

PN-ABF-898
67938

Preliminary Draft

IIID/ESEPP Project
Planning Commission
February 15, 1969

AN IDENTIFICATION OF DYNAMIC SECTORS
and
AN ASSESSMENT OF THE IMPACT OF POLICIES
Evidence from the DI Data on
INVESTMENT

Research Team:

G. S. Sahota
Najmul Hossain
Hainul Haq
K. K. Sanyal

IIID/ESEPP WORKING PAPER NO. 12

SL-8

Preliminary Draft

IID/ESEPP Project
Planning Commission
February 15, 1989

AN IDENTIFICATION OF DYNAMIC SECTORS
and
AN ASSESSMENT OF THE IMPACT OF POLICIES
Evidence from the DI Data on
INVESTMENT

Research Team:

G. S. Sahota
Najmul Hossain
Mainul Haq
K. K. Sanyal

IID/ESEPP WORKING PAPER NO. 12

HIID/ESEPP Working Papers, 1987-88

<u>Working Papers</u>		T i t l e	No. of Pages
<u>New No.</u>	<u>Old No.</u>		
1	1	A Historical Survey of Industrial Policies with Special Reference to Small Industries in Bangladesh	53
2	2	Methodology of Policy Analysis	77
3	3	Total-factor Productivity (TFP) and Efficiency by Size-Class of Manufacturing Enterprises	94+100
4	4	Impact of Policies since 1982: Evidence from the Economic Census--I	67-100
4a	4a	Appendix B -- Detailed Crosstabulations Economic Census 1986	98
5	5	Set of Questionnaires for the Multisectoral Economic Survey of Bangladesh	102
6	8	Methodological Note on Effective Rates of Assistance by Industries of the I-O Table	15
7	9	Estimates of Effective Assistance to Textile Products 1974-75--1987-88	20
8	13	An analysis of the Impact of Policies by Size-class of Establishments in Bangladesh: Paper presented at the HIID Research Conference, Marrakech, Morocco, Oct. 26-29, 1988	36
9	14	Set of 4 Documentations of Data Tapes	25
10	15	The Extent and the Distribution of the 1988 flood damages in Bangladesh	73+148

HIID/ESEPP Working Papers, 1987-89 Contd.

<u>Working Papers</u>		T i t l e	No. of Pages
<u>New No.</u>	<u>Old No.</u>		
11	16	An Identification of Dynamic Sectors and An Assessment of the Impact of Policies: Econ. Census--II: More Analysis	58
*12	18	An Identification of Dynamic Sectors and An Assessment of the Impact of Policies, Evidence from the DI Data on Investment	50
12a	18a	Appendix--An Identification of Dynamic Sectors and an Assessment of the Impact of policies: Evidence from the DI data on Investment: Basic Tabulations and Documentation of Variable Records	90
13	19	Impact of Policies: Evidence from a Survey of Industrial Leaders	61
14	20	Effective Rates of Assistance (ERAs)	32
15	21	Impact of Policies and Identification of Growth Sectors--An Econometric Analysis	180

*This working paper.

Preliminary Draft

HIID/ESEPP Project
Planning Commission
February 15, 1989

AN IDENTIFICATION OF DYNAMIC SECTORS
and
AN ASSESSMENT OF THE IMPACT OF POLICIES
Evidence from the DI Data on

INVESTMENT

Research Team:

G. S. Sahota
Najmul Hossain
Mainul Huq
K. K. Sanyal

HIID/ESEPP Report No. 12

Contents

Section	Page
A. Introduction	1
1. Appropriate series of data for growth and impact analyses	2
2. Panel/time-series data assembled in this project	2
B. Analysis of the DI Data	4
Limitations of the DI data	4
C. Empirical Findings	8
Aggregate results	8
Analysis at the 4-digit-industry level	10
Industries which responded positively to NIP82	11
Industries which responded negatively to NIP82	11
Foreign-exchange intensity of industries	12
Analysis by size-class	13
Did small enterprises share in the post-1982 expansion?	14
Handloom and garment industries	16
A peek at sanctioning agencies	20
D. Brief Conclusions	25
Tables	31
Figures	50
Footnotes	59
Appendixes (Separately bound)	
A	1-68
B	69-73

List of Tables

Table	Page
1 Rate of growth of private industry investment, 1976-77 through 1985-86, DI data	31
2 Industries exceeding Taka 50 million nominal investment in 1982-83 or 1985-86, DI data	32
3 Industries which responded positively to NIP82, DI data	33
4 Industries which responded negatively to NIP82, DI data	34
5 Industries with high percentage of foreign component investment, 1981-82 through 1985-86 DI data	35
6 Industries with low percentage of foreign component of investment, 1981-82 through 1985, DI data	36
7 Number of firms that entered the dynamic, import-saving-investment industries during the 6 years from 1980-81--1985-86, by size-class, DI data	37
8 External and total real investment (in 1986-87 prices), by size-class of firms, DI data	38
9 Growth and decline of Industry 3206: Handloom Textiles industry, DI data	40
10 Growth and decline of Industry 3221: Garment manufacturing industry, DI data	41
11 Relative shares of different size-classes, 1976-77 through 1985-86, DI data	42
12 Top 5 big-share industries of the year and their shares in investment, 1976-77 through 1985-86, DI data	44
13 Top 5 big-share size-classes of different industries with shares in total investment, 1976-77 through 1985-86, DI data	46
14 No. of units sanctioned and shares of units and investment by econographic area, DI data	49

List of Figures

Figure		Page
1	Dynamic and import-saving industries by size-class: cumulated number of new firms from 1980-81 to 1985-86, DI data	50
2	Dynamic import-saving industries by year, total number of newly entering firms, 1981-86, DI data	51
3	Total private investment and the external component of private investment, 1976-77 through 1985-86, DI data	52
4	Investment by size-class, 1976-77 through 1985-86, DI data	53
5	Percentage of the imported component of investment to total private investment, 1976-77 through 1985-86, DI data	54
6	Import content of investment, 1978-79, 1985-86, 1976-81, and 1981-86, DI data	55
7	Shares of new firms by size-class, 1976-77 through 1985-86, DI data	56
8	Percent share of new firms by econographic area, 1976-77 through 1985-86, DI data	57
9	Percent share of investment by econographic area, 1976-77 through 1985-86, DI data	58

HIID/ESEPP Project
Planning Commission
Report No. 17
February 15, 1989

AN IDENTIFICATION OF DYNAMIC SECTORS AND AN ASSESSMENT
OF THE IMPACT OF POLICIES IN BANGLADESH
EVIDENCE FROM DI'S INVESTMENT DATA

A. Introduction

The most important information needed for development planning is an identification of potential growth sectors, the sectors which have comparative advantage. Who benefits from growth of different sectors is also important to uncover. Some sectors may be consistent with both growth and equity objectives. In Bangladesh, however, poverty is unlikely to be significantly impacted without growth, in particular the growth of labor-intensive sectors. An equally important relationship to determine for planning and policymaking is: which sectors (industries and size-classes) are amenable to rapid growth through intervention. For if a sector has a high comparative advantage and will grow at fast rate if left to itself, government intervention should be minimized. If it is highly responsive to incentives, intervention may be in order. The objective of this report, as that of several other reports of this project for that matter, is to identify growth sectors, dynamic size-classes, and policy impacts.

1. Appropriate series of data
for growth and impact analyses

To identify such sectors and to assess the impact of policies on these sectors, ideally, one should get hold of panel data, which are most appropriate for discovering the internal dynamics and behavioral patterns of decision-making micro producers. Since panel data are hard to come by in developing countries, time-series data by subaggregates and size-classes of industries are the next best raw material for the purpose.

So far, we have succeeded in assembling one series of panel data and three sets of time-series data. Each of the four series complements and supplements the other and provides checks on the results of others. These series, however, do not have all the data we-need. Accordingly, a survey is in progress that will generate information not available from existing data, including some time-series data by asking questions on the values of critical variables for several past years.

2. Panel/time-series data
assembled in this project

The panel time series data already assembled are the following:

Total-factor productivities, cost, output, etc.: the CMI data.—Annual panel data for total-factor productivities and several other computed indices as well as basic variables from the CMI, by establishment (about 2000), coded at the 4-digit-industry level, from 1974-75 through 1983-84. The number of primary and secondary (computed) variables is over 80. The establishments are also coded in alternative groups: public, private, and the rest; "old"

(those which existed from the initial year to the final year of the reference period), "new" (those which did not exist in the initial year but entered in subsequent years), and "moribund" (those which existed in the initial year, but dropped out in subsequent years), and so forth.

New establishments and employment: The Economic Census data.--Annual time-series data for new establishments by type (whether mechanized and using power, etc.) and employment, from The 1986 Economic Census. The format of this file (most of which is also available in printed form) consists of data for calculated totals prior to 1972 and then annually from 1972 through 1986. The variables are arranged by 4-digit industries and by year in rows, and by size-class of industries in columns. Year-to-year rates of expansion of establishments along with employment are calculated and inserted in the file. The data are also tabulated by district; by least-developed, less-developed, and developed area; and by urban and rural sector. The number of 4-digit-industries formed by newly entrant establishments ranges between 120 and 300 in different years.

Investment: the DI data.--Annual time-series data for investment (internal and external separately), by sanctioning authority, by economic area, at the 4-digit-industry level, from 1975-76 through 1985-86.¹ These data were copied from the unpublished records of the Director General of Industries, where firms are registered. Rates of growth of investment and various other statistics were computed at the 4-digit-industry level.

The number of enterprises that have registered with the DGI (although their investment may be sanctioned by different agencies, including BSCIC, Sonali Bank, and others) ranges between 600 to 2000 in different years. The number of 4-digit industries in which they fall in any one year is around 70.

Effective rates of assistance: series generated in the ESZPP Project.---Annual time-series of data for effective rates of assistance: net incidence of all domestic and trade policies, over 3-dozen incentives, subsidies, price-quantity controls and bans, and other policies, translated in terms of quasi-taxes. The data were collected from diverse sources. The exercise involves subtle conceptual problems, tedious product-matching procedures, tricky cost and input-output structures, fine domestic and border price determination, and time-consuming data-collection process. The effective rates of assistance were calculated for about 100 products, coded over about 3-score 4-digit industries, for the years from 1974 through 1987.

B. Analysis of the DI Data

The present report is based on the DI time-series data on investment. To begin with the limitations of this source should be noted.

3. Limitations of the DI data

(1) This source includes only private investment. Fortunately, however, in the present report we are interested mainly in private investment.

(2) An impression is held that in general only those firms care to register with the Registrar of the Department of Industries, Ministry of Industry, which wish to avail themselves of the facilities or assistance

provided in government's industrial policies. In particular, very small, owner-operated units may not be adequately represented by this set of data. The coverage is not believed to be complete for any size in any year. From the magnitudes of investment that will be seen in the empirical part, however, the statistics seem plausible.

(3) Even if this source is a reasonable representation of new private investment, it is still deficient and does not reflect total net investment, inasmuch as it contains no information about the old firms that are shut down. On the other hand, the BMR type of investment expenditures do not get counted, unless the old firm making such expenditures was previously not registered but elects now to get registered.

(4) The data pertain neither exclusively to sanctioned investment nor purely realized investment, but an admixture of both. In this respect, 2, 3 years moving averages would probably be more significant than annual figures. The difference between aggregate realized and sanctioned figures as available from the newly formed Board of Investment (previously Department of Industries) is quite large--the realized values range between one-third to one-half of sanctioned values. But they do so, more or less, consistently, such that the rates of growth of realized investment are probably not going to be significantly biased.

Even though, as just remarked, moving averages are likely to be more realistic than annual measures of investment, to be consistent with other time-series we will continue analyzing the annual series of data.

BEST
AVAILABLE

(3) The estimates of actual investment, as reported in the Planning Commission's Plan Document for the Second Five-Year Plan (Table 1, Cols. 9 and 10), lie between 34% to 171% of the investment in the DI source. The Planning Commission makes independent estimates. Therefore, the two rates can diverge. The DI estimates will fall short of actual investment insofar as the DI's coverage is incomplete or if at the time of registration entrepreneurs underestimate their own resources and give figures for borrowed funds only. One may be tempted to give higher credence to the estimates of the Planning Commission. Unfortunately, they are, firstly, available only for the 5 years of the Second Five Year Plan of the reference period. Secondly, they are aggregate and are not classified by industry. Thirdly, for all practical purposes, the Planning Commission's figures of private investment are nothing more than intelligent guesstimates. Essentially bank credit is taken as the base. Assumed percentages of self-finance are added to the bank credit to get totals. A second layer of assumed percentages is added for investment not based on bank credit. Investment in transport sector is a blown-up figure of legally imported machinery.

Public investment is estimated by annual development plan, ADP, (537), plus change in stocks (mainly food and fertilizer), plus food-for-work, plus net transfer to public corporations.

(5) The coverage is small. The source includes only new firms. As against the noted limitations, it may, however, be stated that this data set is practically the only disaggregate and time-series source of investment of any reliability for Bangladesh. The capital stock and investment data in the CMI have been found suspicious, as may be recalled from Report 3, when the K/O ratio calculated from the CMI was found to be unbelievably low of 0.19 in "old" industries and 0.26 in "new" industries. Moreover, while the less-than-full coverage of the DI data constrains one from estimating absolute magnitudes of investment for GNP estimates, that does not necessarily bias the rates of growth of investment. Also the coverage is large enough to account for a high fraction of total industrial output, as may be judged from the number of firms registered since 1976-77. For instance, the cumulated number of new establishments from 1976-77 to 1985-86 is 9591 in the DI source and 75,000 for more-than-4-worker establishments in the corresponding industries in the corresponding years in the Economic Census.

It may be seen that 3785 establishments entered the manufacturing industry during the five years of 1976-77 through 1980-81 and 5808 in the following quinquennium. For either of the two quinquennia, the number of new entrants is higher than the erstwhile annual coverage of the CMI.

In view of this, we will analyze the DI data set for whatever worth it is. We believe, however, that even though the DI investment figures may not be suitable for estimating national accounts, their rates of change and such ratios as the external investment to total are not likely to be wide off the mark.

C. Empirical Findings

Detailed calculations of basic data are given in Appendix A. The documentation for variable locations in the computerized DI data is given as Appendix B. The statistics considered relatively more relevant to the purpose in hand are summarized in text tables.

