

THE INDONESIAN COTTON TEXTILE INDUSTRY

DURING INFLATION, 1950 - 1965.

A case study of an industry in an underdeveloped country.

Ingrid Palmer

This thesis is submitted to fulfil the requirements for the degree of Doctor of Philosophy at the Australian National University.

March 1968

PREFACE

If an economist were asked to choose one aspect of a country's economy which could best illustrate the quality of its economic organisation and problems he would, at some stage, consider reviewing one of the largest single industries in the country. Whether or not he finally settled on a large industry would depend on how deeply a study of it it would reveal and explain the characteristics of the economy in general. If the country was developing along new lines he would prefer a new or expanding industry; if he felt the economy was dominated by the state of the balance of payments he would desire a strong relation between foreign exchange and the level of activity in the industry of his choice.

In the case of Indonesia it is not difficult to choose a subject of economic investigation which is an important part of secondary industry, which is highly sensitive to government policy, and which demonstrates the chief frustrations of a developing country: chronic balance of payments difficulties, inflation, an ⁱⁿexperienced indigenous managerial class, and an inefficient and demoralised bureucracy. The cotton textile industry has received the special attention of the government as a major import-replacement industry and as a vehicle for the industrialisation of the economy. As a manufacturing industry almost entirely dependent on imports for its raw materials it has suffered convulsions in the level of its activity: capacity utilisation rates have varied between 16 and 57 per cent since 1950. Government attempts at intervention aimed at specific goals have almost invariably

failed, and yet the industry's growth can be regarded as a success story in as much as this predominantly privately owned sector of the economy has expanded from a capacity capable of producing two metres of cloth per capita in 1950 to a capacity of 7.3 metres per capita in 1965.

Development did not take place at a uniform rate and this thesis described the serious problems which the industry had to face and how and why some sections survived while others fell into disuse.

An extremely varied bibliography provided background information on the form of the industry, its organisation and the economic regulations which encompassed it, but the story of the growth of the industry since 1950 could not have been told in the way it has been presented here without extensive interviewing of manufacturers and civil servants. The operation of the free market in yarn within the country and the influence of inflation on the costs of different sections of the industry are studied almost entirely in the light of discussions held in 1964 and 1965 in Indonesia.

I have to thank Mr. Bruce J. McFarlane for encouraging me to undertake this project and for offering me advice on the basis of his own experience in developing countries. The project was facilitated by a scholarship from the Australian National University and my gratitude is extended to Professor Arndt for arranging facilities without which this thesis would almost certainly lack some of its original source material. Dr. W. M. Corden guided me through preparatory reading and supported the project when there appeared to be some doubt about the

prospects for field work in 1964.

It would be impossible to mention all the people in Indonesia who assisted me in field work but my special thanks go to Mr. Suryana of the Department of People's Industry, Dr. Jujun Wirasasinita, Dean of the Faculty of Economics, University of Padjajaran, Miss Angela Jo Pin Pin, and Dr. J. Panglaykim, then of the University of Indonesia.

My special thanks are due to Dr. C. A. Blyth who supervised the writing of the thesis. Dr. Blyth guided me in sorting out a mass of raw data and opinions gained during interviews and always appeared undaunted. His advice and comments were of great value to me.

Dr. Panglaykim, Mr. Mcfarlane and Mr. Ken Thomas read some of the draft chapters and their helpful comments were gratefully received.

The conclusions on the development of the textile industry are my own and I must also remain responsible for any errors in fact or analysis.

Summary of arguments.

The growth of the Indonesian textile industry from a cottage industry using primitive handlooms in 1950 to a modern industry with improved handlooms and power looms capable of producing almost 7.5 metres per capita per annum has not occurred under conditions which were obviously favourable. A study of the structure of the industry and the ramifications of other aspects of the economy was found to be necessary in order to explain why the private sector of the industry continued to grow at a pace which doubled its production capacity in ten years while at the same time it rarely achieved more than 40 per cent utilisation of its capacity.

The purpose of Chapter II is to provide an explanation of the origins and causes of the main weaknesses of the textile industry, which were so apparent after the Second World War, before the analysis and arguments of the thesis are presented in Chapters III to VIII.

Chapter III, "Government Plans and the Expansion of the Industry", describes the methods used by the government to expand and improve the textile industry and the reasons for their partial failure. A shortage of foreign exchange is discounted as a main cause of the failure of the plans for expansion. But the inflation which continued throughout the period undermined the incidence of tariff protection and this is regarded as a major contributing influence to the lack of success. Furthermore, the generous credit allowances to the indigenous group of entrepreneurs were not accompanied by measures to improve its managerial competence and no serious consideration was given to the problem of providing working capital.

"Costs and Differences in Costs", (Chapter IV) describes the sources of cost differences within the industry and demonstrates how inflation acted to increase the range of costs per unit of output. The variable cost structures provided the basis for the disruption of the official distribution of raw materials and the development of the free market in yarn when there was a shortage of raw materials. It is believed that a study of the structural changes in the textile industry caused by inflation is one of the more distinctive contributions of the thesis because these changes are bound to affect the range of costs per unit of output and, therefore, decisions on protection policy.

In Chapter V, "The Supply and Distribution of Raw Materials", determinants of the volume of imported raw materials are discussed together with the effects of private and government distribution systems. Official planning of supplies was invariably clumsy and often inappropriate while the lack of supervision led to the disruption of official supplies. In spite of government attempts at protection for the whole industry and special support for the weaker enterprises, for most of the time only 30 to 40 per cent of weaving capacity was utilised and most of this activity was confined to the larger and stronger enterprises.

The interest which speculative practices in Indonesia arouse usually centres on the nature and manifestations of these practices. Fascinating as they are it is not the purpose of this thesis to describe the Indonesian characteristics of a phenomenon which is to be found in varying degree in all countries. Instead, Chapter VI, "The Development of a Speculative Free Market in Yarn", demonstrates

how the free market benefits the industry by channelling yarn allocations to large enterprises when they might not have been taken up by small weavers. The irregular supplies of yarn caused speculation which assisted large weavers by providing a more constant supply of yarn. By making the sale of allocations more attractive to the small weaver it increased the shift of production to the more efficient section. However, the analysis did not indicate whether total profits of the large scale section increased. Inflation affected the free market by leading to larger rises in the cost schedules of the small weaver than of the large weaver, and by lowering the influence of tariff protection. In fact, the lag in price increases of several of the factors of large scale production permitted this section to maintain production with profits for some time after the whole industry's position had been weakened by inflation.

