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POPULATION ESTIMATES FOR THE CORPORATE SECTOR --
AN ALTERNATE METHOD

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POPULATION ESTIMATES FOR THE CORPORATE SECTOR -
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For long the method used for making estimates for the corporate
sector has been to blow up the available sample data on the finances
of joint stock companies compiled by the Reserve Bank of India (RBI),
on the basis of the ratio of the paid-up capital of all companies to
that of the sample. This method though open to question seemed the
only one that could be adopted given the nature of the data available.
However the R.B.I. conducted a census of non-governmental, non-finan-
cial public limited companies for the years 1970-'71 and 1971-'72.
The data from the census were published recently.[1] The availability
of data on a census basis even for a year is useful, first for review-
ing the present methodology used for deriving population estimates
for the corporate sector, and more importantly for exploring the
possibility of devising a better method for arriving at population
estimates for this sector. This paper is mainly addressed to these
two questions.

In reviewing the current methodology this paper concentrates
mainly on the problems involved in using paid-up capital as a
blow-up factor. In attempting to evolve an alternate methodology,
the aim is not so much to provide any new estimates as to establish

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[1] "Census of Public Limited Companies 1971-72", Reserve Bank of
India Bulletin, June 1978, pp.402-448.

that the estimates made in this paper, using a different method from the one used so far, are built on more solid grounds. These estimates cover only medium and large public limited companies. If the necessary data were available for the other groups of companies like private limited companies etc., the methodology as outlined in this paper could be used for making population estimates for the entire non-governmental, non-financial corporate sector.

Generally, the method followed in making the population estimates for the corporate sector is to blow-up sample data on the finances of joint-stock companies published by the R.B.I., the blow-up factor used being the ratio of the paid-up capital of all companies to the paid-up capital of the sample.[2] That is, if the paid-up capital of the sample constitutes 80% of the paid-up capital of the entire population of companies, then the sample estimates will have to be increased by 25% to account for the companies not covered in the sample. The important feature of this procedure is that <u>the ratio of the paid-up capital of the total population to the paid-up capital of the sample</u> $\frac{(PUC_T)}{(PUC_S)}$ <u>is also used to blow all other variables like sales, net fixed assets etc. to get their population estimates.</u> For instance, if the gross fixed assets of the population are to

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[2] This procedure has been used for estimating overall magnitudes like sectoral capital formation, savings etc. by the Central Statistical Organisation. Some other studies also use this method. For eg. See Raj K. Nigam and N.D. Joshi, <u>Trends in Company Fiances with Particular reference to the First and Second Plan Period</u> (1960)

be estimated, then it is obtained as follows.[3]

$$GFA_T = GFA_S \times \frac{PUC_T}{PUC_S} \quad \text{or} \quad GFA_T = \frac{GFA_S}{PUC_S} \times PUC_T$$

where GFA_T = Gross Fixed Assets of the total population

GFA_S = Gross Fixed Assets of the sample

PUC_T = Paid-up capital of the total population

PUC_S = Paid-up capital of the sample

This method assumes that if the paid-up capital of the sample companies is equal to 80% of the paid-up capital of the total population, then the value of gross fixed assets, net sales or any other variable for the sample also constitutes 80% of the population estimate of that variable. By implication the average ratio of gross fixed assets, or of any other variable, to paid.up capital of the sample companies holds good for the uncovered group of companies as well. The use of a constant blow-up factor for all years involves the further assumption that the value of all variables relating to the non-sample companies increase at the same rate as the paid capital of the sample.

These assumptions are contradicted by available data. The R.B.I. has been increasing the sample size of companies every five years and since the last year of each series and the first year of the next one are identical, it is possible to compare for such years the relevant

[3] This example is taken from C. Rangarajan and Kirit Patel, "On Constructing a New Series on Corporate Fixed Investment" -- Paper presented at the Annual Conference of the Indian Association for Research in National Income & Wealth held at the Centre for Development Studies, Trivandrum, January 12-15, 1979.

data for two samples of different size. Table 1 gives comparative data relating to the older, smaller sample (O) covering 1333 companies and the new larger sample (N) covering 1501 companies for the year 1965-66. It can be seen that the percentage increase in the value of different variables on account of the increase in the size of the sample varies widely.