4. Aggregate results

At the aggregate level, interestingly, the private investment picture was quite promising during the 1970s, but not so during the 1980s, except in 1983-84 (the first year after the NIP82), as may be seen from Col. 4 of Table 1. Real private investment has increased, on the average, at an annual rate of 21.35 percent since NIP82 and has been positive throughout the 10-year period except during 1981-82 and 1984-85. As a percentage of manufacturing GDP, private investment (i.e., not counting public investment) has ranged between 5% and 10%. During the late 1970s, investment started low at 4.6% of the value added of manufacturing investment and reached 18.2% by 1980-81. During the succeeding quinquennium, again, it started at 4.6% of the value added of the respective industries and reached 10.2% by 1985-86. The mean annual rate has been 11.60 during the former epoch and 8.23% during the latter epoch. The mean annual time rate of growth of private real investment was 34.5% in the former quinquennium and 17.9% in the 1980s. Because of the low bases from which both periods started when treated separately, the decade time rate of growth comes to a low of only 7.63% (see Col. 4 of Table 1). It may be recalled from Report No. 16, Fig. 1, that major upward kink in employment growth occurred in and around year 1979. The

T238

AVAILABLE

present results from an independent source of data confirm that kink. The year 1981-82 comes out an odd bad year since 1976. Otherwise the trend in industrial expansion seems to have been set in the late 1970s. In a way that could be expected. From the early 1970s' war-ravaged conditions, the economy could only go up. A relatively stable period seems to have provided the conditions to start reconstruction. The investment-promotion policies, too, had started in the late 1970s (see Report No. 1). The NIP82 was probably not a big break from the past. We have to see.

In brief, the mean annual rate of private investment of the manufacturing industries during 1976-77 through 1985-86 in terms of the value these sectors contribute to GDP was 9.27%. The annual time rate of growth over the decade was 7.65%. Yet this investment is gross as we do not know about the disinvestment of the firms that were shut down during the reference period.

According to the Planning Commission's estimates, private investment in Industry No.3: the manufacturing industry, comes to 16.5% of manufacturing industries' contribution to GDP during 1976-77--1980-81 and 13.16% during the 4 years from 1981-82 through 1984-85. Public investment has averaged 12 percent of GDP over the reference period (from 80% to 90% of which is from foreign aid). In brief, according to the estimates of the Planning Commission, public investment is probably running at an annual mean rate of growth of 12 percent of GDP and private investment at a somewhat higher rate than that.

Even allowing for the fact that the manufacturing industry with about 10% contribution to GDP accounts for 16% of manufacturing investment, the Planning Commission's figures look rather too high. For the GDP growth rates cast doubts on these figures. The DI data series, with all its weaknesses, but with its merit of being more realistically generated than the largely guesswork of the Planning Commission, is probably an under-rated

source of data on investment in Bangladesh. It has the additional advantage of being available at the micro level.

If we accept the DI data-based estimates of investment as more realistic, the investment performance of Bangladesh's private sector is rather disappointing. Viewed over time, it shows a significant decline after the 1983-84 spurt, as does public investment, see Cols. 4 and 15 of Table 1. On the other hand, we have seen high rates of employment growth during the 1980s in the Economic Census data of Report No. 16 (see Fig.1). A possible explanation of the observed decline of investment and continuously rising trend of employment could be the fact that the employment statistics are derived from the production stage while investment pertains to the gestation period. A production lag of two years after investment is not abnormal. The noted decline in investment, therefore, is not inconsistent with or contradicted by employment growth data.²

5. Analysis at the 4-digit- industry level

The reader should be warned that the data may not be statistically significant for many of the size-classes at the 4-digit-industry level. It should also be noted that the weights of 4-digit industries vary widely, and from year to year, as may be seen from Table 2, where all those industries which had exceeded total investment of Taka 50 million in either 1982-83 or 1985-86 are collected. While in subsequent reports we will collect all the time-series data sets and carry out an econometric analysis of the sources of growth, etc., as a first approximation, in this report, we rely on a very simple, single parameter, namely the annual rate of growth. This parameter has its shortcomings. For instance, the rates of growth of those industries whose bases may happen to be large may not look as high as the rates of those industries whose bases are small. As such, the results derived from the rates of growth should be viewed with due sense of proportion.

1978

Investment in some industries may fluctuate widely due to lumpiness, e.g., fertilizer in the mid-1980s, silk in 1985-86, fish and seafood in 1982-83, and so forth, which fact might cause rates of growth to change exorbitantly. To verify the arithmetic causes of very large fluctuations, one should refer to the data in Appendix Tables A1 and A2.

5.1. Industries which responded positively to NIP82

The responsiveness of industries to policy incentives may be judged by the high and low, positive or negative change in the rate of increase of investment starting in 1983-84 (ignoring 1982-83, the first year after the big recession of 1981-82 in Bangladesh as well as the year of the NIP82). All those industries which experienced substantial upward shifts of investment in at least one year after 1982 are collected in Table 3. To find out which these industries are, the table should be read.

A caution: To distinguish a sustained impact of policies of 1982 from a bubble, the progress must be viewed over at least two of the three years after 1982-83 for which data are available. Disappointingly, a sustained expansion is discernible only in 3231: Tanning and Finishing; 3321: Wooden Furniture; 3816: Bolts, Nuts, and Rivets; and probably also in 3836: Batteries; 31...: Bakery Products; and 3711-13: Iron and Steel industries.

5.2. Industries which responded negatively to NIP82

It would seem ironical to find any industry reducing its investment after the NIP82 brought incentives and conditions favorable to the private sector supposedly in a big way. Interestingly there are many that did so. These are given in Table 4. These should also be read to know which industries experienced negative change in investment.

One reason for some industries losing their share of investment after the liberalization of investment policies could be the crowding-out effect of growing industries. Given limited investible resources, if some industries attract more

investment, they may crowd out other industries. This could be a test of comparative advantage.

As seen in Table 3, however, not many industries experienced sustained growth in the aftermath of the NIP82. The decline of investment in the industries noted in Table 4, therefore, is a matter of concern.

5.3- Foreign-exchange intensity of industries

A highly desirable characteristic of an industry, other things being equal, is its intensity in the use of domestic resources. Resource intensity ought to be measured separately for investment and production or machinery and raw materials. The reference data source permits us to measure the intensity of investment only. The raw-material intensity in the production process and the export-earning capacity are studied elsewhere in this project, using other data series. In general, the import content of investment is positively correlated with the import content in production of an industry.

Table 5 presents 10 industries in each of the 6 years since 1980-81 which topped the list according to the mean percentage of foreign-exchange component of annual investment. Nine of the 36 industries of the table are those that responded positively to the NIP82 at least in one year (superscripted by Letter a in Table 5), while 4 are the ones which lost in investment after 1982 (superscripted by Letter b). Thus, import-intensive industries show no consistent picture in terms of response to policies.

Import-intensity is not bad if the industry is correspondingly an export industry, too. This is the case with 3221: Garment-Making Industry. Investment import-intensity is also not bad if it is import-saving, such as 3501: Allopathic Medicines, provided the industry satisfies the efficiency criteria, namely the resources used in this industry cost less than would they have cost in importing an equivalent quantity of the product. Some such tests will be made in a subsequent report.

BEST
AVAILABLE

BEST
AVAILABLE

The corresponding picture for the industries that are foreign-exchange-saving is given in Table 6, where the bottom 10 industries in foreign-exchange intensity, with percentage share of foreign-exchange component, for each year from 1980-81 through 1985-86, are listed. It may be seen that the percentage share of the external component of investment in these industries is approximately 5 as against approximately 55 in Table 5. Interestingly, out of the 40 industries intensive in the domestic component of investment, 9 are those that responded positively to the NIP82, i.e., they appear in both Table 3 and Table 6. These are Industries 3122, 3201, 3559, 3712, 3804, 3808, 3809, 3822, and 3836. Only 3, namely 3112, 3145, and 3936, experienced falling investment after 1982. These numbers are close to the corresponding ones for foreign-exchange-intensive industries of Table 5. Thus, import-intensive investment is neither a necessary nor a sufficient condition for the growth of a sector. Nor is it desirable. This is an important result.

We are interested in the foreign-exchange shares and growth rates of investment of overall industries. We are also interested in the import content and growth rates of investment by size-class of different industries. This is the topic of analysis of the succeeding section.

6. Analysis by size-class

6.1. Did small enterprises share in the post-1982 expansion?

One of the pertinent questions to ask is: Did small establishments benefit from the opportunities offered by the NIP82? Detailed tabulations of annual total investment and the number of new firms by size-class (based on the magnitudes of investment) appear as Appendix Table A3. Several summary tables are given in the text.

BEST
AVAILABLE

The expansion by size-class of dynamic industries which were also import-saving in investment during the 1980s is given in Table 7 and is sketched in Fig. 1. It may be seen that seven of the nine industries that depict both of the desirable characteristics have their peaks in the middle, i.e., they are predominantly medium-scale industries. One, namely Industry 3201: Cotton textiles, has trough in the middle, while the curve of Industry 3804: Furniture and Wood Products is almost monotonically declining with size, meaning that it is predominantly small-scale.

Fig. 2 presents similar statistics by year during the 1980s. It may be seen that, on the whole, there was a significant revival of industrial activity after the NIP82. That revival looks more magnified, however, because of the slump of the first two years of the current decade. The industrial economy slumped again in 1984-85. In the overall picture of the 9 reference industries of the first 6 years of the decade, the industrial expansion of 1983-84 seems a bubble rather than a boom. That, however, is probably a hasty conclusion, inasmuch as only the number of units is being viewed. The next step, therefore, is to look at investment magnitudes. This will be done by alternative tabulations in several tables, which will also present calculations for tests of additional hypotheses.

Table 8 presents annual investment and annual import-intensity of investment by size-class.

The first result that may be noted is that imported investment goods (machinery, etc.) are directly related to the size of the firm. Small size-classes require practically no foreign exchange for investment. Their machines are locally made. Large firms spend more than half of their investment

funds overseas in the form of payments in foreign exchange. How they get foreign exchange--from WES, official allocation, foreign collaboration, export earnings--is a different matter.

In the foregoing paragraphs we have tended to argue that foreign-exchange intensity of investment is undesirable. As a second thought, one might pause for a moment to consider whether that really is the case in the current conditions of Bangladesh when foreign aid is pouring in at an annual rate of approximately 12 percent of GDP, remittances from abroad have been running at additional 3 percent of GDP, and when almost all machinery has to be imported! We leave this issue at that.

A second result of this tabulation is the spurt of investment around the year 1979 and a very sharp drop in investment in 1981-82, across all size-classes and gradual recovery across all size-classes since, as may be more vividly seen from Figs. 3 and 4. Equally noteworthy is the decline of investment in small and medium enterprises in 1984-85 and complete recovery in 1985-86, and downward trend in the uppermost class in 1985-86.

In general, the 1981-82 slump of private investment seems to coincide with the world recession of the early 1980s (that followed the 2nd oil shock in 1979) and crop failure in Bangladesh. The political uncertainty following the assassination of the second president in six years is another possible factor. The recession in private investment after 1983-84 is due, among other reasons, to the sharp decline in world jute prices (which forms a quarter weight in the country's exports) and a deep cut in donors' credit to the Bangladesh. DFIs consequent upon their very poor recovery record.

Other than these obvious factors, a determination of possible causes of the calculated ups and downs will be undertaken in Report No. 21.³

A third notable result is the vibrant recovery of small and medium enterprises in the 1980s as compared to the 1970s, such that all size-classes have more than made up for the early 1980s' slump, except the large class with investment exceeding Taka 30 million. The large sector has not yet reached

the earlier period's absolute investment magnitudes, not to speak about its investment to GDP ratio. Because of its sheer heavy weight, the total investment tends to follow the ups and downs of the large sector.

A final result of Table 3 concerns the percentage that the external component of investment forms with respect to total investment by size-class. Not only the ups and downs of the absolute external cost of investment correspond to those of total investment, but, interestingly so do the shares of the external component to total investment, as may be seen from Fig. 5. A possible inference from this result is that foreign exchange is a constraint, such that when foreign exchange is rationed tightly, investors economize in its use. Alternatively those industries carry out their investment plans which need relatively lower proportions of imported investment goods. The latter inference is, however, not supported by total investment by size-class in Fig. 4. As expected, the share of imports in investment went up sharply with the liberalization of trade in 1982. This was caused largely by the upper 3 size-classes (medium and large industries), as may be viewed from Fig. 6. The imported component of investment increased at a higher rate than the domestically financed component of it. The disparate increase cannot be due to foreign investment, as separate estimates for the latter indicate that foreign investment is a very small fraction of total investment. WFS funds formed one of the sources of foreign exchange, which appear to benefit investors across the board.

7. Handloom and garment industries

Next we look a bit more minutely at two premier industries of Bangladesh, namely the handloom and garment-making industries. The former (Code 3206) experienced an explosion of investment in 2 of the 4 years of the 1980s: an investment of Taka 437 million in 1980-81 and Taka 212 million in 1983-84 (Tabl

In each of the rest of the years of the 1980s, the industry has experienced falling rates of investment. Looked at in the context of the entire period of 6 years, the years 1980-81 and 1983-84 appear either bubbles or a kind of "one leap forward and two backward". This kind of ups and downs can cause statistical illusions, inasmuch as even a normal year following an extremely good year will, in year-to-year rates of change, show a decline of investment. The fact of the matter, however, is that the handloom industry experienced 4 bad years against two good years in the first part of the 1980s, which is not an optimistic picture. In 1983-84, many rent-seeking investors are known to have obtained credit posing as members of deserving target groups, which they probably were not.

The evolution of the garment-making industry (Code 3221) is given in Table 10. Similar bubbles or leaps forward as for the handloom industry appears in this industry also. This is one of the frustrating phenomena for policymakers of this country: there is a bandwagon for one or two years when so many entrepreneurs jump in in expectation of high profits, real or financial. Invariably the recession that follows the booms of an industry is much longer.

One of the possible explanations for this behavior is the paucity of technology and investment opportunities and, more so, the lack of information about whatever technology and market intelligence there is. Entrepreneurs look for investment avenues and whenever they see others make profits they crowd into that activity and saturate the market. Supply catches up, profits come down, and future investors are dismayed.

The noted bandwagon effect may be more pronounced in Bangladesh because of lack of continually evolving profitable opportunities, but in a free-enterprise economy that is what is in general expected. The textbook theory of the firm tells us, that under competitive conditions not only excess profits tend to be eliminated, the zero-profit theorem applies according to which the profits of even the most efficient firm will be competed away by competitors' bidding up of the prices of special resources responsible for efficiency. Therefore, the bandwagon phenomenon is not a malaise, rather it is the sign of health of the economy. What is lacking in Bangladesh are profitable investment opportunities on stream. The lack of such a stream is unfortunately a characteristic of an underdeveloped economy.

The critical role of R&D and search for new techniques of production and information is obvious. But since the payoff from these activities takes long time to emerge, politicians and policymakers, pressed to show quick results, tend to neglect R&D.