If Chapter VII, "Protection and the Influence of Inflation", were merely an analysis of the effect of rising domestic costs on tariff protection it would not deserve a chapter on its own. But tariffs (or surcharges) were only one form of several measures of protection used and this chapter examines the progress of the industry under the effect of inflation on different combinations of measures. One of the most influential measures, and one which did so much to make up for the weakened tariff protection, was credit policy particularly in the form of discriminatory requirements of advance import payments.

Chapter VIII, "The Industry After Fourteen Years of Support and Protection", is an attempt to infer from the available, though very limited, statistics what part of the textile industry can compete with overseas textiles at different levels of tariff protection. The earlier

chapters make it apparent that the competitive strength of the weaving section was far from uniform and therefore an aggregate assessment of the industry is thought to be meaningless; but this review comes to the tentative conclusion that only a quarter of present weaving capacity could operate if tariff protection were no more than 33.3 per cent.

Finally, Chapter IX closes the thesis with an examination of the costs and benefits of the development of the textile industry so far. Issues concerned with the future growth of the industry are discussed with reference to the general economic situation in the mid 1960s and the greater polarisation of efficiency levels and production activity within the industry since 1950. The conclusion is drawn that the textile industry is potentially an important source of foreign exchange saving and can be regarded as anti-inflationary. The capacity of the weaving industry is probably larger than the country's capacity to keep it fully utilised with imported raw materials, and it would seem appropriate to use the next few years' in training indigenous managers before further expansion is undertaken.

C O N T E N T S

Preface	iii
Summary of Arguments	vi
I. Introduction.	1
<u>Definition of the industry</u>	2
<u>Difficulties encountered during the expansion</u>	5
<u>The layout of the thesis</u>	7
<u>Sources of information</u>	8
II. The Industry Prior To 1950.	14
<u>The industry under free trade, 1900-1933.</u>	14
Origins:	14
The origin of the sarong industry:	14
Finance:	16
Pre World War I:	17
Public concern for the economy:	17
Development:	20
Post World War I:	21
The influence of World War I on government attitudes:	21
Development:	22
The situation on the eve of the Depression:	24
<u>The textile industry as a means of economic development, 1934-42.</u>	26
Reasons for the change in government policy:	26
The new policy:	32
Imports:	32
Manufacturing:	35
Other forms of protection:	37
Entrepreneurial weaknesses:	40
Capacity and production:	46
The expansion to 1942:	46
Production:	51
Assessment of the expansion:	53
<u>The industry without government planning, 1942-50.</u>	55
The Japanese Occupation:	55
Postwar development:	56
Expansion of capacity:	56
Production and imports:	59
Capacity utilisation in 1950:	62
Economic reform in 1950:	64
Measures taken:	64
The effects of the measures:	65
The competitive position of the industry in 1950:	69
<u>Summary.</u>	73

III. Government Plans and the Expansion of the Industry.	75
<u>Economic background to the expansion.</u>	75
<u>General aims and principles of policy.</u>	79
<u>The expansion.</u>	82
<u>The 1951 Economic Urgency Programme.</u>	85
<u>The Mechanisation of Small Scale Industries</u>	
<u>Programme.</u>	87
<u>The Five Year Plan, 1956-1960.</u>	91
<u>The Eight Year Plan.</u>	95
Targets:	96
Execution:	97
1. Technical training:	97
2. Spinning:	98
3. Weaving and knitting:	101
4. Finishing:	102
Causes of the failure of the plan:	102
An alternative plan:	103
The role of the public sector.	105
Technical problems of the expansion.	107
Obstacles to expansion of fixed capital.	109
Shortage of foreign exchange:	110
Inadequate protection:	113
Limited managerial ability and absorptive capacity:	116
Difficulties of working capital:	119
Conclusion.	120
IV. Costs and Differences in Costs.	123
<u>Sources of cost differences and the effects of</u>	
<u>inflation.</u>	130
Managerial ability:	130
1. Differences in attitude to commerce:	130
2. Financial competence:	133
3. Personal relationships:	134
Marketing practices:	135
1. The high cost of marketing in Indonesia:	135
2. Marketing by the manufacturer:	137
3. Marketing by the cooperative:	138
Mechanisation (and depreciation):	139
1. Spinning equipment:	139
2. Weaving:	139
3. The cost of mechanisation:	142
4. Finishing factories:	146
5. Depreciation:	146
Raw materials:	150
1. Raw cotton prices:	150
2. Yarn allocation prices:	151
3. Free market yarn prices:	152
4. Official and free market prices compared:	152
5. Prices of raw materials for finishing:	154

Labour costs:	154
1.Wages and labour productivity:	155
2.Differences in wage costs:	156
3.Trends in wage costs:	157
4.Low productivity and high wages in medium sized firms:	163
Power costs:	164
1.State electricity:	164
2.Private generators:	164
3.State and private power costs compared:	164
Working capital:	165
1.Raw materials:	165
2.Wages:	168
3.Marketing:	169
4.Total requirements:	169
<u>Final costs and trends.</u>	178
Managerial costs:	179
Capital costs:	180
Wages:	181
Different raw materials costs:	181
Allowance for working capital:	182
<u>Conclusion.</u>	185
V. The Supply and Distribution of Raw Materials.	191
<u>Data on supplies of raw materials.</u>	195
<u>Planning of imported raw materials.</u>	201
Pre 1959:	201
1.Progress 1951-1956:	203
2.Protecting the economy before the textile industry, 1957-1958:	207
Departmental planning, 1959-1964:	207
<u>Distribution of all supplies.</u>	213
Official allocations:	213
1.The role of the J.P.P.(Foundation for Supplies of Raw Materials):	215
2.The role of the Department of People's Industry:	216
3.The role of the Price Control Office:	216
4.The role of the P.D.Ns.(State Trading Corporations):	218
5.The role of the cooperatives:	218
6.Corruption of the channels of distribution:	220
Free distribution:	230
The effects of government intervention in distribution:	230
<u>Reorganisation of planning and distribution by Kommando Tertinggi Operasi Ekonomi (KOTOE-Supreme Command of Economic Operations).</u>	232
<u>Conclusion.</u>	236