The ratio of net assets, value added, etc. to paid-up capital for the older sample is also found to be strikingly different from the corresponding ratios for the additional companies covered by the new sample. This is brought out in Table 2. The use of paid-up capital as the basis for estimating the values of different variables for the corporate sector from sample data on company finances is thus open to serious question.

A somewhat better procedure would be to use the ratio of net assets, value added and other variables of the companies brought into the sample every five years to their paid-up capital as the basis for reconstructing the performance of all non-sample companies in the previous four years. This can be written thus:

$$TFA_{T5} = TFA_5 + \left(\frac{TFA^*_5 - TFA_5}{PUC^*_5 - PUC_5} \right) PUC_{T5} - PUC_5$$

where

TFA_{T5} and PUC_{T5} stand respectively for total fixed assets, and paid-up capital of all companies in year 5. TFA^*_5 and PUC^*_5
and paid-up capital
refer to total fixed assets/for the larger sample in year 5.

Table 1: Comparative data on Medium and Large Public Limited Companies relating to two different sample sizes

(in Rs. crores)

Year	Number of companies	Paid-up capital	Total Net Assets	Reserves and Surplus	Net Sales	Gross value added	Operating Surplus
1965-66(O)	1333	879.7	3864.8	801.6	3884.4	1175.0	333.0
1965-66(N)	1501	1049.7	4319.2	819.8	4081.1	1274.0	362.0
% Increase	12.6	19.3	11.8	2.3	5.1	8.4	8.7

Table 2: Ratio of different variables to the paid-up capital for 1965-66

(Percentages)

Paid-up capital	Total Net Assets to paid-up capital	Ratio of Reserves and surplus to paid-up capital	Ratio of Sales to paid-up capital	Gross Value Added to paid-up capital	Operating Surplus to paid-up capital
For Companies covered in the old sample(1333)	439.2	91.1	441.4	133.5	37.8
For the newly* covered companies (168)	267.1	10.6	115.9	58.2	17.1

* Table below shows how these ratios are worked out for the newly added companies

(In Rs.crores)

Year	No. of companies	Paid-up capital	Total Net Assets	Reserves and Surplus	Net Sales	Gross Value Added	Operating Surplus
1965-66	1333(O)	880	3865	802	3884	1175	333
1965-66	1501(N)	1050	4319	820	4081	1274	362
Difference	168	170	454	18	197	99	29

The ratio of each of these values to the paid-up capital of 168 companies is then calculated.

TFA_5 and PUC_5 represent the values for the smaller sample in year 5. then

$$TFA_{T4} = TFA_4 + \left(\frac{TFA_5^* - TFA_5}{PUC_5^* - PUC_5} \right) \quad PUC_{T4} - PUC_4$$

Since we have a series of paid-up capital of all companies and that of the sample for all the years, the difference would give the paid-up capital of all non-sample companies. The procedure outlined above for assuming the characteristics of the newly added companies for the non-sample companies can be repeated whenever we have data for a larger and a smaller sample for the same year. This type of data is available every five years, whenever the RBI increases its sample size. After having estimated total fixed assets for the first five years as given above, by using the ratio of total fixed assets to paid-up capital of the newly added companies brought into the sample in year 10 (when we get data for a smaller and a larger sample) we can estimate total fixed assets for the population for the years 6 to 10. The procedure followed would be as that given below.

$$TFA_{T6} = TFA_6^* + \left(\frac{TFA_{10}^{**} - TFA_{10}^*}{PUC_{10}^{**} - PUC_{10}^*} \right) \quad PUC_{T6} - PUC_6^*$$

where TFA_{T6} and PUC_{T6} = Total fixed assets and paid-up capital respectively of all companies for year 6.

TFA_6^* and PUC_6^* = Total fixed assets and paid-up capital respectively of companies corresponding to the smaller sample for year 6,

TFA_{10}^{**} and PUC_{10}^{**} = Total fixed assets and paid-up capital respectively corresponding to the bigger sample for year 10 and TFA_{10}^* and PUC_{10}^* = Total fixed assets and paid-up capital respectively of companies

corresponding to the smaller sample for year 10. In this way we can get a time series of population estimates for each variable.