Shares of different size-classes.--Table 11 and Fig. 7 present a picture of shares of different size-classes over time. It may be seen that both in the extreme recession year (1981-82) and the extreme boom year (1983-84) of the 1980s the share of the large sector (Size-Class 6) fell sharply while that of the medium sector (Size-Class 4) rose substantially above the magnitudes of all other years. In the intervening year, 1982-83, too, the medium size-class did better than other years (except 1981-82 and 1983-84). It, thus, appears that the large sector does not necessarily pull the entire investment up or down by its sheer large weight (which was 81% in the first half of the reference period, 68% in the second half). The medium size-classes, too, make a difference. One possible conclusion one can draw

is that, irrespective of boom or slump, in the early 1980s, large industries lost substantial ground to medium industries. They almost recovered the ground in the mid-1980s. Why the years 1981-5 were bad for large industries remains to be explained. What knots one's brows and at the same time creates further interest is that our research is generating more questions than providing answers to them!

Biz 5 industries of the year.--In Table 12 are arranged the top 5 industries of the year in terms of relative shares in total investment from 1976-77 through 1985-86. Over the 10-year reference period, 23 different industries occupied the top 5 positions (treating the 1-digit industry-code 4000 as one sector, comparable to 4-digit industries of the manufacturing sector). The former sector actually consists largely of hotels, restaurants, and catering, but also includes some other nonmanufacturing industries. It is number 4000 for no special reason other than that the number follows the 4-digit manufacturing industry 3900. In terms of weight, it is not much bigger than major 4-digit industries. It is interesting to note that this sector appears among the top 5 upto 1981-82 but not thereafter.

Iron, Steel, and Re-rolling and Iron and Steel Mills have occupied a place among the big-5 manufacturing industries almost throughout the reference period. So have Cotton Textiles. Cardage, Ropes, etc., occupied the elevated position in the late 1970s but not in the 1980s. Dyeing and Bleaching of textiles came largely in the 1980s as did Match Manufacturing. Tannery was a leading sector in 1976-77, then it fell out, but reappeared in 1985-86. Silk and Synthetic Textiles has had a similar time frame. It accounted for over 40% of the investment in 1985-86. Fish and Sea Food spurred in the early 1980s, then slumbered. As a first approximation, we should consider all the 22 four-digit manufacturing industries of Table 12 to have relatively high growth potential, including: Cotton Textile; Tannery and Leather Products; perhaps

**BEST
AVAILABLE**

Batteries, Rice Milling, Cigarettes, Fruit and Vegetables, Bricks, Distilled Spirits, and Printing and Publishing; Chemicals n.e.c.; Silk and Synthetic Textiles; Iron and Steel Re-Rolling and Mills and Fabricated Metals; Carriage and Ropes Fish and Sea Foods; Agricultural Mechanical Equipment; Dyeing and Bleaching Textiles; Match Manufacturing; Fruit and Vegetable and Hydro Vegetable Oils; and Allopathic Medicines.

Big 5 Size-Classes of the year in different industries.--With a view to seeing which size-class(es) is (are) mainly behind shares of the big 5 of each year, we record the big 5 size-classes of the year in any industry in Table 13. As expected the largest size-class, No. 6, is mostly responsible for the respective industry's leading position. It occupied 36 of the 50 top positions in 10 years. More interesting cases, however, are those where lower size-classes reached the top ranks. Size-class 5 (US\$.501-1.0 million) of Fruit and Vegetable Processing scored to the ranks of the top 5 for 2 times in 10 years, Size-Class 4 (US\$ 167,000-500,000) of Iron and Steel Re-Rolling (in the 1980s) for 4 times; and Size-Class 3 (US\$ 50,000-166,000) of Fabricated Metals, Metal-Barrel-Drum, and Silk and Synthetic Textiles one time each during 1983-84 and 1985-86. These industries are small and potentially dynamic. We have, however, yet to see how much they are assisted and how they performed in other respects. We will return to this verification in a subsequent report.

A peek at Sanctioning agencies

Next, we look at the crosstabulation of firms by size-class, and by year. The tabulations are given in Appendix Table A'a-A'j. Only salient results will be stated here.

Aspiring industries seek investment sanctions primarily for two reasons: (1) if they want to apply for industrial loans, (2) to be eligible for import

licenses, tax concessions, and similar other benefits. The attractiveness of a particular sanctioning agency depends on how well it satisfies the above two functions to entrepreneurs. If a firm obtains sanction from an agency other than the DI, it can still register with the DI and qualify for investment benefits.

The Bangladesh Shilpa Bank (BSB) and Bangladesh Shilpa Rin Sangstha (BSRS) are primarily large-investment-sanctioning DFIs, mostly investing in developed areas, though gradually in the 1980s they had spread out to less-and-least-developed areas also. A close look at the two Development Finance Institutions (DFIs) as sanctioning authorities suggests that their role has diminished over the years. BSB's share in all the three econographic areas, both in the number of projects approved and the percentage share of the total investment, has been on the decline since 1978-79 (1984-85 being an exception). BSRS's activity has declined quite dramatically. Compared to 130 projects being approved (87, 25, 18 in the developed, less developed, and least developed areas, respectively) in 1979-80, only 2 projects were endorsed by BSRS in 1985-86. Various explanations may be offered for this trend. Donor agencies, such as the World Bank and the Asian Development Bank, have been taking a hard look at the activities of the DFI's. The DFI's have been blamed for low loan recovery rates, corruption, and red-tapism. Much to the chagrin of DFI officials (as was clearly evident in the interviews that the HIID technical staff had with apex agencies), donor agencies have severely limited the availability of "soft" loans to these institutions. In fact, largely because of the pressure of the donor groups, currently BSRS does not have the privilege to make new loans. A major overhauling in the structure of the Shilpa Bank--in identifying viable and socially desirable projects and in recouping past loans--is under-

going. The two DFI's mentioned are also facing competition from newly created semi-private industrial loan-giving firms, such as the Industrial Promotion Development Company (IPDC) and Micro Industrial Development Association Society (MIDAS) in obtaining funds and logistic support from foreign agencies. For instance, IPDC relies heavily on an European Consortium, while MIDAS has been a favorite of USAID.

The largest sanctioning agency is, of course, the DGID, which handles more than 50 percent of sanctions. In the 1970s, the frequency distribution of its sanctions was fat towards small firms. In the 1980s, it gradually started receiving applicants in the middle size-classes. In the 1970s it sanctioned investment predominantly for developed areas. In the 1980s that imbalance tended to be corrected.

Its other department, DGIO, gave sanction to firms largely from less-developed (and to a lesser extent least-developed) areas in the 1970s. It continued that pattern, but with lower prominence in the 1980s. Two intriguing conclusions can be drawn from this phenomenon. First, despite widespread criticism of the Department of Industries about red-tapism and bureaucratic sloth (perhaps, in part, leading to the recent replacement of the department by an "Investment Board"), the advantages of the stamp of approval from the DI is clearly more attractive than alternate sanctioning authorities. For instance, the DGI approval is often necessary for import licenses. Certain tax breaks are also given to the firms sanctioned by the DGI. Second, the criticism of red-tapism and corruption is also valid for the remaining sanctioning institutions. During our interviews with some private apex agency representatives, similar sentiments were echoed.

Krishi Bank was hardly in the sanctioning business in the 1970s. It entered in the 1980s with a tendency towards medium-size firms.

Interestingly, BSCIC's sanctions appear more in medium-size industries (as defined in terms of investment value here) than small. Its sanctions are almost uniformly spread across developed, less-developed, and least-developed areas.

The CB and the group of sanctioning agencies put under the category "others" specialize largely in small investments.

The study of the sanctioning process gives some insight into the interaction between private investors, on the one side, and public and semi-public sanctioning authorities, creditors, and incentive-administering government offices, on the other side. The long delays and complicated procedures of the investment-sanction process are believed to cause disincentive to genuine investors and incentive to rent-seekers. Much optimism in terms of expeditious and efficient sanctioning service is now pinned on the newly created Board of Investment, under the direct chairmanship of the President. It remains to be seen how far the reform helps things improve.

Investment by Economic area

Finally, we present a brief picture of investment by developed, less-developed, and least-developed area.

As was discussed in Report 1 at length, policies aimed at promoting the dispersal of industries to outside Dhaka and Chittagong have existed during most of the period since Independence. Fiscal incentives consist, among others, of machinery, lower tax on the purchase of industrial plots, a moratorium on income tax during initial years, and other tax breaks. Relatively easy credit is available both in terms of eligibility and low

interest charged. Industrial estates--with their amenities, technical and marketing assistance (from NGOs, BSCIC, similar other governmental and foreign organization)--are meant to provide additional stimulus.

Our impressions from the Apex agency survey on the receptiveness of entrepreneurs to "move out" in the rural areas are at best mixed. The private investors acknowledges that the tax benefits are impressive. Nevertheless, the quality of the industrial estates in the less and least developed areas the law and order conditions, lack of infrastructure, distance from markets, are discouraging factors to the industrial development of backward regions.

A tabulation of new firms and investment by econographic area is given in Table 14. Bar diagrams in Figs. 8 and 9 provide a visual picture of how relative shares of investment have changed between the three econographic areas. It may be seen that the conditions in the late 1970s through 1980-81 were favorable to less-and-least developed areas. If the NIP82 had any interregional impact, it was in favor of developed areas. This result holds consistently for both the number of firms and the amount of investment.

Despite the apparent promotion of decentralization and people's participation at the upazila level during the 1980s, the less-developed and least-developed areas in relation to developed areas had never had it so good as in the 3-years around the turn of the decade. Why backward areas had a possible better deal during those years will be verified in Report 21, where annualized series of various policy variables, along with other variables, will be analyzed to answer this question.

Brief Conclusions

In this report, we set out with two objectives: to identify growth sectors and to assess the impact of policies. Concerning the latter, we started with the premise that major policy change to promote private investment came in the wake of the NIP82, when investment incentives were toned up, the tempo of liberalization and privatization increased, and when the investment sanctioning process was supposedly simplified. Accordingly, we looked minutely at possible shifts and kinks in the growth paths of different industries after 1982-83.

We did find very significant upward jumps in investment in different industries in 1983-84. Had we looked at the period consisting of a year before and a year after the NIP year, namely 1981-82--1983-84, the conclusion of high positive impact of NIP82 would have been unassailable. That was, indeed, the conclusion of the analysis of total factor productivity in Report 3, as the data for that analysis were not available beyond 1983-84. When we examined the changes in investment over a longer period on both sides of the the NIP year--from 1976-77 through 1985-86, to be more specific--a different picture emerged: the biggest boom in private investment came in 1978-80 and a smaller one in 1983-84. During the rest of the period, investment was rather sluggish. Looked at in the context of the entire reference period, the years 1978-80 and 1983-84 appear as bubbles. The picture is quite vivid in handloom and garment industries. In the 1980s investment has shown no signs of catching up with the magnitudes of investment of the late 1970s.

It may be recalled that in Report 16, based on the analysis of the Economic Census, a clear upward kink in employment expansion around the year 1978 was observed. There was little deviation after 1982 from the long-run employment-

expansion trend of the period from the late 1970s through 1985-86. Looking back on Report 3 we find that the total factor productivity results do not seem to contradict the stated result either. These findings tend to indicate that the long-run trend in growth was set in the late 1970s, which, in a way, could be expected to gestate after the war-ravaged economy had gone through its trough of difficult times in the first half of the decade of the 1970s.

Does that mean that investment-incentive policies have been ineffective? Not necessarily! For a review of the history of policies since Independence in 1971 (see Report 1) indicates that private investment-promoting policies had in reality begun in the late 1970s. The well-known massive credit program by donors, too, began in those years (which ran into trouble of high overdues by the mid-1980s). Accordingly, a proper test of the impact of policies cannot be made without analyzing the changes in policies along with other relevant variables over a longer period of several years, instead of one chosen year of a major policy change. This test will be made in Report 21.

Among other results, the following may be noted:

Prima facie evidence suggests that insofar as the rates of growth of private investment are concerned, the DI data are more reliable than any other source, including the estimates of the CMI and the Planning Commission.

The industries that responded positively to the NIP82 and have shown, by and large, a consistent growth since are only 3 or 4 out of 290 studied here, namely, bakery products; tanning and finishing; wooden furniture; iron and steel mills; the bolt-nut-rivet industry; batteries; and probably radio and TV and wire products.

Import-content of investment is directly related to the size of the firm, as expected. Small size-classes require practically no direct foreign exchange

27

**BEST
AVAILABLE**

for investment.

Small and medium firms have, on the whole, shown dynamism after the 1981-82 slump, while large firms have been recovering cautiously. Their annual real investment in the 1980s has risen barely above the 1973-81 levels.

Due to the sheer weight of firms with investment exceeding US\$1 million, the ups and downs of overall investment are closely associated with the ups and downs of these firms. It is the large sector's stunted growth that mainly lies behind the static nature of overall industrial investment.

Of the 290 four-digit industries analyzed here, 33 are import-intensive (being among the top 10 in the import component of investment in any of the six years of the 1980s for which data are available, among which none is found to import less than 40% of its investment against foreign exchange) and 33 are import-saving in investment (the bottom 10 in any year in terms of the import intensity of investment, mostly with less-than-5% import component). Interestingly, in each of the two groups there are 9 different industries which responded positively to the NIPED and 3 to 4 which responded negatively. An important conclusion that follows from this result is that import-intensive investment is neither a necessary nor a sufficient condition for the expansion of a sector. Nor is import-intensity desirable.

Two of the premier industries of Bangladesh, namely the handloom industry and the garment-making industry have had more bad years than good in the reference period. The handloom industry rode the crest of the wave in 1980-81 and 1983-84, but sank in other years. The garment industry did very well in 1973-79, 1979-80, and 1983-84, but experienced negative expansion rates in the other 7 years of the reference period. We will verify the reasons for their

booms and ebbs in a subsequent report.

About 20 four-digit manufacturing industries among themselves occupied the top four positions in terms of the relative shares of new investment in most of the years from 1976-77 to 1985-86. As a first approximation, therefore, they should be considered to have relatively high growth potential in the 4FYP. These include: Cotton Textiles; Tannery and Leather Products; perhaps Batteries, Rice Milling, Cigarettes, Fruit and Vegetables, Bricks, Distilled Spirits, and Printing and Publishing; Chemicals n.e.c.; Silk and Synthetic Textiles; Iron and Steel Re-Rolling Mills and Fabricated Metals; Cardage and Ropes; Fish and Sea Foods; Agricultural Mechanical Equipment; Dyeing and Bleaching Textiles; Match Manufacturing; Fruit and Vegetable Processing; Hydro Vegetable Oils; and Allopathic Medicines.

In the following 4-digit industries, their medium-size-classes occupied positions among the big 5 size-classes of investment of the year:

Fruit and Vegetable Processing (for 7 years)

Iron and Steel Re-Rolling (for 4 years)

Fabricated Metals (for 1 year)

Metal, Barrel, and Drum (for 1 year)

Silk and Synthetic Textiles (for 1 year)

The middle three industries fall under what is generally referred to as light mechanical engineering industries.

In subsequent studies we shall be examining several of these industries more minutely to further verify whether they stand other tests of being growth sectors.