VI. The Development of a Speculative Free Market in Yarn.	239
<u>Introduction.</u>	239
The purpose of this chapter:	239
The blackmarket and the free market:	239
Speculation:	244
Method of analysis:	246
<u>Supply and demand in the free market without uncertainty.</u>	250
Freely imported yarn supplies:	250
Allocations:	251
The cloth market:	257
Market imperfections and business motives other than profit maximisation:	259
<u>Supply and demand in the free market with uncertainty.</u>	263
(i) The influence of irregular supplies.	263
Without the cloth market:	263
With the cloth market:	269
(ii) The influence of inflation:	271
Without cloth imports:	272
1. Inflation and relative fixed costs:	272
2. Inflation and the need for extra employment:	273
3. Inflation and changes in the cost of fixed factors of large scale production:	274
4. The net effect of cost increases:	274
5. Market imperfections and business motives other than profits maximisation:	275
With cloth imports:	277
<u>Conclusion.</u>	279
VII. Protection and the Influence of Inflation.	285
<u>Measures of protection and the effect of inflation on them.</u>	286
Tariffs (or surcharges):	286
Quantitative restrictions:	288
1. Free list:	288
2. Quotas:	289
3. The 'Marrying' system:	290
Prepayments:	290
<u>The efficacy of measures of protection:</u>	292
Large imports of all kinds, 1950:	294
Foreign competition and a slump in the industry, 1951-1952:	296
Years of prosperity for the industry, 1953-1956:	299
The re-emergence of strong overseas competition, 1957-1958:	302
Strong support for the textile industry, 1959-1961:	304
The decline of foreign exchange reserves, 1962 onwards:	306
<u>Problems of protection internal to the industry.</u>	307
<u>Conclusion.</u>	308

VIII. The Textile Industry After Fourteen Years of Support and Protection.	310
<u>Development of capacity and production since 1930.</u>	311
<u>General characteristics of the industry.</u>	313
<u>Capacity.</u>	314
Raw cotton:	314
Spinning:	317
Weaving:	320
Finishing:	323
The public sector:	323
The cottage industry:	324
Employment:	324
<u>Production and imports:</u>	325
<u>The weaving industry's competitive ability.</u>	331
<u>Conclusion.</u>	338
IX. Conclusion.	340
<u>The growth of the industry and the influence of government policy.</u>	341
The growth of the industry:	341
The effects of government intervention:	343
The effects of inflation:	349
Likely trends if past government policy persists:	351
<u>Costs and benefits of the expansion.</u>	352
Foreign exchange expenditure and saving:	352
Employment creation and demand inflation:	356
<u>Problems of further development.</u>	360
Foreign exchange considerations.	360
Management training:	366
Protection and low net foreign exchange earnings:	369
<u>Concluding remarks on sources of information.</u>	375
Appendix A. Sources of Credit.	378
Appendix B. Capacity Production Measures.	397
Bibliography.	408
<u>LIST OF TABLES.</u>	
1. Imports of raw material textile fabrics; 1938-40 & 1960-62.	4
2. Number of new handlooms (ATEM) and power looms (ATM):1930-33	24
3. Sources of potential and actual supply of textiles:1933.	25
4. Netherlands share of selected Indonesian imports.	29
5. Number improved handlooms and power looms: 1930-40.	49
6. Imports of textile raw materials and finished goods:1935-37.	51
7. Sources of supply of textiles in 1940.	52
8. Capacity input and output of spinning, weaving, and knitting sections of the textile industry:1949 and 1950.	57

9. Imports of textile raw materials and finished goods: 1938, 1947 to 1950.	60
10. Total supplies of textile raw materials and cloth: 1950.	62
11. Indexes of the money supply and free retail market and landed prices of rice & textiles, in Djakarta: 1938 and 1950.	71
12. Selected prices in the urban areas of Djakarta: 1950-1964.	77
13. Capacity of spinning, weaving, knitting and printing industries: 1950-1962.	82
14. Textile expansion according to the Eight Year Plan.	96
15. Projected distribution of expenditure on the textile industry under the Eight Year Plan.	97
16. Achievements in the spinning industry under the Eight Year Plan.	100
17. The Andren short and long term plans for weaving: 1959.	104
18. State-owned textile factories in 1965.	106
19. Value of imports of finished textiles and yarn: 1952-1959.	112
20. Number of establishments in textile and total manufacturing at end of 1961, by number of persons employed.	129
21. Output and capital-output ratios for five weaving techniques in India.	141
22. Capital-output ratios of selected industries in the Philippines.	149
23. Yarn prices: 1963 and 1964.	153
24. International comparisons of wages, productivity, and labour costs in cotton spinning: 1932.	156
25. Estimates of fixed capital and working capital for five weaving techniques in India.	173
26. Potential surplus and rate of surplus for five weaving techniques in India.	179
27. Rates of surplus for five weaving techniques using two alternative time lags for working capital and for two alternative wage scales.	184

28. Requirements for raw materials for the spinning and weaving industries: 1950-1964.	196
29. Supplies of raw materials: 1950-1962.	197
30. Surcharges on imports as a percentage of value: 1952-1960.	287
31. Imports of selected textile raw materials and finished goods: 1938, 1950-1964.	293
32. The development of the modern textile industry since 1930. (Spinning capacity, weaving capacity, weaving production, imports of cloth: 1930, 1940, 1951, 1955 and 1960-1962).	311
33. Full capacity input and output of the textile industry at dates of latest available information.	318
34. Licenced and actual capacity in 502 textile enterprises in the Djogjakarta area.	321
35. The cottage textile industry: 1961.	324
36. Capacity utilisation rates and production and imports of cloth: 1951-1962.	327
37. Production of large and small scale weaving enterprises, imports of cotton piece goods, and surcharges: 1951-1963.	332
38. Foreign exchange considerations of expansion since 1950.	353
39. Capacity expansion and employment since 1950.	358
40. Foreign exchange considerations of equating capacities of all sections and of expanding textile production capacity by one metre per capita, per annum.	361

LIST OF CHARTS.