The main advantage this method has over the earlier one is that it avoids making the obviously wrong assumption that the relationship between total fixed assets (or any other variable) and paid-up capital in the old sample holds good for the uncovered companies also. Instead it takes explicit account of the fact that the characteristics of the companies added to the sample every five years are very different from those of the old sample. It also incorporates changes taking place every five years. However apart from the necessity to have a reliable series of paid-up capital for all companies, this procedure makes the assumption that the structural characteristics of the newly added companies (as defined by the ratio of the value of different variables to the paid-up capital) approximates those of all non-sample companies and that they remain constant during the quinquennium. One way of overcoming this limitation would be to assume that the various ratios relating to the companies added to the sample in year t move in exactly the same way as the corresponding ratio for the smaller sample in the year t-4 to t-1. While this is a better approximation than the current method of blowing up purely on the basis of the paid-up capital coverage, the accuracy of the time series generated on this basis will still depend on the reliability of the data on the paid-up capital of all companies.

The available data on total paid up capital of the major components of the corporate sector are unsatisfactory. Estimates are published by the Controller of Capital Issues (C.C.I.) and the

Company Law Board (CLB) and they differ widely both in absolute magnitude and in the changes over time. It is difficult to judge if either series is at all reliable. The CSO[4] rejects the C.C.I. series in favour of the CLB estimates on the following grounds.

> "..........its data relates to consents granted to raise
> a particular amount of capital. These need not be raised
> fully or raised at all. Further there are a few industries
> which can raise any amount of capital without the consent
> of the C.C.I. The liberalisation of the policy of capital
> issues to industries since 1964-65 has also further affected
> the coverage of the C.C.I. data. Moreover liquidation of
> companies are also not reported to the C.C.I."

Others find the CLB series defective for different reasons. For instance Rangarajan and Kirit Patel[5] rejected the CLB series on the ground that while the RBI claimed that its sample for 1971-'72 accounts for about 80% of the paid-up capital of all companies, the paid-up capital reported by the sample companies was almost as large as the figure for all companies published by the CLB.

Furthermore the figures given by both the CCI and the CLB for the year 1970-71 are quite different from that given by the RBI in its census study. The paid-up capital of all public

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4/ Government of India, Central Statistical Organisation,
   See its "Notes on availability of data on paid-up capital",
   in Estimates of Savings in India, 1960-61 - 1965-66.
5/ Rangarajan & Kirit Patel, op. cit., p.13.

limited companies for the year 1970-71 was Rs.1,746 crores according to the RBI, Rs.1956 crores according to the C.C.I. and Rs.1608 crores according to the CLB. Also the series of the paid-up capital of the non-sample companies obtained by deducting the paid-up capital of the RBI sample companies[6]/from the paid-up capital of all companies given by the CCI or the CLB shows erratic and contradictory trends (Table 3).

Thus when the CLB series is used it is seen that during the first half of the sixties paid-up capital of non-sample companies show a much faster rise than that of the sample companies, while the second half is marked by errative and violent fluctuations which seem highly improbable and unnatural. By contrast when we use the CCI data the paid-up capital of non-sample companies shows almost sustained rapid growth throughout the period. In the face of all this, it is difficult to judge which one, if any of the series of paid-up capital can be considered reliable. It is therefore worth exploring alternate ways of making population estimates for the corporate sector using RBI sample data, but without using paid-up capital as a blow-up factor and without assuming any fixed relationship between paid-up capital and any other variable.

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[6]/ This does not include the paid-up capital of small public limited companies. But the population estimates of paid-up capital of the CLB and CCI are inclusive of them.