In this report, as in several others, we have been searching for the probable sources of industrial growth in Bangladesh. A depressing result found so far is a couple of bubbles in investment lasting no more than a year or two each time and relatively longer periods of sluggishness in investment. A cheering result for an econometrician is the wide variations that have been observed in various facets of industrial growth as well as industrial policy parameters (such as the effective rates of assistance). In particular, an industrial boom was observed during a couple of years immediately preceding the turn of the decade, specifically 1978-80, which has not been repeated since, despite two landmark policy reforms of 1982 and 1986, stable government during the 1980s, unprecedented massive foreign aid, and so investment was higher than in any period before or after (Fig.3); small and medium industries flourished with relatively larger shares and higher rates of growth of investment (Fig.4); the import content of investment was lower than in the 1980s (Figs. 3, 6); and backward regions (the so-defined less-developed and least-developed areas) experienced higher relative rates of industrial growth than at any other time (Fig. 8 and 9). It is probably true that repressed investment of the war-ravaged period of the preceding years spouted out in those politically stable years after the turmoil of political assassinations and coup d'etats. But economic factors and policy parameters also changed (see Report 1). Moreover, several aspects of industrialization of those years are evidently more desirable than the same in other years, e.g., relatively higher growth of backward areas, small industries, and import-saving investment. An

exploration into the causes of such changes, which are germane to rigorous econometric analysis because of wide variations in the relevant variables, may reveal some of the sources of potential growth in this country we are so desperately searching for. To that exploration we shall turn in a subsequent report.

Table 1.--Rate of growth of private industry investment, 1976-77 through 1985-86, BI data

Year	No. of Units	Total Private Manufacturing Investment in Billion of Taka (BI) ^a			GDP in Current Prices (Millions of Taka)		(5/6)100	(2/5)100	Actual Private Manufg. Investment Acc. to Pr. ^c			Overall Public Inv.						
		Nominal	Real In 1986-87 Prices	% Increase	Industry and Trade	Total			Tk. Bill	Col. 9 as % of Nominal	Col. 2	Col. 5	Taka in Billions of Nominal	In 1986-87 Prices	Growth Rate	% of GDP		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)				
(No.)	(Tk Bill)	(Tk Bill)	(%)	(Tk Bill)	(Tk Bill)	(%)	(%)	(Tk Bill)	(%)	(%)	(Tk Bill)	(Tk Bill)	(%)	(%)				
1976-77	676	920	655	..	20044 ^a	105360 ^a	19.02 ^b	4.59	1570	171	10.1	10057	67764	..	15.2			
1977-78	855	1561	955	27.0	22235 ^a	130290 ^a	17.06 ^b	7.02	1920	123	20.4	12029	62604	-14.01	11.1			
1978-79	768	2293	6920	24.7	25949 ^a	144770 ^a	17.92 ^b	8.84	1810 ^d	79	17.5	16026	40432	11.14	12.7			
1979-80	862	4447	11706	68.8	31559 ^a	172630 ^a	18.30 ^b	14.09	1700	38	13.6	23300	61112	20.63	15.0			
1980-81	1683	2200	6664	9287	14908	17435	21.4	36636	233263	15.70	18.19	2226	34	14.8	21690	51004	-11.55	12.1
5-year total	3783	15825	26281	34.5	136423	786113	17.35	11.60	..	..	16.9	85102	255318	1.62	13.1	
1981-82	655	2172	4270	3622	-71.3	47783	265144	18.02	4.55	3322	153	12.9	27152	5165	0.11	12.5		
1982-83	590	2179	5025	4418	11.54	51224	288423	17.76	5.43	3457	124	12.1	11261	5651	5.11	12.8		
1983-84	2152	5092	8763	8071	74.71	59463	349922	16.99	9.91	4572	70	14.8	16150	511	-9.52	11.1		
1984-85	798	6450	1013	7679	-8.00	69910	416962	16.77	9.23	4368	60	12.6	15084	4311	-14.10	9.2		
1985-86	1613	7798	8841	8762	9.51	76514	459910	16.64	10.19	..	..	40955	46411	5.74	9.3	
5-year total	5808	25091	34997	32552	17.9	304894	1780361	17.12	8.23	..	..	13.2	163780	251601	-2.20	11.0
Grand total	9591	40916	61284	..	7.65	441337	2566474	17.20	9.27	..	..	15.0	257002	606813	..	12.0

^aGDP, not GDP. The rest of the figures in Cols. 5 and 6 are for GDP.

^bNote that both the numerator and the denominator are in terms of GDP categories upto 1979-80.

^cThe Planning Commission's estimates of private investment (Col. 9) are supposedly actual. For a note on how these estimates are made, see Footnote 1. Source: Planning Documents. See also 1987 Statistical Yearbook of Bangladesh, p. 666.

^dEstimated by interpolation, as this year's private investment could not be obtained separately from overall public and private investment. It may be noted that private investment of the manufacturing industry is approximately 16 percent of total private investment. In the Second Five Year Plan, the rest of private investment was in agriculture (36%), physical and housing (18%), transport (14%), and trade and other services (16%).

Table 2.--Industries exceeding Taka 50 million nominal investment in 1982-83 or 1985-86, DI data

Code	Name of the Sector	1982-83		1985-86	
		Absolute Investment in Tk Mill.	Share in Total	Absolute Investment in Tk Mill.	Share in Total
(1)	(2)	(3)	(4)	(5)	(6)
		(Tk Mill.)	(%)	(Tk Mill.)	(%)
3114	Fish and sea foods	800	28.82	77	1.00
3122	Bakery products	3	.11	54	.69
3141	Cigarettes	100	3.60	13	.16
3204	Silk and Synthetic tex	0	0	3155	40.45
3213	Knitting mills	2	.08	54	.13
3216	Spooling & Thread ball	27	.99	51	.66
3219	Tex manufacturing	0	0	207	2.65
3231	Tanning and finishing	7	.24	320	4.11
3233	Leather products	448	16.13	27	.35
3411	Pulp and paper	3	.11	258	3.31
3412	Paper board manufacturing	0	0	55	.71
3422	Printing & Publishing book	43	1.53	93	1.19
3501	Allopathic & Medicines	13	.47	292	3.74
3569	Rubber products	64	2.29	237	3.03
3612	China and ceramic	0	0	91	1.17
3622	Glass products	101	3.65	50	.64
3711	Iron and steel basic	0	0	371	4.76
3713	Iron & steel rerolling	199	7.15	609	7.80
3822	Agri. machinery	39	1.41	172	2.20
3825	Indl. machinery	0	0	54	.69
3829	Mech. and equipment	107	3.86	287	3.68
3832	Radio and tel.	51	1.83	101	1.29
3833	Elec. appliances	12	.43	77	.99
3835	Elec. bulbs and tubes	91	3.26	246	3.15
3841	Ship building	37	1.34	154	1.98

BEST AVAILABLE

BEST AVAILABLE

Table 4.--Industries which responded negatively to WPIA, by date^a

Code	Industry	Yearly Percent Rate of Contraction of Total Investment			
		1951-52	1952-53	1953-54	1954-55
(1)	(2)	(3)	(4)	(5)	(6)
3111	Dairy prod.	-57	-59	-56	-26
3113	Fruits and veg.	-52	-75	..	-100
3125	Confectioneries	-100	-0	-0	-0
3126	Tea and coffee	-100	-0	-0	-0
3141	Tobacco stem & redrying	-100	-100	-0	-95
3145	Tarda and quivan	-0	-0	-0	-100
3214	Carpets and rugs	-0	-100	-0	-0
3216	Spooling thread ball	-0	-89	-51	..
3312	Plywood and prod.	-0	-100	-0	-0
3412	Paper board manufacturing	-0	-0	-100	-0
3413	Articles of pulp and paper	-100	-0	-100	-0
3503	Ayure Vedic med.	-0	-100	-0	-0
3504	Homeopathic med.	-0	-100	-0	-0
3509	Petrol refining	-0	-0	-100	-0
3514	Fert. manufacturing	-0	-100	-0	-0
3522	Tar and alkatre	-0	-0	-100	-0
3600	Non-metallic mineral	-0	-100	-0	-0
3605	Structural metal products	-0	-0	-100	-0
3607	Heating and cooking equip.	-100	-0	-100	-0
3627	Sewing machine	-100	-0	-0	-0
3662	Optical goods	-22	-100	-0	-0
3916	Pencil	-0	-0	-0	-100
3918	Umbrella	-12	-100	-0	-100
3942	Bone crushing	-100	-0	-100	-0
4000	Service	-100	-0	-100	-0

^aThe term "-0" means no entry in the list.

BEST
AVAILABLE

Table 3.--Industries with high percentage of foreign component of investment, 1931-32 through 1935-36 (21 data)

Code	Industry	Top 10 Industries Acc. to Mean Percentage of Foreign Component of Investment in Respective Year					
		1931-2 (3)	1932-3 (4)	1933-4 (5)	1934-5 (6)	1935-6 (7)	1936-7 (8)
3112	Whites and var.	..	57	40	..	..	..
3114	Shoe & leather	43	35	84	..	..	..
3115	Hyd. var. oil	..	..	..	7-	..	..
3223	Sugar factor	..	..	..	..	55	..
3221	Alcohol & spirits	59	..	..	..	..	..
3222	Cigarettes	61	100	40	..	..	..
3202 ^a	Cotton tex	..	..	..	..	52	..
3204	Silk and Syn. tex	..	46	..	63	..	..
3207	Dyeing, bleach	..	..	39	65	75	..
3214	Carpets and rugs	46	..	..	..	..	..
3215	Cord rope	56	..	..	..	..	..
3216	Spooling thread-ball	..	..	..	..	55	..
3220 ¹	Ready Made Garments	29	21	..	7-	56	46
3221	Tanning and finishing	43	52	41	..	..	57
3222	Wing and paper	41	..	..	..	..	57
3222 ^m	Whisking	41	35	..	..	..	40
3222 ^o	Alc. Whis.	..	..	11	..	..	40
3222 ^p	Whisking	..	..	..	..	..	40
3222 ^q	Comp. L. Whis.	..	..	..	..	76	53
3222 ^r	Soap and detergents	..	..	..	..	..	..
3222 ^s	Washers and clothes	..	27	..	..	..	..
3222 ^t	Iron and steel mill	..	..	..	..	72	69
3222 ^u	Iron manufacturing	..	30	..	..	54	..
3222 ^v	Iron and steel ind.	..	..	..	66	..	..
3222 ^w	Waxes and dyes	13	..	..	..	..	..
3222 ^x	Seating machines	..	33	..	..	..	19
3222 ^y	Mach. equipment	..	..	..	13	..	..
3222 ^z	Public utility	..	..	33	..	56	..
3222 ^{aa}	Elec. wire and tubes	..	..	..	..	..	65
3222 ^{ab}	Batteries	..	..	..	..	67	..
3222 ^{ac}	Ship building & repair	..	..	..	..	..	..
3222 ^{ad}	Wholesale	..	..	31	..	..	..
3222 ^{ae}	Service sector	..	..	..	38	..	..
3222 ^{af}
3222 ^{ag}
3222 ^{ah}
3222 ^{ai}
3222 ^{aj}
3222 ^{ak}
3222 ^{al}
3222 ^{am}
3222 ^{an}
3222 ^{ao}
3222 ^{ap}
3222 ^{aq}
3222 ^{ar}
3222 ^{as}
3222 ^{at}
3222 ^{au}
3222 ^{av}
3222 ^{aw}
3222 ^{ax}
3222 ^{ay}
3222 ^{az}
3222 ^{ba}
3222 ^{bb}
3222 ^{bc}
3222 ^{bd}
3222 ^{be}
3222 ^{bf}
3222 ^{bg}
3222 ^{bh}
3222 ^{bi}
3222 ^{bj}
3222 ^{bk}
3222 ^{bl}
3222 ^{bm}
3222 ^{bn}
3222 ^{bo}
3222 ^{bp}
3222 ^{bq}
3222 ^{br}
3222 ^{bs}
3222 ^{bt}
3222 ^{bu}
3222 ^{bv}
3222 ^{bw}
3222 ^{bx}
3222 ^{by}
3222 ^{bz}
3222 ^{ca}
3222 ^{cb}
3222 ^{cc}
3222 ^{cd}
3222 ^{ce}
3222 ^{cf}
3222 ^{cg}
3222 ^{ch}
3222 ^{ci}
3222 ^{cj}
3222 ^{ck}
3222 ^{cl}
3222 ^{cm}
3222 ^{cn}
3222 ^{co}
3222 ^{cp}
3222 ^{cq}
3222 ^{cr}
3222 ^{cs}
3222 ^{ct}
3222 ^{cu}
3222 ^{cv}
3222 ^{cw}
3222 ^{cx}
3222 ^{cy}
3222 ^{cz}
3222 ^{ca}
3222 ^{cb}
3222 ^{cc}
3222 ^{cd}
3222 ^{ce}
3222 ^{cf}
3222 ^{cg}
3222 ^{ch}
3222 ^{ci}
3222 ^{cj}
3222 ^{ck}
3222 ^{cl}
3222 ^{cm}
3222 ^{cn}
3222 ^{co}
3222 ^{cp}
3222 ^{cq}
3222 ^{cr}
3222 ^{cs}
3222 ^{ct}
3222 ^{cu}
3222 ^{cv}
3222 ^{cw}
3222 ^{cx}
3222 ^{cy}
3222 ^{cz}
3222 ^{ca}
3222 ^{cb}
3222 ^{cc}
3222 ^{cd}
3222 ^{ce}
3222 ^{cf}
3222 ^{cg}
3222 ^{ch}
3222 ^{ci}
3222 ^{cj}
3222 ^{ck}
3222 ^{cl}
3222 ^{cm}
3222 ^{cn}
3222 ^{co}
3222 ^{cp}
3222 ^{cq}
3222 ^{cr}
3222 ^{cs}
3222 ^{ct}
3222 ^{cu}
3222 ^{cv}
3222 ^{cw}
3222 ^{cx}
3222 ^{cy}
3222 ^{cz}
3222 ^{ca}
3222 ^{cb}
3222 ^{cc}
3222 ^{cd}
3222 ^{ce}
3222 ^{cf}
3222 ^{cg}
3222 ^{ch}			

Table 6.--Industries with low percentage of foreign component of investment, 1981-82 through 1983, DI data

Code	Industry	Bottom 10 Industries Acc. to Mean Percent share of Foreign Component of Investment in Respective Year					
		1980-1	1981-2	1982-3	1983-4	1984-5	1985-6
		(1)	(2)	(3)	(4)	(5)	(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
		(%)	(%)	(%)	(%)	(%)	(%)
3112	Dairy prod. ^b	..	..	..	8	..	..
3115	Edible oil	..	..	9	..	..	..
3118	Grain milling	..	..	..	..	9	..
3119	Rice milling	..	..	..	..	7	..
3145	Zarda and equiv. ^b	..	..	..	..	3	..
3122 ^a	Bakery prod.	..	3	..	..	..	..
3201 ^a	Cotton textile	..	..	6	..	..	..
3206	Handloom	2	..	..	..	..	1
3213	Knitting mills	..	..	..	..	..	1
3241	Leather footwear	..	..	..	..	6	..
3311	Saw mills	..	6	4	3	..	..
3521	Paints and varnishes	..	..	..	..	..	2
3522	Perfumes and cosmetics	..	..	..	4	..	2
3559 ^a	Rubber prod.	..	..	..	..	10	..
3569	Mis. plastic prod.	..	..	..	2	..	..
3612 ^a	Glass products	..	..	..	..	8	..
3691	Bricks, tiles	..	4	..	..	..	..
3695	Refractories	5	..	..	..	..	..
3711	Iron and steel mills	..	..	..	9	..	..
3712 ^a	Iron foundry	..	4	6	..	..	..
3802	Hand and edge tool	3	..	..	..	..	..
3804 ^a	Furniture	1	3	4	..	..	8
3808 ^a	Wire products	..	..	..	..	..	5
3809 ^a	Utensils allum.	..	..	..	2	..	..
3813	Mac. barrels etc.	4	..	1	..	..	..
3814	Tin cans	..	7	..	..	..	..
3819	Fab. met. prod.	..	2	3	..	..	..
3822	Agri. mech. equip.	..	..	..	8	18	..
3824	Textile mach.	..	2	..	8	..	..
3825	Ind. machineries	..	..	..	..	..	7
3833	El. app. fan	..	..	4	..	..	..
3834	Ins. wire and cable	..	..	7	..	..	..
3836 ^a	Batteries	6	..	..	..	..	7
3841	Ship buildings	1	..	1	..	..	1
3844	Motor vehicle	4	1	..	2	..	..
3846	Cycles and pedicabs	..	..	..	..	17	..
3862	Optical goods ^b	4	..	..	..	..	..
3936	Pencil ^b	..	..	..	..	17	..
3949	Other mfg. ind. brushes	..	6	..	..	..	..