I. Monthly data on imports of textile raw materials: 1950-1962.	193
II. Monthly data on imports of finished textile goods: 1950-1962.	194
III. Controlled and free distribution of yarn before 1958.	223
IV. Controlled and free distribution of yarn after 1958.	228
V. Marginal revenue product analysis with allocations to the small scale weaver.	252

VI. Marginal revenue product analysis of the large scale weaver with allocations. 255

VII. Marginal revenue product analysis of the large scale weaver with uncertainty of supplies. 268

Appendix tables.

(i) The money supply and credit outstanding of Bank Indonesia, BIN, BNI, foreign private banks and national private banks, 1951 to 1956, (as at end of each year). 388

(ii) Selected operations of Jajasan Lembaga Djaminan Kredit. 396

(The text in this section is extremely faint and largely illegible. It appears to be a detailed discussion or analysis related to the financial data presented in the tables above, possibly covering the period 1951-1956. It mentions various financial institutions and operations.)

1. In 1956, the money supply was Rp. 1,000 billion and the credit outstanding was Rp. 500 billion. The money supply was composed of currency in circulation and deposits with the Bank of Indonesia. The credit outstanding was composed of deposits with the Bank of Indonesia and deposits with other financial institutions. The money supply and credit outstanding were both in constant prices of 1956.

2. The money supply and credit outstanding were both in constant prices of 1956.

3. The money supply and credit outstanding were both in constant prices of 1956.

4. The money supply and credit outstanding were both in constant prices of 1956.

5. The money supply and credit outstanding were both in constant prices of 1956.

6. The money supply and credit outstanding were both in constant prices of 1956.

CHAPTER 1.

INTRODUCTION

The Indonesian economy has undergone rapid changes since sovereignty of the country was handed over to the Republic by the Netherlands in December 1949 and one of the most significant developments has been in the textile industry. Like rice cultivation it produces an essential commodity which is required in substantial quantities, but unlike rice, for which the main reliance was on domestic production, textiles (excluding handwoven sarongs) were almost entirely imported before 1930; and even at the outbreak of the Second World War only about 139 million metres per annum, or less than two metres per capita, could be produced domestically.¹ Actual total production of woven goods in 1940 was 128 million metres or about 14 per cent of total consumption.² In 1962 (the most recent year for which this information is available) weaving capacity production was 688 million metres³, or about 7.3 metres per capita; although actual production in 1963 (again latest available data) was only 2.5 metres per capita, or over half of total consumption.⁴ There was little increase in weaving capacity between 1962 and 1963. Before the war very little yarn was produced, but in 1961 output was 7,134 tons,⁵ or about 24 per cent of yarn imports.⁶

-
1. In 1941 licenced capacity was 49,019 ATBMs and 7,588 power looms. Assuming each ATBM can produce eight metres a day, and each power loom forty metres a day, a 240 day working year would produce approximately 167 million metres.
 2. J.O.M. Broek. Economic Development of the Netherlands Indies. p.83
 3. See Table 334.
 4. Unpublished data, Djakarta, May 1965.
 5. Usaha Pembangunan. p.2 Publication of Department of People's Industry. Djakarta. 1964.
 6. Yarn Imports in 1962 were 29,700 tons. (Statistical Pocketbook of Indonesia 1963). p.135.

From a cottage industry in 1930 textile manufacturing has become the biggest single source of factory employment, providing 19.4 per cent of the large and medium scale manufacturing employment (or 92,806 jobs), and paying 15.4 per cent of wages and salaries of all large and medium scale manufacturing industry.¹

Definition of the industry.

This study will be confined to the cotton textile industry and will include spinning, weaving, knitting and finishing activities. There is some silk production but this is negligible and the economic issues involved are quite different from those of the main textile industry. Rayon production has been mentioned in plans but the aim to establish a forest for its raw material in South Sumatra has been temporarily abandoned.

The cottage hand spinning process is very time-consuming and the quality of the produce is heavily dependent on the skill of the spinner. Modern equipment is highly mechanised and the employment potential is not very great. In the weaving industry there are several intermediate stages of mechanisation from which to choose for the processing of yarn into cloth; but no manufacturer interviewed was prepared to place a worker in charge of more than two looms in operation simultaneously.²

-
1. Calculated from figures in Statistical Pocketbook of Indonesia 1963. pp. 112-13. This includes all spinning, weaving, and knitting establishments of at least 10 employees, or using some power. It does not include wearing apparel production establishments.
 2. Equipment for all stages of mechanisation exists in Indonesia and it is likely that the primitive (gedogan) cottage loom for weaving was used more recently than the old-fashioned spinning method, although it is doubtful whether either has been used since the Second World War.

The finishing process is either the old-fashioned wash-tub cooking (sometimes with a power driven handle) or the highly mechanised modern plant into which the unbleached, unwashed and unprinted cloth is placed and the final product emerges ready for making into clothes. Like spinning there are no intermediate methods of production in existence in Indonesia and the employment potential of the new process is not large; but the quality of the product is constant and high.

The batik industry which consists of cottages and small enterprises occupied in ^tpainting and printing cambrics is excluded from the thesis for several reasons. First, it is not concerned with spinning or weaving. Second, although it has received a great deal of protection and support from the government, it is not regarded as a vehicle of industrialisation in the same way as is the manufacture of mass produced cheap cotton textiles. Third, it is not an import-replacement industry and its export potential is very limited because of high costs;¹ hence it is unlikely to alter its impact on the balance of payments. Fourth, it is primarily a cottage industry (although some factories are producing poorer quality batik), and moreover, is a declining industry unable to compete with more mechanised textile production. There are no statistics on batik production with which to compare the pre-war and post-war situations, but some inferences can be drawn from statistics of imports of textile fabrics classified as raw materials because the vast bulk of these would be the raw materials of the batik industry.

1. It is a very labour-intensive industry and nearly all its raw materials must be imported.

TABLE 1.

IMPORTS OF RAW MATERIALS TEXTILE FABRICS, 1938-40AND 1960-62 (1,000 tons).