Table 3: <u>Paid-up Capital series of Non-sample Companies</u>

(In Rs. crores)

Year	Paid-up Capital of all companies (CLB)	Paid-up Capital of all companies (CCI)	Paid-up Capital of Sample companies (RBI)	Paid-up Capital of Non-sample companies	Paid-up capital of Non-sample companies
				(1-3)	(2-3)
	(1)	(2)	(3)	(4)	(5)
1960-61	824	N.A.	716	108	-
1961-62	999	N.A	757	242	-
1962-63	1074	1076	796	278	280
1963-64	1171	1166	829	342	337
1964-65	1234	1251	850	384	401
1965-66	1288	1346	880(0)* 1050(N)**	408, 238	466, 296
1966-67	1294	1485	1174	120	311
1967-68	1351	1627	1244	107	388
1968-69	1559	1734	1300	259	434
1969-70	1588	1836	1370	218	466
1970-71	1608	1956	1421(0) 1553(N)	187, 55	535, 403.

* (0) Stands for figures relating to the smaller sample.
**(N) Stands for figures relating to the larger sample.

One way of doing this is to assume that sales, profits, reserves, etc. of the companies brought in to enlarge the sample at the end of every quinquennium change in exactly the same direction and at the same rate as the value of the respective variables in respect of the old sample during the previous five years. To illustrate let us

suppose we are interested in estimating total net assets (TNA). In year 5 we have two estimates TNA_0 and TNA_N where 0 and N stand for old and new samples respectively ($N > 0$). We also know the values of TNA_0 for years through 5, then TNA_N for different years is simply

$$TNA_4{}^* = TNA_4 \times \frac{TNA^*_5}{TNA_5}$$ where TNA^*_5 relates to total net assets of the enlarged sample in year 5 and TNA_5 relates to total net assets of the old sample in year 5. Similarly,

$$TNA^*_3 = TNA_3 \times \frac{TNA^*_5}{TNA_5}$$

At the end of the next five years i.e. year 10, we again get data for a smaller sample and a bigger sample as in year 5. Once again the ratio of the value of each variable for the new sample to that of the old sample in year 10 is used to project backwards not only to year 5 but to year 1; thus

$$TNA_9{}^{**} = TNA_9{}^* \times \frac{TNA^{**}_{10}}{TNA^*_{10}}$$ where TNA^{**}_{10} relates to the enlarged sample and TNA^*_{10} to the smaller sample in year 10.

$$TNA^{**}_8 = TNA^*_8 \times \frac{TNA^{**}_{10}}{TNA^*_{10}}$$

$$TNA^{**}_5 = TNA^*_5 \times \frac{TNA^{**}_{10}}{TNA^*_{10}}$$

$$TNA^{**}_4 = TNA^*_4 \times \frac{TNA^{**}_{10}}{TNA^*_{10}}$$ etc.

In the same way it is possible to estimate the value of each of the other variable corresponding to larger and larger samples without bringing in paid-up capital.

This procedure permits us to adjust the data for changes in sample size from time to time and since the sample is invariably increased at
every five years, for a progressively larger sample at the end of
the end of/each quinquennium, eventually linking the series to the actual value of each variable for all companies available for 1970-71 and 1971-72 from the RBI Census of Public Limited Companies. Table 4 illustrates the application of the above method for constructing a time series of net sales for medium and large public limited companies. Note, however, that for the years after 1970-71, in the absence of any census we have projected forward on the basis of the ratio of each variable from the census to that obtained from the sample survey for 1970-71.

There are certain assumptions underlying this method also. What we are assuming is that the structural characteristics of the newly added companies move in the same direction and at the same rate as that of the old companies through the year t-4 to t-1. There is admittedly a certain arbitrariness in this assumption. But this is clearly better than using a constant structural ratio. Again the chaning method involves successive adjustments for non-sample companies at the end of every quinquennium. Here we allow for variations in the structural ratios of non-sample companies over time, and avoid assuming that the characteristics of non-sample companies are invariant during each quinquinneum. Taking into consideration all these facts and theffact

Table 4: Population Estimates of Net Sales of Medium and Large
Public Limited Companies (in Rs. lakhs)