^aThese industries also appear in Table 3.. That is, they are in the top 10 industries ranked according to high investment growth rates in the post-NIP82 period.

^bThese are also the industries whose investment growth rate fell after 1982.

Table 7.--Number of firms that entered the dynamic, import-saving-investment industries during the 6 years from 1980-81--1985-86, by size-class, DI data^a

Industry	Size-Class						Total
	I	II	III	IV	V	VI	
3112 Bakery Products	13	29	15	15	12	1	90
3712 Iron & Steel Prod.	5	8	53	23	2	1	93
3559 Rubber products	10	22	20	6	2	0	60
3622 Glass products	4	5	10	4	2	2	27
3201 Cotton textiles	21	13	2	2	3	28	69
3804 Furniture	69	57	54	7	1	0	193
3808 Wire products	5	9	21	5	0	0	40
3809 Utensils, Alumm.	3	10	25	7	0	1	46
3836 Batteries	4	12	10	4	0	1	22

^aThe size-classes of this data series were demarcated according to real investment (I) in 1986-87 prices. They are defined below:

Size-Class	Range in Millions of 1986-87 Takas
1 Taka	$I \leq 0.5$ equiv. approx. US\$ $I \leq 16,667$
2 Taka	$0.5 < I \leq 1.5$ 16,667 < $I \leq 50,000$
3 Taka	$1.5 < I \leq 5.0$ 50,000 < $I \leq 166,000$
4 Taka	$5.0 < I \leq 15.0$ 166,000 < $I \leq 500,000$
5 Taka	$15.0 < I \leq 30.0$ 500,000 < $I \leq 1,000,000$
6 Taka	$30.0 < I$ 1,000,000 < I
9 Taka	Total

Detailed basic data as well as several tabulations are available on diskettes and tapes. For the arrangement of data and the variables of this source, see DOCUMENTATION NO. 3 (available at the HIID/SEPP Project).

Table 8.--External and total real investment (in 1986-87 prices), by size-class of firms, DI data^a

(Absolute values are in millions of 1985-86 dollars)

Year	Component of Investment	Total Real Investment (in Millions) by Size-Class						
		I	II	III	IV	V	VI	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1976-77	1. External	0	.16	2.80	46	67	1864	1980
	2. Total	.34	.59	166	439	315	3576	4554
	3. (1/2)100	0	.27	1.69	10.48	21.27	52.13	43.48
1977-81	1. External	0	1.53	6.8	164	156	2135	2464
	2. Total	0.48	.58	125	722	463	4186	5554
	3. (1/2)100	0	2.64	5.44	22.71	33.70	51.00	44.36
1978-79	1. External	0	3.04	7.6	206	153	2227	2597
	2. Total	.23	35.4	81	741	628	5441	6926
	3. (1/2)100	0	8.56	9.38	27.80	24.36	40.93	37.50
1979-80	1. External	0	1.3	10.9	166	246	4060	4484
	2. Total	.46	21.5	97	681	740	10164	11704
	3. (1/2)100	0	6.05	11.24	24.38	33.24	39.94	38.31
1980-81	1. External	0	.28	2.38	134	303	5346	5785
	2. Total	.59	129	211	1110	1353	12105	14908
	3. (1/2)100	0	0.22	1.13	12.07	22.39	44.16	38.81
5-Yr Subtotal (76-81)								
	1. External	0	6.31	30.48	716	925	15632	17310
	2. Total	1.87	303	983	3693	3499	35472	43646
	3. (1/2)100	0	2.08	3.10	19.39	26.44	44.06	39.66
1981-82	1. External	0	2	1	81	128	578	790
	2. Total	.05	43	55	597	645	1490	2832
	3. (1/2)100	0	4.44	1.81	13.57	19.84	38.79	27.90
1982-83	1. External	0	1.1	2.3	113	153	2197	2466
	2. Total	1.3	27	66	639	585	3715	5033
	3. (1/2)100	0	4.07	3.48	17.68	26.15	59.14	49.00
1983-84	1. External	0	1.2	4	397	363	3119	3884
	2. Total	11	171	140	1995	1265	5199	8791
	3. (1/2)100	0	7.02	2.85	19.90	22.70	59.99	44.23
1984-85	1. External	0	1	4	161	480	3702	4348
	2. Total	7.4	28	54	543	1044	6397	8073
	3. (1/2)100	0	3.57	7.41	29.65	57.97	57.87	53.86
1985-86	1. External	.1	9	8	491	551	3922	4781
	2. Total	3.8	124	183	1307	1090	6134	8842
	3. (1/2)100	2.63	7.26	4.37	37.57	50.55	60.68	54.07

Table 3.--Contd.

(Absolute values are in millions of Texas)

Year (1)	Component of Investment (2)	Total Real Investment (in Millions) by Size-Class						
		I (3)	II (4)	III (5)	IV (6)	V (7)	VI (8)	Total (9)
5-Yr Subtotal (81-86)								
	1. External	.1	8.22	19.3	1243	1675	13317	16269
	2. Total	23.56	395	498	5081	4629	21935	33561
	3. (1/2)100	.43	2.08	3.88	24.46	36.18	58.36	48.48
10-Yr Total (76-86)								
	1. External	.1	14.53	49.78	1959	2600	25949	33579
	2. Total	25.43	698	1481	8774	8128	58407	77223
	3. (1/2)100	0.39	2.08	3.36	22.33	31.99	49.56	43.48

^aFor the definitions of size-classes, see the note to Table 7.

Table 9.--Growth and decline of Industry 3206: Handloom Textiles industry, DI data

Year	Total units	Size-Class code	Investment	
			Amount in constant 1985-6 prices	Percent Share
(1)	(2)	(3)	(4)	(5)
	(No.)	(Code)	(Tk. Mill.)	(%)
1976-77	47	9: All	36.5	.80
	21	1	6.0	.13
	19	2	17.4	.38
	7	3	13.1	.29
1977-78	71	9: All	28.1	.51
	58	1	13.6	.25
	10	2	9.3	.17
	3	3	5.1	.09
1978-79	8	9: All	3.7	.05
	6	1	2.2	.03
	2	2	1.5	.02
1979-80	52	9: All	27.1	.23
	25	1	8.4	.07
	25	2	18.6	.16
1980-81	569	9: All	437.0	2.93
	344	1	104.0	.70
	213	2	141.3	.95
	6	3	19.4	.13
	3	4	29.2	.20
	3	6	143.1	.96
1981-82	22	9: All	13.5	.32
	18	1	5.5	.13
	2	2	1.3	.03
	2	3	6.8	.16
1982-83	1	9: All	1.0	.02
	1	2	1.0	.02
1983-84	408	9: All	211.7	2.41
	370	1	64.4	.93
	10	2	6.9	.08
	13	3	47.5	.54
	15	4	92.9	1.06
1984-85	26	9: All	65.2	.81
	15	1	.8	.01
	1	2	1.2	.01
	10	4	63.2	.78
1985-86	144	9: All	55.1	.62
	107	1	27.6	.31
	36	2	22.5	.26
	1	3	4.9	.06

Table 10.--Growth or decline of Industry 3221: Garment-manufacturing industry: data

Year	Emp.	Mean	NS	Annual Growth (%)	% Share (new)
1975-77	161.19	78.88	6		1.91
1977-78	403.04	67.31	6	-17.16	0.70
1978-79	1512.75	77.15	7	237.20	2.23
1979-80	4311.93	75.90	21	179.79	3.89
1980-81	1538.87	70.18	15	-67.73	1.83
1981-82	858.92	66.08	13	-17.12	2.08
1982-83	110.31	110.31	1	-57.23	0.21
1983-84	2157.00	32.72	63	1916.00	2.57
1984-85	580.71	23.23	23	-74.27	0.71
1985-86	297.48	21.25	14	-18.77	0.33

Table 11--Relative shares of different size-classes, 1976-77 through
1980-81, DI data

Year (1)	Size- Class (2)	Total Real Investment (Tk Mill.) (3)	No. of Units (4)	% Share (5)
1976-77	9: All	4554	676	100.0
	1	59	190	1.31
	2	237	251	5.21
	3	367	123	5.07
	4	559	6-	12.29
	5	567	27	12.47
	6	2762	21	60.66
1977-78	9: All	5554	855	100.00
	1	57	207	1.04
	2	238	261	4.30
	3	608	225	10.95
	4	738	89	13.30
	5	951	44	17.13
	6	2959	25	53.28
1978-79	9: All	6926	768	100.00
	1	35	112	.51
	2	172	186	2.50
	3	649	210	9.37
	4	1095	125	15.82
	5	1175	53	16.97
	6	3797	52	54.83
1979-80	9: All	11703	862	100.00
	1	21	76	.19
	2	206	213	1.75
	3	571	207	4.89
	4	1510	161	12.90
	5	2470	106	21.11
	6	6923	96	59.15
1980-81	9: All	14908	1683	100.00
	1	129	436	.87
	2	3-7	427	2.33
	3	973	322	6.53
	4	2257	273	15.11
	5	2719	125	18.24
	6	8430	100	36.89
1981-82	9: All	4275	655	100.00
	1	45	166	1.06
	2	120	126	2.81
	3	531	177	12.43
	4	1136	130	26.59
	5	661	32	15.47
	6	1780	24	41.64

Table 11--Contd.

Year (1)	Size- Class (2)	Total Real Investment (Tk Mill.) (3)	No. of Units (4)	% Share (5)
1982-83	9: All	5026	590	100.00
	1	23	95	.47
	2	133	142	2.66
	3	570	196	11.36
	4	959	111	19.08
	5	443	24	8.82
	6	2895	22	57.61
1983-84	9: All	8072	798	100.00
	1	35	227	.44
	2	98	115	1.22
	3	498	163	6.17
	4	1487	182	18.42
	5	1474	71	18.26
	6	1479	40	55.49
1985-86	9: All	8841	1613	100.00
	1	127	546	1.44
	2	350	398	3.96
	3	1139	374	12.89
	4	1667	204	18.85
	5	854	44	9.66
	6	4702	47	53.19

Table 12.--Contd.

Year (1)	Industry (2)	Total Units (3)	Total Investment (4)	Share of Investment (5)
		(No.)	(Tk Mill.)	(%)
1982-83	3114 Fish, Sea Foods	12	1448	29.91
	3233 Leather Prods	16	811	16.13
	3713 Iron Re-roll	34	360	7.16
	3622 Glass Prods	4	183	3.64
	3141 Cigarettes	1	181	3.60
	3,4 All	360	5026	100.00
1983-84	3201 Cotton Text	19	1994	22.71
	3207 Dyeing, Bleach Text	44	776	8.84
	3819 Fabricated Metal	542	584	6.65
	3115 Hydrog Veg Oils	17	514	5.85
	3525 Match Manuf.	1	484	5.51
	3,4 All	2152	8781	100.00
1984-85	3201 Cotton Text	24	2422	30.00
	3525 Match Manuf.	2	1135	14.06
	3207 Dyeing, Bleach Text	36	845	10.46
	3713 Iron Re-roll	79	608	7.53
	3711 Iron, Steel Mills	18	345	4.28
	3,4 All	798	8073	100.00
1985-86	3204 Silk, Synth Text	193	3577	40.45
	3713 Iron Re-roll	58	690	7.80
	3711 Iron, Steel Mills	35	421	4.76
	3231 Tanning, Finish	20	364	4.11
	3501 Allo. Medicines	40	331	3.74
	3, 4 All	1613	8841	100.07

^aThe Code 400 is not from the SIC, but consists of a motley of all nonmanufacturing firms. The bulk of these firms belong to hotels, restaurants, catering, and entertaining. The number 4000 was used for no special reason except that it simply follows the 4-digit manufacturing industry 3900.