<u>1938</u>	<u>1939</u>	<u>1940</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>
27.1	18.9	24.2	11.9	15.3	11.6

Source: Statistical Pocketbook of Indonesia 1963, p.135

The data in Table 1 shows a decline in imports of raw materials. The years 1961 and 1962 were periods of unusually large imports and should be taken as an exaggeration of the normal input of the batik industry. The trend in these figures is in marked contrast to the rapid increase in imports of yarn over the same period. In 1940 bleached and unbleached cotton piece goods imports comprised 52 per cent of total imports of raw cotton and yarn, and in 1962 only 29 per cent.¹ Mention will be made of the batik industry only where imports of bleached and unbleached cotton piece goods, most of which go to the batik industry, change in proportion to total imports.

Fifth, the cottage industry is very poorly documented, partly because it is being supplanted by factory industry, and is thus falling into disuse, and partly because of statistical collection problems. The cheap cotton textile cottage industry already raises problems of analysis for the whole textile industry because of poor documentation. Inclusion of the batik industry would inevitably increase the amount of guesswork and reduce the plausibility of inferences made from statistics lacking in comprehensiveness.

1. These percentages are calculated from data in Statistical Pocketbook of Indonesia 1963, pp.134-35.

Difficulties encountered during the expansion:

In order to achieve great expansion the textile industry required the special attention and protection of the government. In the case of post-Independence Indonesia the special guidance and support from the government were interrupted by the ramifications of policy in other areas of the economy; this was so because of the industry's dependence on the balance of payments, exchange rates and the incidence of protection.

The problem of tariff protection was complicated by the need to support several stages (with unequal production capacities) of the manufacturing process within the infant industry. During the period 1950 to 1965 the government displayed indecision in this field by sometimes protecting spinners while at other times protecting weavers. Moreover, the desire to help the consumer as well as the producer placed the government in the position of permitting the importing of certain types of cloth which amounted to a sizeable proportion of total cloth supplies, in spite of the concurrent underutilization of domestic capacity. More often, the large share of the domestic market supplied by imported textiles was due to miscalculations of measures of protection.

Although inflation exerted a strong influence on textile production and plays a major role in this thesis, the causes of inflation are regarded as outside the scope of the thesis,¹ which is concerned with the effects of a given inflation on the textile industry.

1. At times it is difficult to separate the causes of price rises and for this reason it will be of interest to examine situations in which movements in the price of textiles deviated sharply from the movements in prices of other commodities. Nevertheless, the causes of the general price rise will not be analysed.

The ever-present shortage of working capital and credit increased the importance of credit-worthiness and profitability and those enterprises which were unable to compete successfully for bank credit were forced to turn to the free money market in which inflation had caused interest rates to rise to several times the usual bank rates. Not only were initial variations in production costs important to this situation but the influence of inflation on interest rates and real wages tended to widen the range of variations.

The period of most rapid expansion, the 1950's, was dominated by the execution of the Benteng (or as it has been described by some, the "Indonesianisation") Programme. This Programme provided assistance to a new class of indigenous producers and traders which, it was hoped, would eventually assume leadership of the commercial and production sectors in place of foreigners.¹ This new and inexperienced entrepreneurial group was founded on very weak financial resources and exhibited a preference for unmechanised looms.

Because of problems of selective support for particular sections it is important to examine how these influences were permitted to affect the development of the industry and how much of a liability they remain.

1. Benteng goods, mostly essentials, were those commodities which were the monopoly of licensed indigenous traders, who then became Benteng traders.

Labour supply, labour-management relations, and labour training will not be discussed except in passing reference. There was no overall shortage of labour, and with the exception of 1950 and 1951 labour disputes presented no problems to management because of the effective curbing of the union's powers. By 1965 the trade unions were mouthpieces of the government which used them to inculcate state ideology into the workers. The level of skills required in weaving and knitting was quite low and training by management usually covered a period of one month. The main bottleneck of skills was at the managerial level and amongst maintenance employees.

The layout of the thesis:

This case study begins by examining the origins of the textile industry in Indonesia and comparing its major weaknesses with those of textile industries in other countries. In the later analytical chapters references to other countries will be made where deemed appropriate, particularly in Chapters IV and VII, but because of the serious general economic disturbances in the years following 1950, the thesis becomes a case study of the development of an import-replacement industry under strong inflationary pressures.

Chapter II, which examines the history of the industry until sovereign independence, is separated from the remainder of the thesis by treating 1950 as a watershed in the development of textile manufacturing. That year marked the beginning of a policy of strong and active support for a major industrial potential as distinct from the earlier support for an industry which was mainly designed to relieve rural unemployment and poverty. However, the origins of the industry are important as the weaknesses in the foundation of its development were carried forward into the 1950s and 1960s. For this reason the pre-1950 period is introduced, although in summary form, while the problems of the industry under support and protection are analysed in much greater detail.

Chapters III to VII describe and explain the problems of both government and firm in promoting textile production. Because of the sensitivity of the industry to other economic activity, general economic trends in the economy are provided as a background for the big expansion initiated by the government. A study of the weaknesses of a growing indigenous sector, problems of supply of raw materials, variable cost structures, working capital problems and foreign competition include all the difficulties of any magnitude encountered by the industry. Throughout these chapters the all-pervading influence of inflation is illustrated. It is fair to say that the enormous budget deficits dominated the course of progress of every part of the economy and their effect on the textile industry was felt in both structural change and overall rates of expansion.

Chapter VIII examines the relative and absolute position of the textile industry in 1964-65, although, for statistical reasons, much of the data of the actual performance of the industry refer to 1961.

Sources of information:

The data were obtained from several quite different sources. The bulk of the information on capacity and government policies was obtained from interviews with civil servants in various Departments, including People's Industry, Trade, Plantations, Agriculture, Cooperatives, and Labour, as well as the National Planning Bureau. Government publications and departmental memoranda were very generously lent for longer perusal.

Before the war the main emphasis of statistical collection was on agricultural produce in keeping with its importance in the economy.

However, according to the 1934 Statistics Ordinance,¹ industrial concerns using 5 horse-power or employing at least 10 workers were required to provide information on number of employees, wages and salaries paid, production, usage of raw materials, power installations, plant and equipment and production capacity.² By 1940 a comprehensive collection of data for the major industries was obtained although the returns were not exhaustive.