Year	Value of Net Sales	Ratio of the values of the larger sample to the smaller sample (%)	Adjusted to 1960-61 series* $\boxed{1333}$	Adjusted to 1965-66 series $\boxed{1501}$	Adjusted to 1970-71 series $\boxed{1650}$	Adjusted to 1970-71 Census frame** $\boxed{2523}$
1960-61	227321		238914	251099	258130	278780
1960-61	238963	105.1	238963	251150	258182	278837
1961-62	263421		263421	276855	284607	307376
1962-63	288353		288353	303059	311545	336469
1963-64	322118		322118	338546	348025	375867
1964-65	352302		352302	370269	380637	411088
1965-66	388445		388445	408256	419687	453262
1965-66	408113	105.1		408113	419540	453103
1966-67	456470			456470	469251	506791
1967-68	493125			493125	506933	547488
1968-69	535266			535266	550253	594273
1969-70	595015			595015	611675	660609
1970-71(O)	671935			671935	690749	746009
1970-71(N)	690951	102.8			690951	746227
1970-71 (Census)	746472	108.0				746472
1971-72	774872					836862
1972-73	859776					928558
1973-74	935563					1010408
1974-75	1183269					1277931
1975-76	1317114					1422483

* Figures in brackets stand for the number of companies included in the sample.

** It must be mentioned that whether we use the census data for the year 1970-71 or 1971-72, it doesn't make much difference to the estimates prepared using the new method.

that there is no accurate paid-up capital series it is our claim that
the procedure suggested by us is the best possible in the given circum-
stances and certainly far better than the one currently under use.

Having argued that the new method is based on stronger grounds
than the current one, let us see if there is any substantial difference
in the estimates prepared using one method or the other. Table 5
gives the population estimates of different variables estimated
using the two different methods.

From Table 5 it is seen that for all the years the estimates
made in this paper are smaller.[7] than those estimated using paid-up
capital as a blow-up factor; even for the census year. If one
compares the indices of these two series it is seen that they are
almost identical till the mid-sixties after which they tend to
diverge, so much so the estimates based on the new method give
much smaller rates of growth than the estimates built using paid-up
capital as a blow-up factor i.e. the estimates based on the new
method are conservative. We have already argued why the assumptions
underlying the suggested procedure for studying the values of the
different variables for the corporate sector as a whole are better
than the current practice of using paid-up capital for blowing up
the sample data. This confidence is strengthened by the fact
that the estimates based on the method suggested here are much

[7] In the case of gross savings the estimates for the early years
made in this paper are higher but for the other years they are
lower. Consequently by using the current method to prepare
the estimates we get a much higher rate of growth than when the
new method is used. A detailed examination of the various
estimates of corporate savings and their implications is attempted
in a forthcoming paper.

Table 5: <u>Comparison of the various estimates made for Medium and Large Public Limited Companies using the two different methods</u>

(in Rs. crores)

Year	Gross Saving		Net Sales		Total Emoluments	
	Using the method outlined in this paper (New Method)	Based on paid-up capital coverage (current Method)	New Method	Current Method	New Method	Current Method
1960-61	210 (100)*	186 (100)	2788 (100)	2987 (100)	513 (100)	540 (100)
1961-62	212 (101)	190 (102)	3074 (110)	3293 (110)	551 (107)	580 (107)
1962-63	213 (101)	193 (104)	3365 (121)	3604 (121)	600 (117)	632 (117)
1963-64	257 (122)	231 (124)	3759 (135)	4026 (135)	655 (128)	690 (128)
1964-65	284 (135)	256 (138)	4111 (147)	4404 (147)	744 (145)	783 (145)
1965-66	282 (134)	255 (137)	4533 (163)	4856 (163)	819 (160)	862 (160)
1966-67	316 (150)	325 (175)	5068 (182)	5706 (191)	887 (173)	1003 (186)
1967-68	289 (138)	300 (161)	5475 (196)	6164 (206)	978 (191)	1105 (205)
1968-69	305 (145)	319 (172)	5943 (213)	6691 (224)	1054 (206)	1192 (221)
1969-70	404 (192)	415 (223)	6606 (237)	7438 (249)	1138 (222)	1286 (238)
1970-71	452 (215)	465 (250)	7460 (268)	8399 (281)	1269 (247)	1434 (266)

* Figures in brackets stand for index numbers.

closer to the independent estimates of sales, value added etc. of the
corporate manufacturing sector obtained from the Annual Survey of
Industries (A.S.I.) for 1974-75 and 1975-76, than those prepared using
the current method.