Table 12.--Top 5 big-share industries of the year and their shares in investment, 1976-77 through 1985-86, DI data¹

Year (1)	Industry (2)	Total Units (3)	Total Investment (4)	Share of Investment (5)
		(No.)	(Tk Mill.)	(%)
1976-77	3201 Cotton Text	104	943	20.71
	3413 Pulp, paper	2	560	12.30
	3231 Tanning	11	411	9.02
	4000 All non-manuf.	19	276	6.03
	3836 Batteries	6	169	3.72
	3,4 All	676	4554	100.00
1977-78	3201 Cotton Text	6	959	17.27
	3432 Print, Publish	55	593	10.68
	4000 All non-manuf.	29	475	8.55
	3519 Chem. nec	7	438	7.89
	3204 Silk, Synth.	24	300	5.40
	3, 4 All	855	5554	100.00
1978-79	4000 All non-manuf.	99	1472	21.25
	3713 Iron, Re-roll	21	692	9.99
	3215 Cardage, rope	10	600	9.53
	38-1 Ship Building	9	375	5.41
	3119 Rice Milling	83	306	4.42
	3,- All		6926	100.00
1979-80	3113 Fruit, Veg.	77	1933	16.51
	4000 All non-manuf.	83	1510	12.90
	3215 Cardage, Rope	13	1409	12.04
	3131 Distill spirits	5	959	8.19
	3519 Chem, nec	5	470	4.02
	3,- All	862	11704	100.00
1980-81	3114 Fish, Sea Foods	29	1372	12.56
	4000 All non-manuf.	114	1109	9.43
	3215 Cardage, Rope	10	994	6.67
	3631 Bricks, Tiles	21	694	4.66
	3121 Grain Mill Products	70	674	4.52
	3,4 All	1683	14908	100.00
1981-82	3713 Iron, Steel Re-roll	29	519	12.13
	4000 All non-manuf.	33	356	8.34
	3822 Ag. Mach. Equipt.	33	353	8.25
	3207 Dyeing, bleach text	11	340	7.95
	3112 Dairy, Ice Plant	38	242	5.63
	3,4 All	655	4276	100.00

Table 13.--Top 5 big-share size-classes of different industries with shares in total investment, 1976-77 through 1985-86, DI data

Year	Industry	Size-	No. of	Total	Share in Investment	
		Class	Units in Class	Invest- ment	Class of Col. 2 of Industry of Col. 1	Industry of Col. 1
	(1)	(2)	(3)	(4)	(5)	(6)
		(Code)	(No.)	(Tk Mill)	(%)	(%)
1976-77	3201 Cotton Text	6	2	846	18.57	20.71
	3413 Pulp, Paper	6	1	557	12.23	11.30
	3231 Tanning, Finish	6	4	340	7.46	9.02
	4000 All Non-Manuf.	6	2	160	3.52	6.05
	3836 Batteries	6	1	154	3.37	3.72
	3, 4 All inds. of Class 6 All industries	6 9	21 676	2763 4554	60.66 100.00	.. 100.00
1977-78	3201 Cotton Text	6	2	955	17.19	17.27
	3519 Chem. nec	6	3	436	7.85	7.89
	3422 Print, Publish	6	1	396	7.13	10.62
	3215 Cardage, Rope	6	2	207	3.72	3.72
	4000 All Non-Manuf.	5	9	197	3.55	8.56
	3,4 All inds. of Class 6 All inds. of Class 5 All inds.	6 5 9	25 44 855	2959 952 5534	53.28 17.13 100.00	.. .. 100.00
1978-79	4000 All Non-Manuf.	6	14	727	10.49	21.25
	3215 Cardage, Rope	6	9	659	9.51	9.53
	3713 Iron, Steel Re-roll	6	5	483	6.97	9.99
	3841 Ship Build, Repair	6	2	358	5.16	5.41
	4000 All Non-Manuf.	5	15	348	5.02	21.25
	3,4 All indus. of Class 6 All indus. of Class 5 All indus.	6 5 9	52 53 768	3797 1176 6926	54.83 16.97 100.00	.. .. 100.00
1979-80	3215 Cardage, Rope	6	14	1395	11.92	12.04
	3113 Fruits, Veg.	6	27	987	8.44	16.52
	3131 Distill Spirits	6	5	959	8.19	8.19
	3113 Fruit, Veg.	5	30	839	7.17	16.52
	4000 All Non-Manuf.	5	33	733	6.26	12.90
	3,4 All inds. of Class 6 All inds. of Class 5 All inds.	6 5 9	96 106 802	6923 2471 11704	59.15 21.11 100.00	.. .. 100.00
1980-81	3114 Fish, Seafood	6	15	1745	11.70	12.55
	3215 Cardage, Rope	6	6	923	6.19	6.67
	3691 Bricks, Tiles	6	6	544	3.65	4.65
	3113 Fruits, Veg.	5	20	502	3.37	6.23
	4000 All Non-manuf.	6	11	499	3.35	9.45
	3,4 All indus. of Class 6 All indus. of Class 5 All indus.	6 5 9	100 125 1683	8481 2720 14908	56.89 18.24 100.00	.. .. 100.00

Table 13.--Contd.

Year	Industry	Size- Class	No. of Units in Class	Total Invest- ment	Share in Investment of	
					Class of Col. 2	Industry of Col. 1
	(1)	(2)	(3)	(4)	(5)	(6)
		(Code)	(No.)	(Tk Mill)	(%)	(%)
1981-82	3207 Dyeing, Bleach	6	4	331	7.75	7.95 (12)
	3713 Iron Re-roll	6	3	298	6.93	12.13 (29)
	3822 Ag. Mech. Equip.	6	1	195	4.56	8.25 (30)
	3713 Iron Re-roll	4	20	193	4.52	12.13 (29)
	3112 Dairy, Iceplant	6	3	169	3.95	5.65 (38)
	3,4 All inds. of Class 6	6	24	1780	41.04	..
	All inds. of Class 4	4	130	1137	26.54	..
	All inds.	9	655	4270	100.00	100.00
1982-83	3114 Fish, Seafood	6	11	1420	28.25	28.32 (12)
	3233 Leather Prods.	6	2	745	14.82	16.13 (15)
	3713 Iron Re-roll	4	25	254	4.66	7.15 (34)
	3822 Glass Prods.	6	1	131	3.50	3.65 (4)
	3141 Cigarettes	6	1	131	3.60	3.60 (1)
	3,4 All inds. of Class 6	6	22	2845	57.61	..
	All inds. of Class 4	4	111	959	18.08	..
	All inds.	9	590	5026	100.00	100.00
1983-84	3201 Cotton Text.	6	7	1963	22.35	22.71 (19)
	3207 Dyeing, Bleach Text.	5	20	490	5.58	8.84 (44)
	3525 Match Manuf.	6	1	484	5.51	5.51 (1)
	3819 Fabricated Metals	3	120	334	3.80	6.65 (5-2)
	3813 Metal, Barrel, Drum	3	84	250	2.96	4.70 (246)
	3, 4 All inds. of Class 6	6	24	3545	40.37	..
	All inds. of Class 3	3	586	1833	20.88	..
	All inds. of Class 5	5	45	1068	12.39	..
	All inds. of Class 9	9	2152	8781	100.00	100.00
1984-85	3201 Cotton Text.	6	21	2388	29.53	30.00 (24)
	3525 Match Manuf.	6	2	1135	14.06	14.06 (2)
	3713 Iron Re-roll	4	67	526	6.52	7.55 (9)
	3207 Dyeing, Bleach	5	18	349	4.94	10.46 (36)
	3207 Dyeing, Bleach	6	5	370	4.58	10.46 (36)
	3, 4 All inds. of Class 6	6	40	4480	55.49	..
	All inds. of Class 4	4	182	1487	18.42	..
	All inds. of Class 5	5	71	1474	18.26	..
	All inds.	9	798	8073	100.00	100.00

**BEST
AVAILABLE**

Table 13.--Contd.

Year	Industry	Size- Class	No. of Units in Class	Total Invest- ment	Share in Investment of	
					Class of Col. 2	Industry of Col. 1
	(1)	(2)	(3)	(4)	(5)	(6)
		(Code)	(No.)	(Tk Mill)	(%)	(%)
1935-36	3204 Silk, Synth Text	6	28	2913	33.29	40.43 (18)
	3713 Iron Re-roll	6	2	455	5.15	7.82 (3)
	3711 Iron Mills	4	27	275	3.21	4.36 (2)
	3204 Silk Synth Text	3	71	267	3.02	40.43 (18)
	3835 Electric Bulb	6	2	263	2.97	3.15 (1)
	3, 4 All inds. of Class 0	6	47	4703	53.29	..
	All inds. of Class 4	4	204	1667	18.83	..
	All inds. of Class 3	4	374	1139	12.89	..
	All inds.	9	1613	8841	100.00	100.00

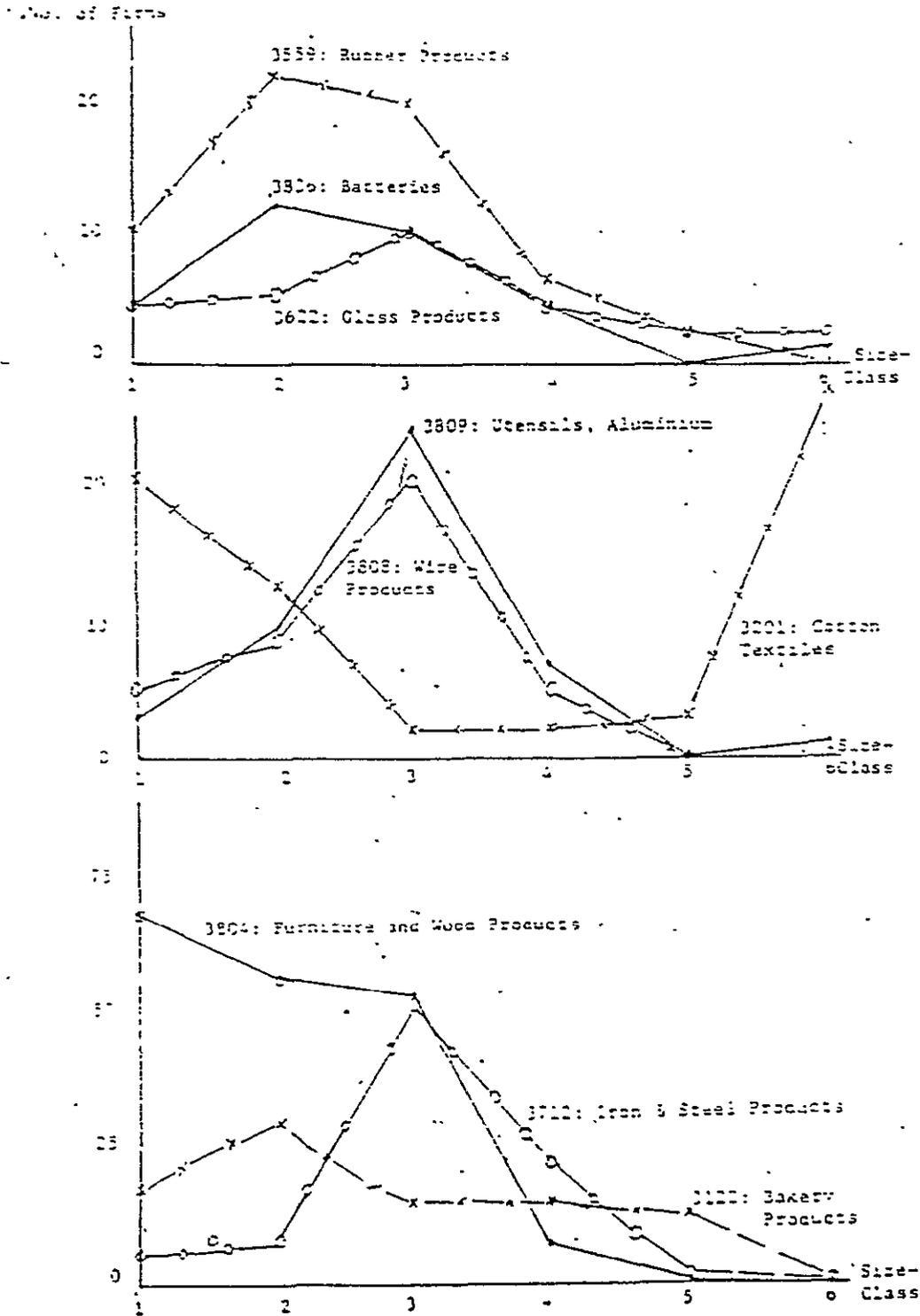


Fig. 1.--Dynamic and import-saving industries by size-class: cumulated number of new firms from 1980-81 to 1985-86, DI data

Source: Table 7.

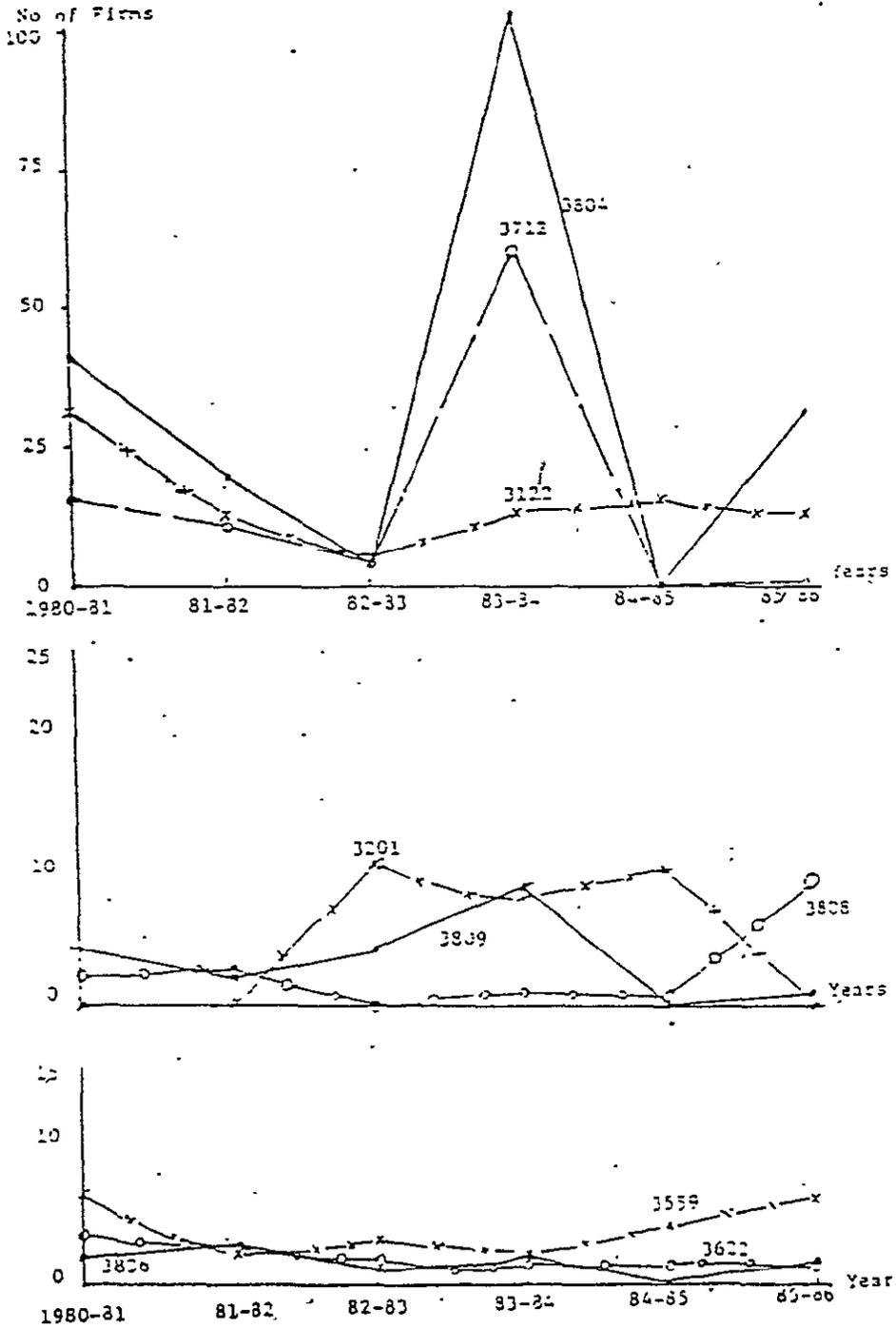


Fig. 2.--Dynamic import-saving industries by year, total number of newly entering firms, 1981-1986, DI data

Source: Appendix Table A3 and 3.