By 1952 the greater part of the field of statistical services as it existed before the war was again being covered. But because industrial concerns were not ordered to make returns the Central Bureau of Statistics was forced to draw up its own list of firms. The government had no record of the pre-war addresses of firms, and the Bureau was obliged to go out into the field and collect data by using telephone directories and advertisements in local newspapers. The following year the whole industrial statistical machinery was revised. Decree No.16-961 M of November 1953³ charged the Bureau with the task of gaining information on all concerns employing ten or more persons or using some form of power equipment. This excluded the cottage industry, but some machinery was established at the same time under Regulation No.19-960 M to enquire into this sector.

As the statistical services declined in the later fifties more and more reliance was placed on records of capacity returns which had to be made by manufacturers who hoped to receive official allocations of raw materials.

-
1. E.A. van der Graaff. Statistics in Indonesia. Chapter 4, p.1
 2. Additional information on safety regulations was required after 1940. (Ibid, Chapter 4, p.1)
 3. Ibid, Chapter 4, p.1

The Department of People's Industry keeps records of all licences for production which are issued by itself. As more and more of the smallest enterprises went out of production an increasing number of these licences was not renewed. This tended to deflate statistics on capacity. On the other hand, as valuable allocations of cheap yarn became more important, licences for those factories which continued production were illegally inflated. It is reasonable to conclude that power-driven capacity is exaggerated but the figure for handlooms might be underestimated. The KOTOE reports made in February 1965 after an investigation of factories indicated that the difference between actual and licenced capacity was very great although their conclusions on handloom capacity are misleading.¹

The Central Bureau of Statistics in Djakarta still issues data on a section² of large and medium sized establishments obtained from mailed questionnaires; large scale enterprises report monthly and medium sized report annually. Weaving mills provide data on yarn consumption, and production of sarongs, shawls, towels, and cloth. The knitting mills make returns on yarn consumption and on production of mosquito netting, singlets, T-shirts, socks and other smaller knitted items. All returns include data on employment, wages and salaries paid, and power usage.

1. Report I of the KOTOE (Kokommando Tertinggi Operasi Ekonomi-Supreme Command of Economic Operations) Clothing Team investigations into the distribution of yarn.(Djakarta, February 1965).In this Report the KOTOE team states that of licenced capacity of 13,598 handlooms only 303 existed. The difference is so great that doubt is raised whether handweaving capacity for the whole of Indonesia can be inferred from these figures. Moreover, much of handweaving capacity had fallen into disuse by 1965 because of years of insufficient raw materials. The KOTOE team was known to consider the handweaving cottage industry as an economic liability and it is thought that their policy was to count only those handlooms which could be used almost at once. This would exclude a large amount of handweaving capacity which could be brought into use after repairs had been made.
2. The response of about 80 per cent of mailed questionnaires was considered good. Interview at Central Bureau of Statistics,Djakarta, 1.1164.

It is likely that the more efficiently run, and therefore more successful, firms reply more faithfully. Unpublished data on surveys of the cottage industry emerged in departmental memoranda. The Bureau does not publish figures for the cottage industry. Nor is there information on stocks of raw materials or cloth, except references made to them in bank and departmental reports. These reports, together with data on prices and imports, give some indication of the great variations in stocks of raw materials that must have taken place.

Data on imports were carefully recorded by the colonial administration for taxation purposes and the source was the customs office.¹ After 1950 the statistical service was changed to provide data resembling the Standard Classifications of the Statistical Office of the United Nations.

Under the Republic data on all imports are collected on a monthly basis according to weight and Rupiah value (c.i.f.). Textile materials are divided into several categories; they include raw cotton, cotton weaving yarns, other weaving yarns, sewing threads, bleached and unbleached cotton piece goods, dyed printed woven coloured cotton piece goods, and clothing and underwear.²

1. Shipping statistics were first recorded in 1823. In 1938 the Netherlands East Indies Government accepted the Nomenclature Douaniere de Geneve of the League of Nations. (E.A. van der Graaff. op. cit. Chapter 8. p.1)

2. Interview at Central Bureau of Statistics, Djakarta. 1.11.64.

There are no regularly published data on finishing and printing output.

Much of the background to the micro-analysis of problems of the firm, as well as opinions on government policies towards the textile industry, were obtained from manufacturers. Three manufacturers in Bandung and two in Madjalaja were interviewed intensively and an average of about eight hours was spent with each. All five manufacturers were large scale and successful entrepreneurs, but they were also able to provide a broad picture of difficulties facing all kinds of establishments in the industry. A sample survey of 25 manufacturers of all sizes in Bandung and 15 in Madjalaja was made in May 1965 with the use of a schedule containing 50 questions. This survey was successful in gaining knowledge of problems facing the individual firm, and the opinions of manufacturers concerning government attempts to protect the industry. However, on questions of working capital and profits, particularly concerning the use of money lenders, it was obvious to the interviewers (a group of economics students from the State University of Padjajaran) that the replies were evasive. After the survey was completed some of the more interesting aspects of the results were discussed at great length with the five manufacturers already mentioned. In this way it was possible to make a reasonable assessment of the answers. Apart from the unwillingness of manufacturers to answer some questions the sample survey suffered from a number of other limitations.

First, the survey was conducted in West Java, the most prosperous area of Java and an area of concentration of the textile industry. Second, the sample was very small and divided between two towns of differing characteristics. Third, the survey was undertaken when the industry was in an unusual state of agitation having just been subjected to an intensive investigation by a committee enquiring into corruption and other malpractices in the distribution of raw materials; as a result respondents were suspicious of any further investigations. Hence the results of the surveys were finally used, not as a sample register of statistics of the industry, but as a supplementary source of information on problems and conflicts within the industry.

Data and opinions were also obtained from academics, trade unionists, cooperative officials and bankers. Books and theses from the University of Indonesia and newspapers provided background and miscellaneous information.

Mention of limitations of sources of information will be made where relevant and necessary in the text.

CHAPTER II

THE INDUSTRY PRIOR TO 1950

The Domestic Industry Under Free Trade, 1900 - 1933.