ASI gives data on the corporate/sector for two years 1974-75
and 1975-76. Data for these years relate to the entire factory
sector. Hence while the unit of reporting for the ASI is the
factory, that for the company finance analysis of RBI is the
company. While RBI does classify companies into productive sectors, it
is likely that companies classified as "manufacturing companies"
may have activities other than manufacturing while those classified
in other sectors may be engaged in some manufacturing. It is therefore
difficult to ensure strict comparability between the RBI and ASI data.
Moreover, a number of adjustments have to be made to estimate the
output, value added etc. for the private corporate sector from the ASI
data for comparison with the corresponding RBI category. These adjust-
ments (detailed in Appendix I and II) though arbitrary are still useful
to judge the relative accuracy of the two different estimates based on
corporate accounts. The results are presented in Table 6.

What becomes clear from this Table is that the estimates based
on the current method of blowing up based on paid-up capital coverage
are very different from that of the A.S.I. They are gross overestimates.
On the other hand the estimates made using the new method are quite close
to the ASI estimate in terms of absolute magnitude, direction and rate
of change. Whatever differences that do remain may be due to the

Table 6: Comparison of different estimates for the Corporate Sector

(In Rs. crores)

Value of	1974-75			1975-76		
Estimates based on	New Method	Current Method	A.S.I.	New Method	Current Method	A.S.I.
Output	13251 (100)*	20214 (100)	13599 (100)	14234 (107)	21445 (106)	15082 (11?)
Total Emoluments	2130 (100)	3083 (100)	1666 (100)	2341 (110)	3357 (109)	1855 (111)
Net Value Added	3176 (100)	4653 (100)	3539 (100)	3161 (99)	4627 (99)	3572 (101)

* Figures in brackets stand for index numbers.

differences in concepts, coverage etc. of the two estimates. For instance, the differences between the two estimates in the case of total emoluments could be at least in part to the difference in the definition of the concept of "total emoluments". A.S.I. in its definition excludes "factory expenses in the shape of employer's contribution to provident fund, pension, gratuity or similar other charges."[8/] But RBI data on total emoluments is inclusive of these items and as it is not possible to separate them, these estimates are higher.

In short, since the estimates based on the new method compare better with that of the A.S.I. than the estimates prepared based on paid-up capital coverage, it seems that the assumptions underlying the new method are better.

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8/ India, Central Statistical Organisation, <u>Annual Survey of Industries, Summary Results for the Factory Sector, 1975-76</u>.

APPENDIX I

Here we explain how Reserve Bank data is made comparable to A.S.I. data since the latter relates to manufacturing alone while RBI data includes other activities also. The relevant tables which show how this has been worked out are given in Appendix III.

Industry wise[1] break-up of data is available for the sample medium and large public limited companies. Industry-wise data is also available on a census basis for the year 1971-72 for this group of companies. So to estimate the value of the different variables for all medium and large public manufacturing companies[2] the sample data on medium and large public manufacturing companies is linked to the census of medium and large public manufacturing companies by following the method outlined in this paper.

1/ The classification of companies for industry wise presentation of data is based on the Standard Industrial Classification of All Economic Activities as adopted by the Government of India. A Company with more than one activity is classified under that industry from which it derives more than half of its sales or main income according to the information available at the time of its inclusion in the study. In a case where no single activity is found to contribute more than half the sales or main income, the company is classified under miscellaneous sub-group of the relevant main group. These general principles are followed also in classifying a company formed by the amalgamation of two or more companies from different industries. The industry wise classification of companies is reviewed at the time of each revision of the list of the selected companies. This classification is generally maintained throughout in the quinquennial series - RBI, Financial Statistics of Joint Stock Companies in India 1960-61, 1970-71

2/ Besides the usual RBI manufacturing groups; Electricity has also been included under manufacturing because ASI coverage is defined as follows: "It covers the entire factory sector which comprises

(contd...)