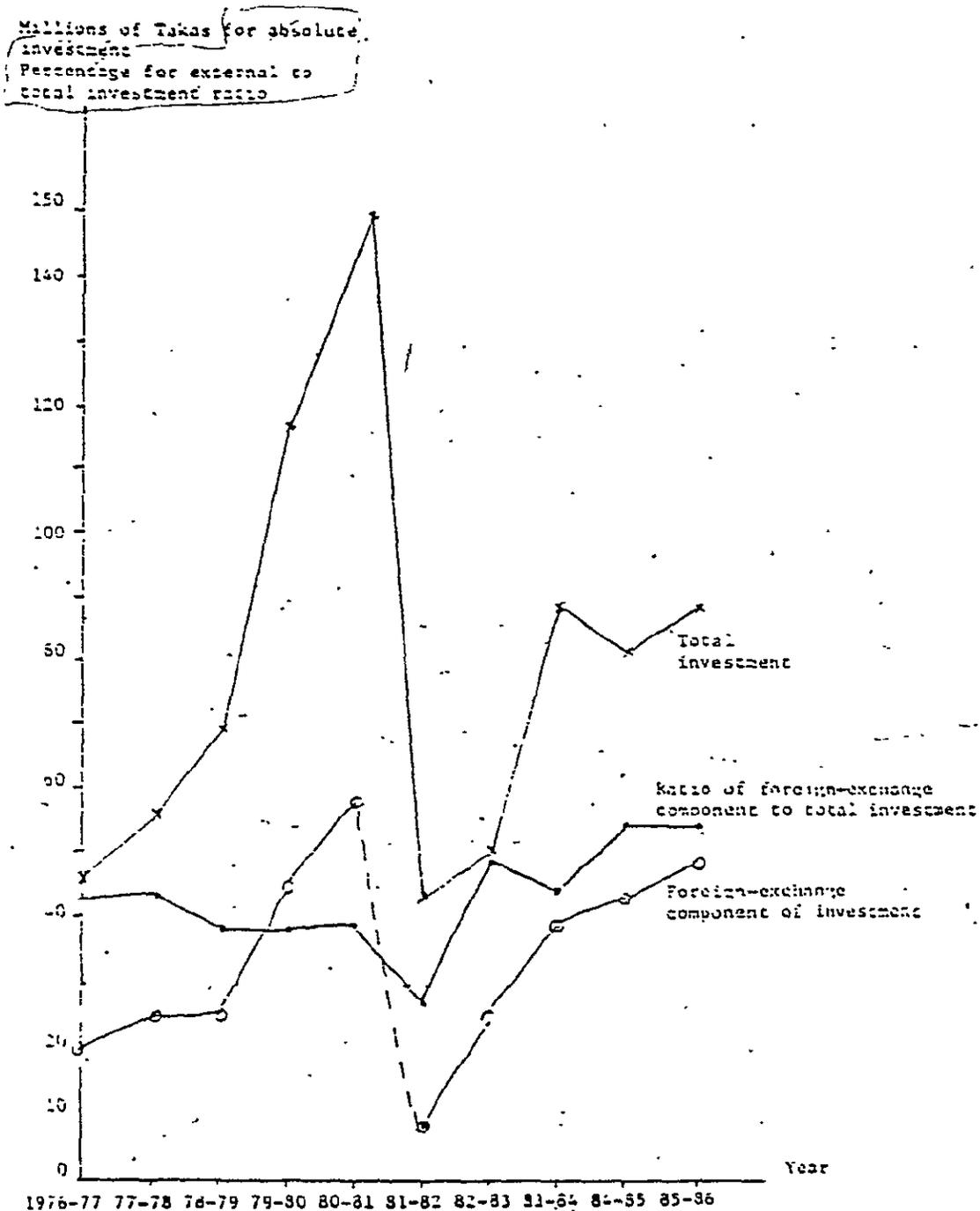


Fig. 3.—Total private investment, and the external component of private investment, 1976-77 through 1985-86. DI data
 Source: Table 4.1, WPI, Table E.

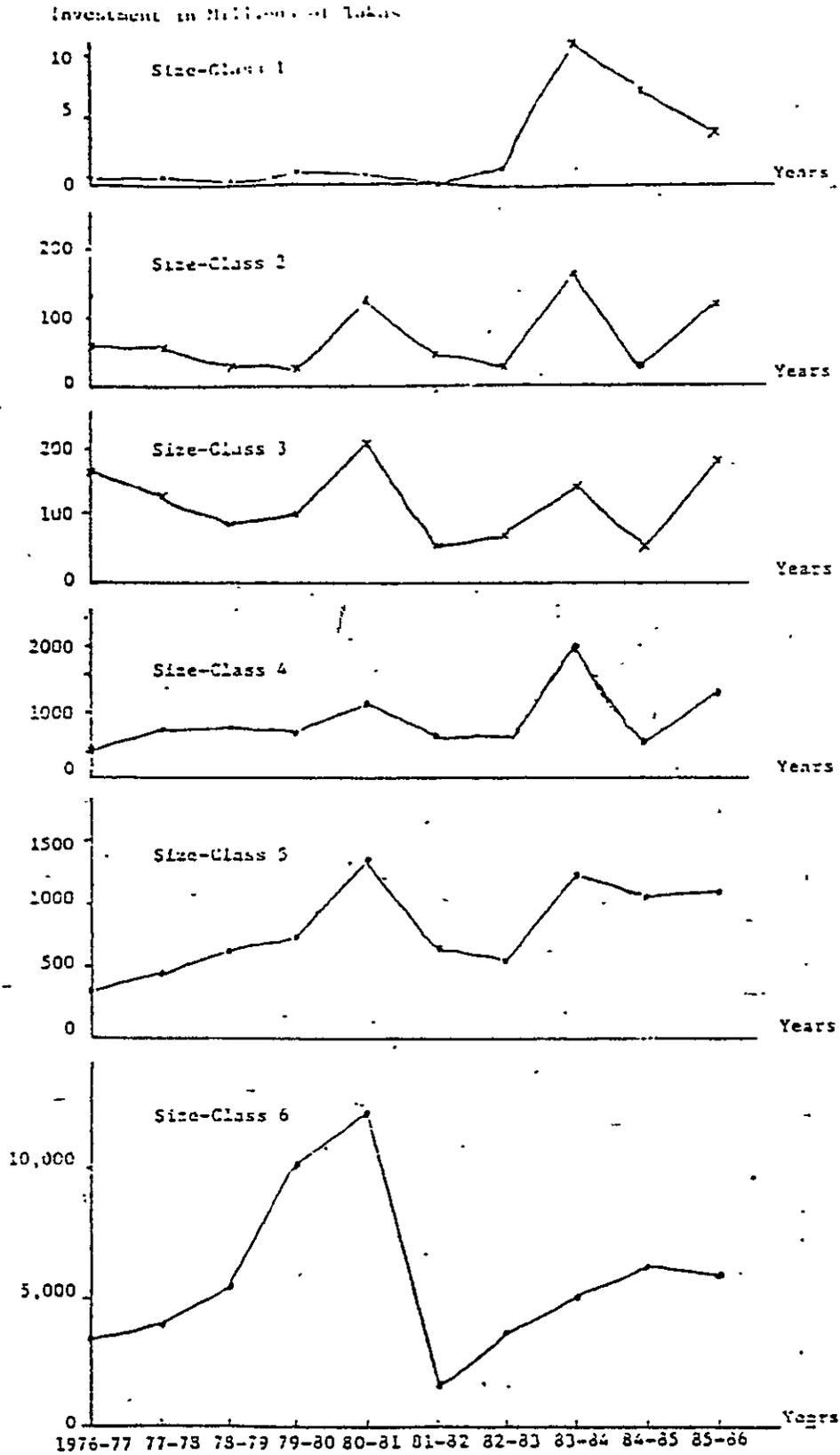


Fig. 4.--Investment by size-class, 1976-77 through 1985-86, DI data. Source: Table 8.

Percentage of external component of investment to total investment

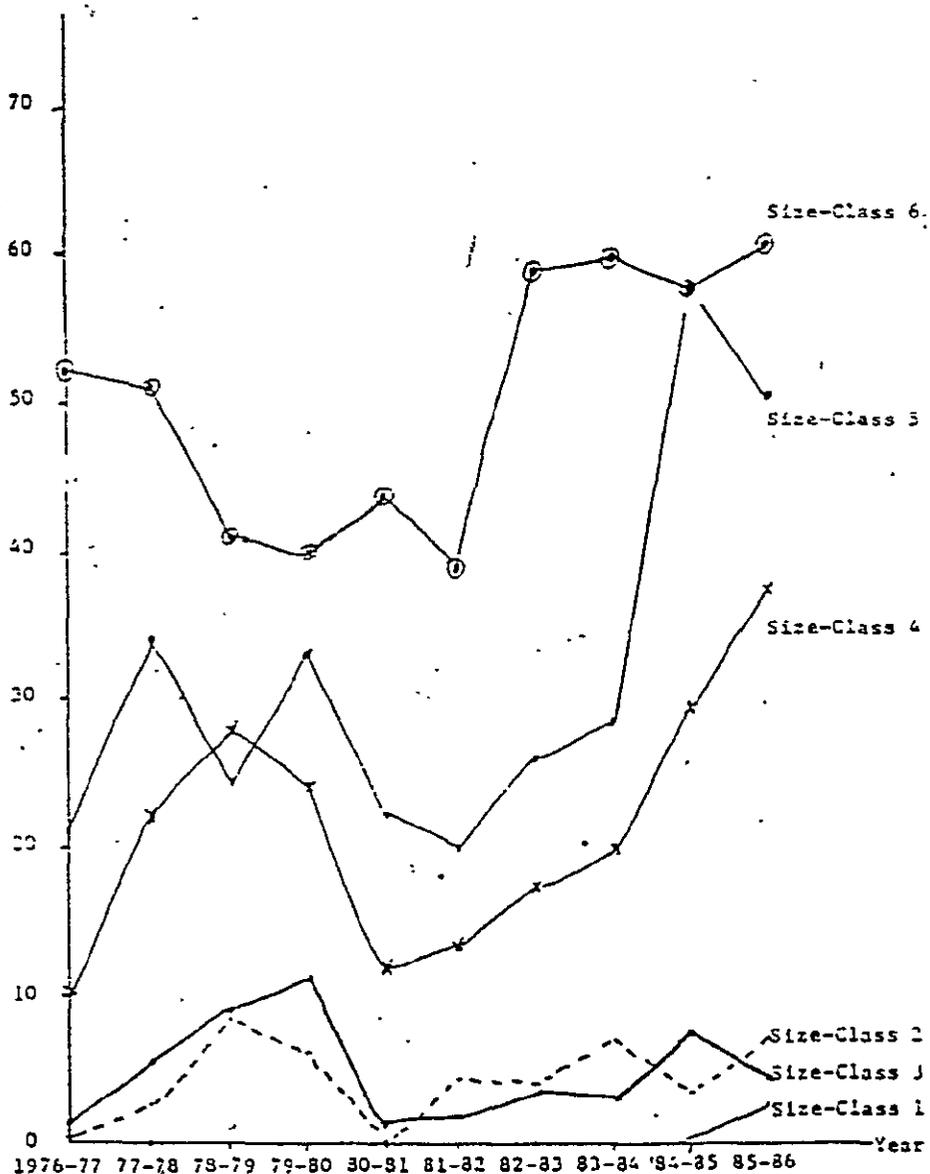


Fig. 5.--Percentage of the imported component of investment to total private investment, 1976-77 through 1985-86, of data

Source: Table 8.

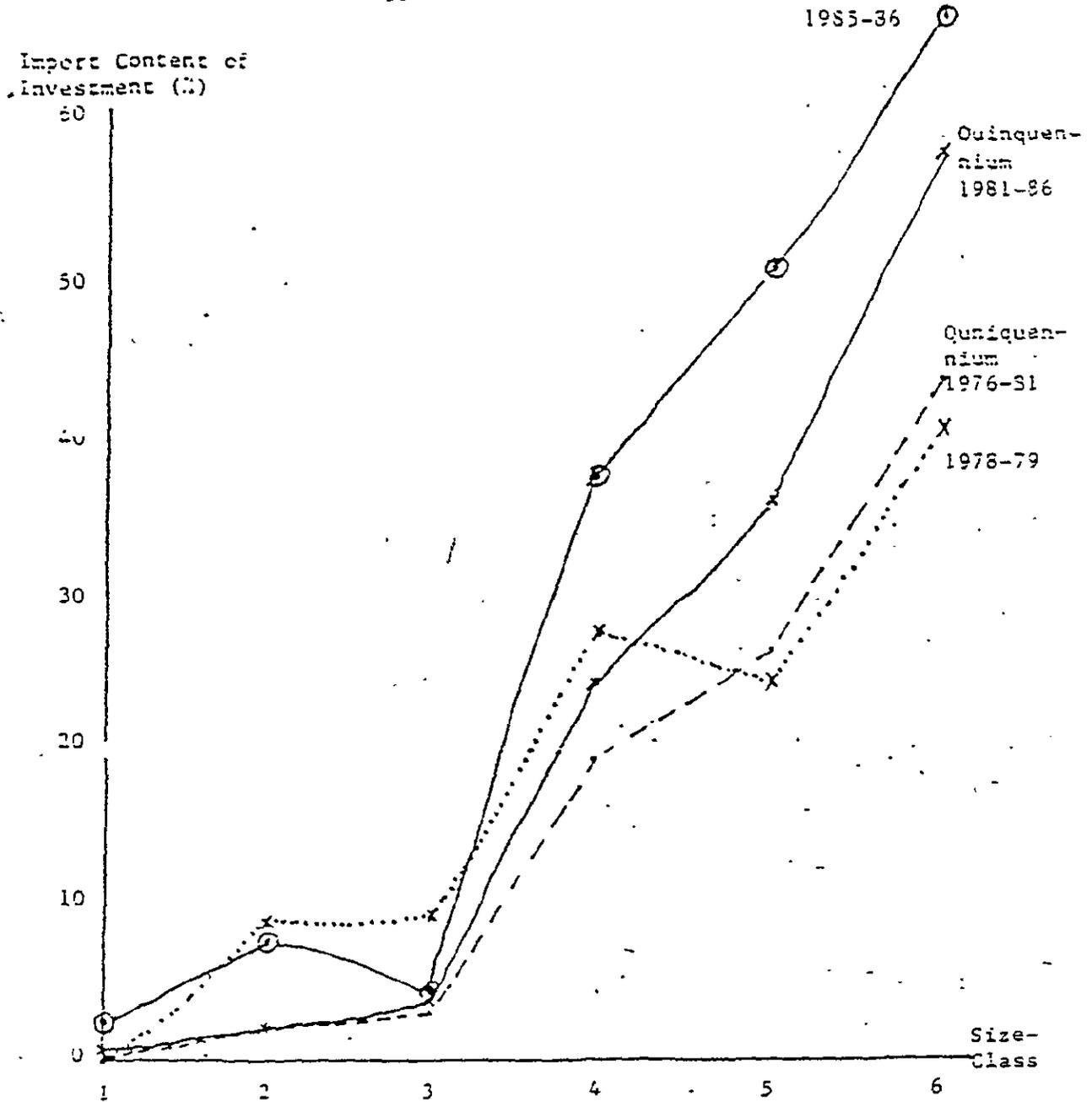


Fig. 6.--Import content of Investment, 1978-79, 1985-86, 1976-81, and 1981-86, DI data.