Origins:

The origin of the sarong industry:

Until 1811 the sarong, the traditional form of dress for both sexes in Indonesia, was made by the cottage industry using home spun cotton from raw cotton grown by the cottager himself. In most cases this was sufficient only for the family's needs. Hence the industry was located according to the distribution of population, so that almost all textiles were produced in Java and, in particular, around and in the towns of Bandung, Surakarta, Tegal, Semarang, Djogjakarta and Kediri. Internal trade in textiles was negligible, existing only in Java where there were large markets. Even after textile imports appeared around 1811 to 1815¹ the people continued to produce for themselves. However, during the period 1870 to 1880 the development of roads and railways in Java facilitated cheap textile imports;² and because these goods were of a higher quality than domestic output they began to replace the product of the very low productivity domestic loom.³ In spite of encroaching imports, as income from agriculture declined in the later nineteenth century and sources of supplementary income were sought, textile production developed around towns whose population preferred to purchase cheap cloth rather than produce it themselves.⁴

1. Kadarijah. Maslah Kebidjaksanaan Administrasi Penjaluran Sandang, p.3.

2. Kadarijah. Pembangunan Perindustrian Tekstil di Indonesia, p.3.

3. Unpublished departmental memorandum by Hirawan. p.10. Department of People's Industry, Djakarta. 1964.

4. In this way the village of Madjalaja, 30 miles southeast of Bandung emerged as the biggest single centre of cloth production. The difference between urban and rural income was increasing at this time.

Under the impact of newly-constructed transport facilities traders took the cottager's produce to distant markets. This system encouraged specialisation of colours and quality of cloth in different areas.¹ Most of the centres of production strengthened their position in the market and confirmed the geographical concentration that had already emerged. Therefore, in spite of changes in the distribution of population and in spite of obvious locational advantages of the bigger cities, the textile industry of Indonesia remains, very largely, in areas where pressure on land and declining incomes of half a century ago forced the local people to seek non-agricultural supplementary employment to maintain their standard of living.² The first entrepreneurs of this enlarged industry were the former self-sufficient cottagers, and extra labour was recruited from amongst local agricultural workers who were finding it increasingly difficult to obtain adequate rural employment.

-
1. In the Philippines specialisation also took place in the face of competition from imports. Textile imports had forced many cottage looms and spindles to become idle and the industry which survived specialised in mosquito nets and blankets. (L.D. Stifel. The Textile Industry. A Case Study of Industrial Development in the Philippines. p.24)
 2. The speed with which they undertook contracts for traders was determined by the rate of that decline and by the size of the local market. This was occurring not only in Indonesia. In the Philippines agriculture was experiencing long periods of low activity at this time and 40 per cent of farmers had secondary occupations. (Ibid. p.23).

Finance:

The loom used by the self-sufficient cottager was the primitive gedogan which could produce approximately 1.0 metre of cloth in seven hours of continuous work.¹ This loom could be made by the owner himself from local raw materials, chiefly wood, and the capital investment was very largely in terms of effort rather than goods or money. It was only when weaving became the main occupation of the cottager and extra looms were required to be worked by other members of the family or by employees that debt was introduced. Moreover, while the raw cotton was grown by the weaver himself in sufficient quantities for his family alone, he did not require working capital. But as soon as he required raw materials beyond the capacity of his own production he was forced to turn to the private lender. There were many Arabs, Indian and Chinese traders who were already collecting the marketable agricultural surplus of the Indonesians for final export, and after 1880 when a new range of imports was introduced into the country these traders offered raw cotton and yarn on credit as well as their marketing services for the produce.²

As the self-sufficiency of the family unit broke up and as some cottagers began to work full-time on cloth production, cotton and yarn were obtained from traders from the two sources of indigenous produce and imports. But as population pressure increased more land had to be placed under rice cultivation and the importance of imported raw materials grew.

1. This was derived from information from Hirawan's departmental (People's Industry) memorandum (p.10) and the known productivity of the power loom.

2. Ibid, p.11.

Pre World War I:

Public concern for the economy:

There was little incentive for western capital to invest in manufacturing in Indonesia in the nineteenth century. The greatest profits were to be found in supplying western markets with agricultural produce from the Indies while the Indonesian markets were hampered by the lack of transport and communications, the low purchasing power of the people and the high degree of self-sufficiency of the household.¹

The Dutch colonial administration policy reflected these economic considerations, and the infrastructure which was built in the early stages of colonisation was aimed at aiding the extraction of agricultural produce. Nevertheless, this policy in itself was sufficient to add to the material welfare of the people with the result that the population of Indonesia increased from an estimated 10 million in 1800 to 35 million in 1900.² But the government, which was chiefly concerned with agricultural production and exports, failed to take measures to cater for the increasing pressure of population on land resources in Java

1. A similar situation existed in the Philippines where the former textile industry had fallen into decline as a result of the concentration on plantation crops and the competition from European manufacturers. (L.D. Stifel. op.cit. p.22). The position of the Japanese textile industry was quite different; the massive colonial investment in primary produce was absent and the indigenous government had promoted mechanisation of existing secondary industry in the 1880s in order to raise income. (G.Fleming. Die Strukturwandlungen und die Aussenhandelsverflechtungen in der Welttextilwirtschaft. p.46)
2. A.M.de Neuman. Ekonomi dan Keuangan Indonesia. Vol.VII. January 1954. p.248. Widjojo Nitisastro has expressed doubt about the reliability of official population data over this period mainly because of the system of compulsory labour which involved registration. (Widjojo Nitisastro. Migration Population Growth and Economic Consequences of Alternative Patterns of Inter-Island Migration. pp.68, 77)

until 1900, when the decline in rural income alarmed the administration.¹

In 1901 the Netherlands Parliament, disturbed by reports of falling standards of living in the Netherlands Indies,² stressed that prosperity in the Indies could only be increased if secondary industry were developed.³ Many technical submissions followed on this interest but none was implemented. A commission, which later became known as the 'Diminishing Welfare Commission', empowered to enquire into the economy, delivered its report in 1904 and urged the promotion of factory industries.⁴ This general concern was strengthened by the lobbying of manufacturers in Holland who urged reforms in the Indies in the belief that increased sales to the colony would result from higher indigenous income. A business recession in 1905 provoked further discussion which lapsed when the recession ended.⁵

Even at the height of the debate on declining income, and the need for alternative industries, the widespread belief existed that small scale industry in which the Indonesian could do good work, could offer no competition against the greater mechanised industry of other countries, in which the Indonesian worker would not be at his best.