In the case of medium and large private limited companies,
industry-wise break-up of data is available only on a sample basis.
So to estimate the value of the different variables of all medium and
large private manufacturing companies the following procedure is
adopted. The ratio of the values of the different variables of
sample medium and large private manufacturing companies to that of the
corresponding values of sample medium and large public manufacturing
companies is estimated. This ratio is then applied to the values of
the different variables for all medium and large public manufacturing
companies to get the population estimates for all medium and large
private manufacturing companies.

In the case of small public limited companies, industry wise
data is available on a census basis for 1971-72 but is not available
on a sample basis for any year. So the ratio of the value of
different variables of all small public manufacturing companies to
the corresponding values of all small public limited (all activities)
companies for the census year (1971-72) is estimated. This ratio
is assumed to hold good for the other years also. So by applying
this ratio to the value of the different variables of all small
public limited companies we can get the corresponding estimates for
all small public manufacturing companies.

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Industrial units registered under Sec. 2m(i) and 2m(ii) of the
Factories Act 1948... Certain units which would not be strictly
manufacturing units but would come within the scope of the
Factories Act 1948 are also covered in the A.S.I. Activities in
such units would relate to production and distribution of electri-
city also water and to some services like sanitary services
(Pumping, sewage) Cinema studies, laundries & job-dyeing" -- C.S.O.
(India) Annual Survey of Industries, Summary Results of the Factory
Sector, 1975-76.

In the case of small private limited companies industry-wise
data is not available ither on a census or sample basis. So no
separate estimate of manufacturing is possible. Therefore the ratio
of the value of the different variables of this group of companies
to the corresponding values of that of sample small public limited
companies is calculated. This ratio is then applied to the value
of the different variables relating to all small public limited
companies to get the population estimate of the corresponding
variables for all small private limited companies.

The relevant population totals are then added up to estimate the
contribution of all private and public/(manufacturing) companies and
this is compared with the ASI estimates. The tables prepared in
this way to estimate total output, emoluments, value added etc.
are given in Appendix III.

APPENDIX II

Appendix II deals with the way in which the data published in
the ASI have been used to arive at estimates for the private
corporate sector.

ASI gives data with reference to certain variables like output,
value added, emoluments etc. for 1974-75 and 1975-76 by type of
organisation and type of ownership. Since this data do not directly
give us data for the private corporate sector, some estimates have
to be made.

The type of organisation and the types of ownership for which data are presented can be seen from the format given below. The two formats are combined to get format 3 which gives the data required by us.

Format 1 (Given in ASI)

Type of Ownership

A. Wholly Central Government

B. Wholly State/Local Government.

C. Central & State/Local Government Jointly

D. Public Sector

E. Central Government & Private Enterprise jointly

F. State, Local Government & Private enterprise jointly

G. Central, State & Local Government & Private enterprise jointly

H. Joint Sector

I. Wholly Private enterprise

J. Unclassified

K. Total

Format 2 (Given in ASI)

Type of Organisation

1. Individual Proprietorship

2. Partnership

3. Public Limited Companies

4. Private Limited Companies

5. Public Corporation

6. Corporate Sector

7. Co-operative Society

8. Others (Mostly Government factories)

9. Unspecified

10. Total

Format 3 (Prepared from Format 1 & 2)

I. Wholly Private Enterprise (Item I in format 1)

   1. Individual Proprietorship (Item 1 in format 2).

   2. Partnership (Item 2 in format 2)

   3. Co-operative Society (Item 7 in format 2).

Private Corporate Sector (both public & private limited companies) i.e. I - (1+2+7).

Table A: Population Estimates of the Value of Total Output
of the Private Corporate (Manufacturing) Sector