Source:-Table 8, where size-classes are also defined.

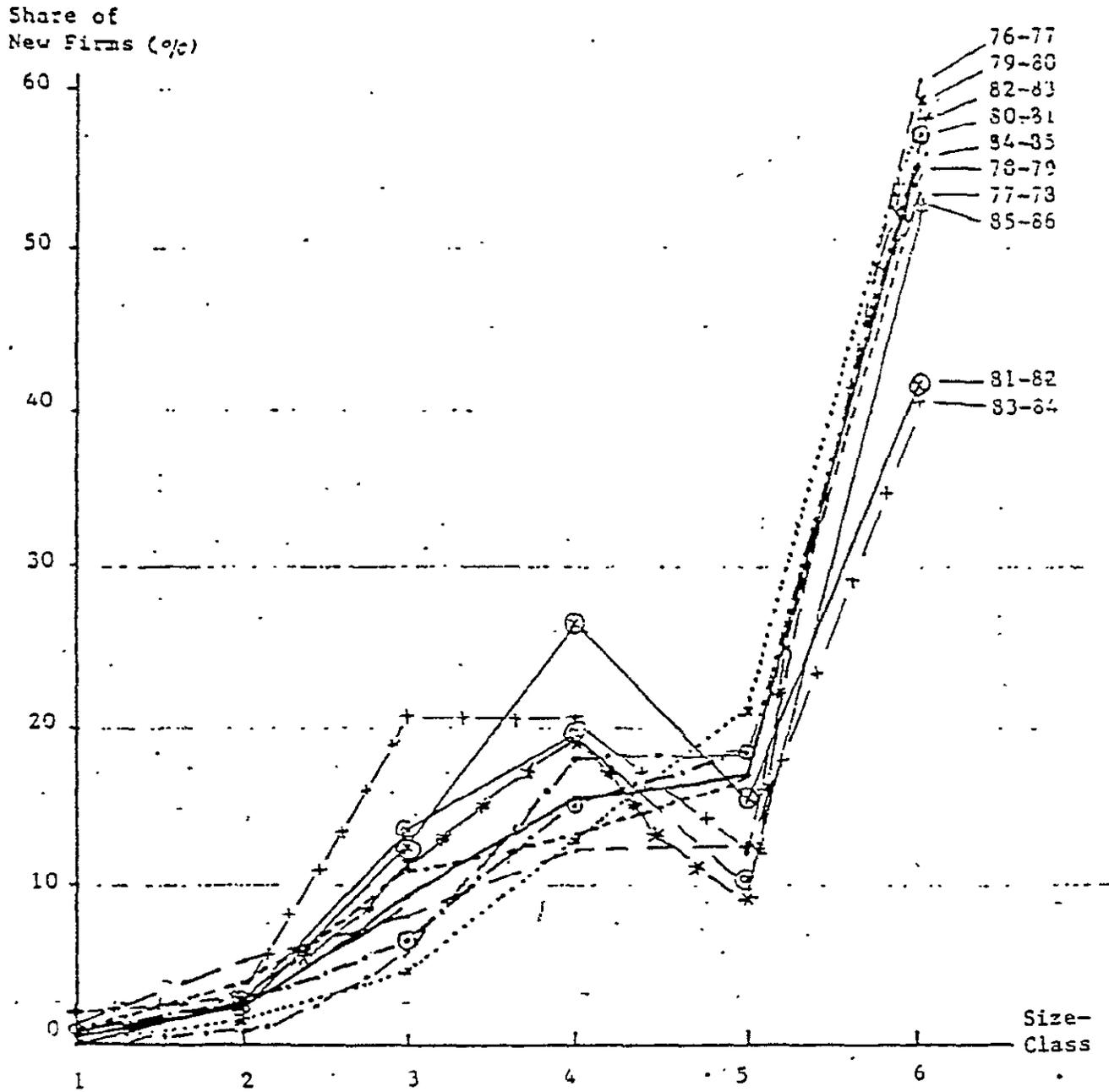


Fig. 7. Shares of new firms by size-class, 1976-77 through 1985-86, DI data.

Source:- Table A3 in appendix.

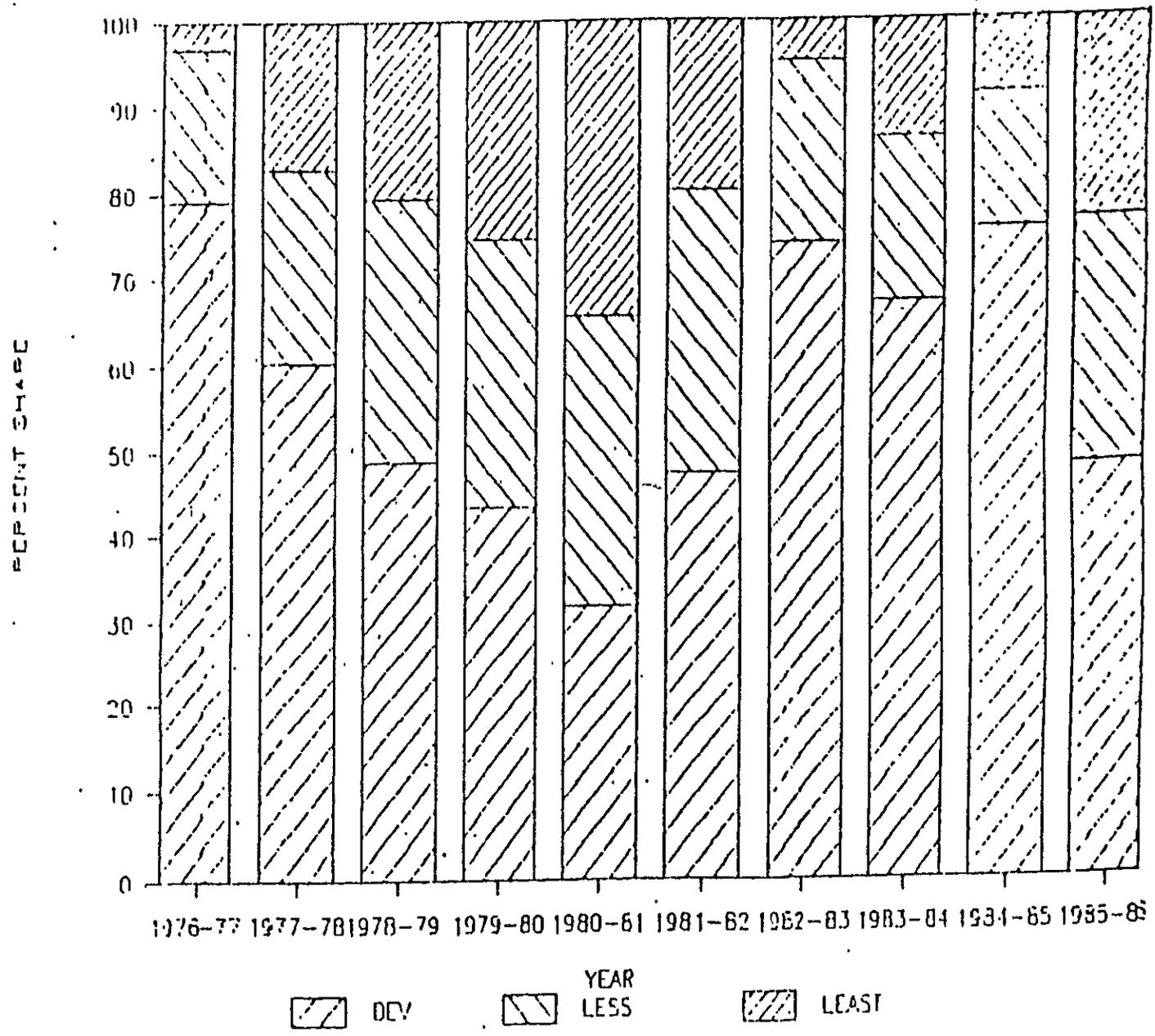


Fig. 8.--Percent share of new firms by economic area, 1976-77 through 1985-86, DI data

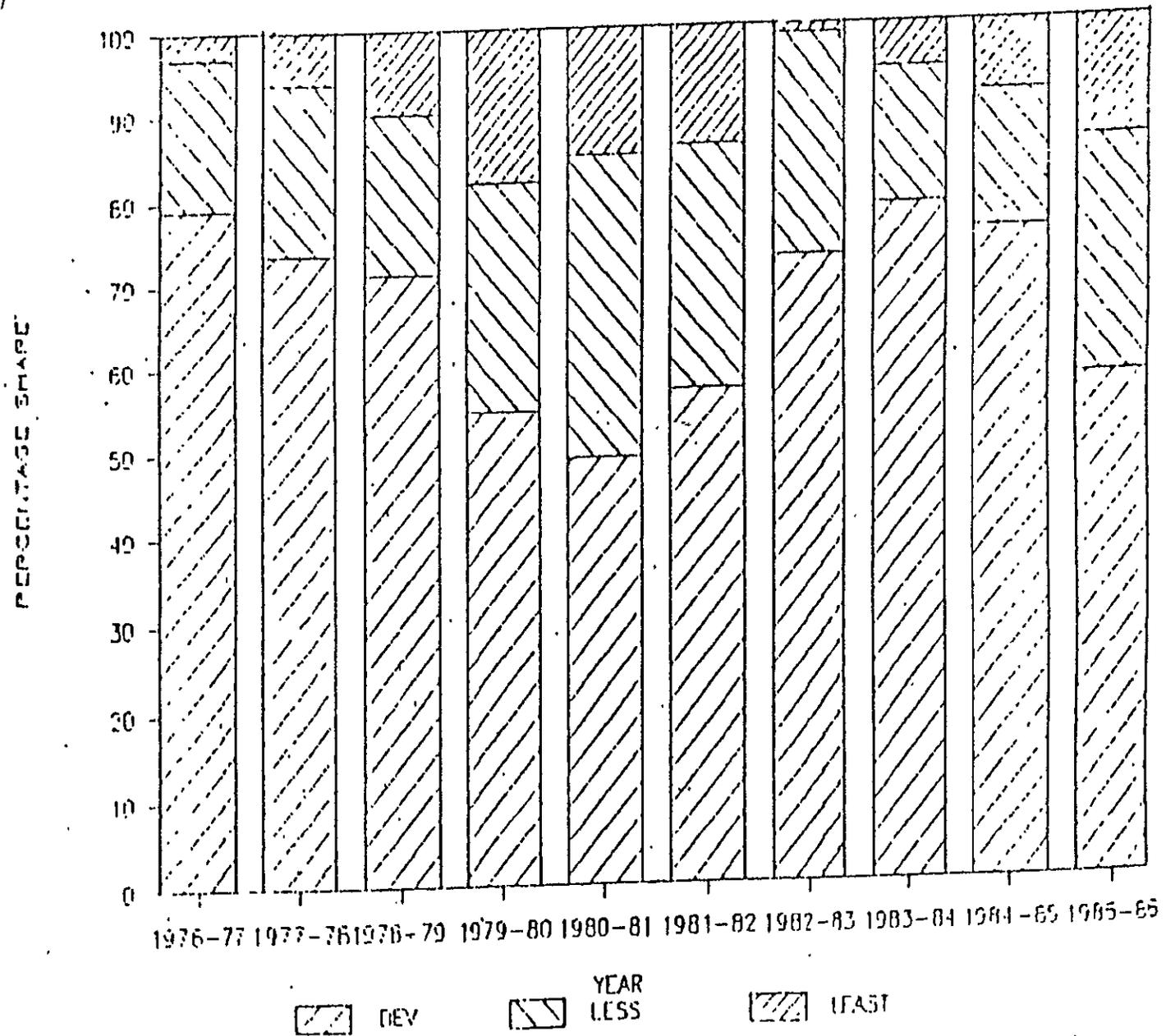


Fig. 9.--Percent share of investment by economic area, 1976-77 through 1985-86, DI data. 58

Footnotes

¹This month (Feb. 1989), the DGI has brought out a publication in which, for the first time, it has reported 4 years' data (averages for 1983-4--1985-6 and separate data for 1986-87) on employment and actual production (but no information on investment). That report was not available to us when the investment data were computerized. The fact that it reports 3-year averages rather than annual data and omits investment series altogether renders this source much less useful for researchers than it would have been, had annual statistics, including investment, been given. Nevertheless, we plan to look at it, too, to see what more can be learnt from this source.

²The data series available to us at the time of writing this report stops at 1985-86. In 1986, a revised package of industrial policy (RIPS6) was issued. If that package also led in 1987 to a repetition of the investment response to NIPS2 (with an equal probability of a precipitous decline after that), employment growth may be doubly affected--once by the lagged effects of the 1983-84 investment boom and additionally by the employment generated by the construction period of probable new investment. In other words it is possible that investment may go one step forward and two steps backward without materially affecting the upward trend in employment growth. Hopefully, we will be able to get hold of the data on investment for the years 1986-87 and 1987-88 to verify this speculation.

³One is tempted to consider the deliriums of bank (especially the DFI's) credit to the industry as one of the possible unbalancing factors. Without going deep into this exploration here, we simply note that that does not

HLID SERIES OF WRITINGS

- * I Working Paper Series
- II Occasional Note Series
- III Special Seminar Series
- IV Short-Term Consultants Report Series
- V Quarterly Progress Reports
- VI Background Paper Series

*This series.

appear to be the cause for the 1961-62 slump, but probably a significant cause for the sluggishness of investment after the 1963-64 boom, as may be seen from the following statistics:

Year	Bank Credit in Takas billion (in Current Prices)	
	All Banks	BSB & BSRS
1972	2.39	.0038
1973	2.91	.
1974	3.25	.0154
1975	3.01	.0424
1976	3.54	.0730
1977	5.15	.1337
1978	7.39	.4051
1979	10.87	.3418
1980	13.54	1.1054
1981	19.25	.9830
1982	23.83	1.0432
1983	31.39	.7985
1984	48.86	.4856
1985	69.44	.2143