	Pottery, china, etc.	17.2	17.9	24.7	15.9
362	Glass and products				
369	Non-metal products, nec				
371	Iron and steel	0	0	0	0
372	Non-ferrous metals				
381	Metal products	5.6	5.6	3.9	4.5
382	Machinery nec				
383	Electrical machinery				
384	Transport equipment				
385	Professional goods				
390	Other industries	5.2	20.5	7.5	6.5
300	Total industry	100	100	100	100.2

(1) Estimate!

Appendix 2

Description of cut-off points for:

Ethiopia
Ghana
Ivory Coast
Liberia
Tunisia
Egypt
Tanzania
Bangladesh
Hong Kong
India
Iran
Libyan Arab Jamahiriya
Pakistan
Thailand
Nicaragua
Trinidad and Tobago
Italy
Luxembourg

Africa

1. Ethiopia — 1966, 1967, 1969, 1970 - establishments with 5 or more employees.

1971-1981 - establishments with 10 or more employees and using power-driven machinery.

Note: The data suggest that 1969 and 1970 actual cut-off points used were, as in the period 1971-81, establishments with 10 or more employees. (National publications suggest that contribution of establishments with 5 to 9 employees comprises about 13 per cent of employment in the larger establishments. Supplementary information was nevertheless insufficient for adjustments.)

2. Ghana — 1963-1972 - operating establishments with 30 or more persons engaged.

1973-1977 - no information on cut-off point.

3. Ivory Coast — 1969-1980 - employment and wages and salaries: estimates for enterprises with annual turnover of 12 million francs or more; gross output and value added: estimates from national accounts statistics for all establishments.

4. Liberia — 1972-1978 - data for some industry groups only covering establishments with 20 or more persons engaged.

5. Tunisia — 1963-1969 - all establishments excluding handicrafts.

1970-1976 - establishments with 5 or more employees.

1977-1980 - establishments with 10 or more employees.

6. Egypt — 1964-1976 - all public establishments, and private establishments with 10 or more persons engaged.

7. Tanzania — 1965-1974 - private establishments with 10 or more persons engaged.

Asia

8. Bangladesh	1968-1979 - registered establishments with 10 or more workers; no adjustments were made for non-response 1968-1974 and 1979 to 1980.
9. Hong Kong	1963-1972 - establishments with power-driven machinery or with 20 or more man workers. 1973-1981: all establishments.
10. India	1963-1978 - establishments with 10 or more workers using power, or 20 or more workers not using power (no adjustments for non-response: 1963-1974; no information on adjustments for non-response in the remaining years).
11. Iran	1963-1974 - establishments with 10 or more persons engaged and 5 per cent sample of establishments with less than 10 persons engaged. 1979-1980 - establishments with 10 or more persons engaged.
12. Libyan Arab Jamahirya	1964-1976 - establishments with 20 or more persons engaged.
13. Pakistan	1963-1971 - establishments with 10 or more workers (no adjustments for non-response). 1972-1976 - no information on cut-off points.
14. Thailand	1963-1971 - establishments with 10 or more persons engaged (no adjustments for non-response). 1972-1975 - no information on cut-off points.

Latin America

15. Nicaragua	1980 - establishments with 30 or more persons engaged.
	1967-1978 - all establishments (employment and wages and salaries from social security records; gross output and value added from national accounts statistics).
16. Trinidad and Tobago	1966-1977 - establishments with 10 or more persons engaged.

Europe

17. Italy	1967-1980 - enterprises with 20 or more persons engaged (based on a register in the 1971 census.)
18. Luxembourg	1963-1969 - all enterprises.
	1970-1979 - enterprises with 20 or more persons engaged.