		(In Rs. crores)	
		Year	
Value of the Total Output of:		1974-75	1975-76
1.	Sample Medium and Large Public Limited Manufacturing Companies	10,684	11,696
2.	All Medium and Large Public Limited Manufacturing Companies (Adjusted to the Census (Manufacturing) of 1971-72)	11,368	12,445
3.	All Small Public Limited Manufacturing Companies (Adjusted according to the ratio of the value of total output of all Small Public Limited Manufacturing Companies to that of All Small Public Limited Companies for 1971-72).	86	11
4.	Sample Medium and Large Private Limited Manufacturing Companies	1336	1298
5.	Sample Medium and Large Private Manufacturing Companies as a proportion to that of Sample Medium and Large Public Limited Manufacturing Companies	13%	11%
6.	All Medium and Large Private Manufacturing Companies (Adjusted to the value of total output of All Medium and Large Public Manufacturing Companies according to the above proportion).	1478	1369
7.	Sample Small Private Limited Companies	278	289
8.	Sample Small Private Limited Companies as a Proportion to that of Sample Small Public Limited Companies	166%	167%
9.	All Small Private Limited Companies (adjusted according to the above proportion) to the value of total output of All Small Public Limited Companies	319	332
10.	Public and Private Limited Manufacturing Companies (2+3+6+9)	13251	14235
11.	Private Corporate Manufacturing Sector (ASI)	13599	15082

Table B: Population Estimates of the Value of Total Emoluments of the Private Corporate (Manufacturing) Sector

		(in Rs. crores)	
Value of the Total Emoluments of Year		1974-75	1975-76
1.	Sample Medium and Large Public Limited Manufacturing Companies	1756	1948
2.	All Medium & Large Public Limited Manufacturing Companies (Adjusted to the Census (Manf.) of 1971-72).	1889	2096
3.	All Small Public Limited Manufacturing Cos. (Adjusted according to the ratio of the value of total emoluments of All Small Public Ltd. manf. Companies to that of All Small Public Ltd. Companies for 1971-72).	12	13
4.	Sample Medium & Large Private Ltd. Manufacturing Companies	174	76
5.	Sample Medium and Large Private Manufacturing Companies as a proportion to that of Sample Medium and Large Public Limited Manufacturing Companies	10%	9%
6.	All Medium and Large Private Manufacturing Companies (Adjusted to the value of total emoluments of All Medium and Large Public Manufacturing Companies according to the above proportion)	189	189
7.	Sample Small Private Ltd. Companies	34	37
8.	Sample Small Private Ltd. Companies as a proportion to that of Sample Small Public Ltd. Companies	142%	144%
9.	All Small Private Ltd. Companies (adjusted according to the above proportion) to the value of total emoluments of All Small Public Limited Companies	40	44
10.	Public and Private Ltd. Manufacturing Companies (2+3+6+9)	2130	2342
11.	Private Corporate Manufacturing Sector (A.S.I.)	1666	1855

Table C: <u>Population Estimates of the Value of the Net Value Added</u>
<u>of the Private Corporate (Manufacturing) Sector</u>

	(In Rs. crores)	
Value of the Net Value Added by \ Year	1974-75	1975-76
1. Sample Medium and Large Public Ltd. Manufacturing Companies	2748	2758
2. All Medium & Large Public Limited Manufacturing Companies (Adjusted to the Census (Manufacturing) of 1971-72).	<u>2872</u>	<u>2882</u>
3. All Small Public Limited Manufacturing Cos. (Adjusted according to the ratio of the value of net value added of All Small Public Limited Manufacturing Cos. to that of All Small Public Ltd. Cos. for 1971-72)	<u>16</u>	<u>17</u>
4. Sample Medium & Large Private Ltd. Manufacturing Cos.	247	227
5. Sample Medium & Large Private Manufacturing Cos. as a proportion to that of Sample Medium and Large Public Ltd. Manufacturing Cos.)	9%	8%
6. All Medium and Large Private Manufacturing Cos. (Adjusted to the value of net value added of All Medium & Large Public Manufacturing Cos. according to the above proportion)	<u>258</u>	<u>231</u>
7. Sample Small Private Limited Companies	44	47
8. Sample Small Private Limited Companies as a proportion to that of Sample Small Public Limited Companies	147%	146%
9. All Small Private Limited Companies (adjusted according to the above proportion) to the value of net value added of All Small Public Limited Cos.	<u>30</u>	<u>32</u>
10. Public and Private Limited Manufacturing Cos. (2+3+6+9)	<u>3176</u>	<u>3162</u>
11. Private Corporate Manufacturing Sector A.S.I.	<u>3539</u>	<u>3572</u>