1. It is interesting to note that the adverse trends in the terms of trade caused by low commodity prices at the turn of the century are not discussed in the literature on Indonesian economic development as a cause of declining rural income. If this had occurred in the Netherlands it would doubtless have been raised as grounds for remedial action in the economy. It may be that the Indies economy was regarded as a source of foreign exchange to the Netherlands and that it had no right to be assessed independently of the economy of that country.
2. E.I. Harahap. Peranan Wanita dalam Keradjinan Tekstil. pp.13-4.
3. In 1902 in his budget speech, the Colonial Minister, Captain Idenburg, diagnosed the main cause of low income as the growth of population and the diminishing returns to agriculture. (J.S. Furnivall. Netherlands India. A Study of Plural Economy. p.233).
4. A.M. de Neuman. op. cit. p.249.
5. J.O.M. Broek. Economic Development of the Netherlands Indies. p.76.

The Colonial Governor-General's policy distinguished carefully between indigenous cottage industry and factory activity requiring western capital and knowledge; the former was considered more appropriate for the country. However, the declining income of the people could not be ignored and to counter this the government followed a policy aimed at improving enterprises which already existed, through credit cooperatives, expanding the cottage industries and encouraging new ones, and increasing the market for cottage produce in the other islands.

In 1915, prompted by the need for increased production of consumer goods for the domestic market as a result of the halting of trade with Europe during the First World War, the government set up a Commission for Factory Development.¹ In its enthusiasm the Commission outlined 200 plans for modern industrial development,² one of which eventually became the Textile Institute of Bandung.

It is difficult to assess from the safe distance of 1965 the particular problems of training, absenteeism and social overhead costs, all factors associated with the sudden and rapid establishment of large scale industry in a hitherto underdeveloped country. But the fact that the Dutch were not prepared to contemplate the rationalisation and re-organisation of industry, such as it existed in the Indies at the turn of the century, suggests that they were not convinced, by the evidence of declining income and increasing imports of light manufactured goods formerly

-
1. This Commission reported that it had been provide that some goods could be manufactured at a lost lower than foreign import prices and that a serious effort should be made at import substitution. (P.H.W. Sitsen. Industrial Development of the Netherlands Indies. p.59; and Hirawan. op. cit. p.3).
 2. A.M. de Neuman. op. cit. p.250.

produced domestically, of the need to develop new industries.¹

It is noticeable that the interest that was shown in the cottage industry periodically rose and fell inversely with trends in the general economic situation.

Development:

By the early years of this century the cottage textile industry had become overcrowded with those seeking supplementary sources of income. At the same time financial pressures from traders and money-lenders was becoming more acute because trading costs (transport and marketing) increased the final price of the domestic produce at a time when cheaper cloth of higher quality was being imported in increasing quantities. The income of the domestic producer of cloth was very small indeed and the opportunities for exploitation were all too obvious.

In 1909-10, in an attempt to maintain and increase interest in weaving as another source of income, the government introduced a Dutch weaving loom for the cottage industry² which was so successful that the debate on industrialisation was temporarily raised one again. However, this loom was not widely used and cannot be regarded as having revolutionised the industry. More important to new investment was the disruption of the importing of cloth between 1914 and 1918 which encouraged the establishment of several weaving mills.³

1. The textile industry of the Philippines also faced strong competition from imports at this time and was allowed to decline. In 1912 out of a total consumption of 7.3 square yards of cloth per capita a year in the Philippines, 6.5 square yards were imported. At the same time much of domestic capacity was lying idle. (L.D. Stifel. op.cit.p.23). But it was not until the 1950s that the Philippines textile industry received appropriate protection.

2. Kadarajah. Masalah Kebidjaksanaan Administrasi Penjaluran Sandang. p.3.

3. A.L. de Neuman.op. cit. p.250.

Post World War 1:

The influence of World War 1 on government attitudes:

It is not clear whether the results of the Report of the Commission for Factory Development in 1915 were small because no great effort was made to implement the recommendations, or because those recommendations were based on the new temporary advantages offered local producers by the war. Whatever the cause of failure to implement the findings, the example of the failure of many establishments after the war undoubtedly contributed towards the absence of much investment in the twenties.

In 1924 the Commission was dissolved by Governor von Limburg Stirum who declared that the "desire to move towards industrialisation was an unhealthy idea"¹.

1. Hirawan. op.cit. p.3. It was feared that the loss of the Indies markets for Dutch produce would decrease the trade (which was based on Indonesian produce) between Holland and her western neighbours. This fear was sufficient to allow Dutch plantation owners to dominate government thinking in spite of the other arguments and in defiance of the pressure from manufacturers in Holland who saw their markets declining from loss of purchasing power. Furnival sums up the situation by saying: "But little was done, because little could be done; except by a sacrifice of Dutch interests which in the existing political conditions, was impracticable. The reason for this lies at the root of all projects for enhancing welfare in a tropical dependency; all ~~of~~ such projects rest essentially on the organisation of demand and not on the organisation of production, and the key to success lies in the markets rather than in the factories." (J.S.Furnivall. op.cit. p.332).

The textile industry gained one important concession when, in 1922, as a result of complaints from the domestic manufacturers that they could not compete against imported cloth, the duty on imported yarn was reduced from 10 per cent to 5 per cent;¹ and was finally abolished in 1932. By retaining the 10 per cent duty on imports of textile fabrics² the government indicated, at the very least, that it was keen to retain that amount of manufacturing which already existed in the Indies. Another factor which probably enabled the government to come to this decision was that the Netherlands's share of Indonesia's cloth imports had been declining rapidly since before World War I.³

Development:

The First World War and its consequent interference in trade routes to Europe caused a rise in prices and profits of local producers which encouraged a considerable increase in investment in industrial activity.⁴ But not much of this activity survived the post-war resumption of trade when the flow of cheap consumer goods imports started again.⁵

1. Kadarijah. op. cit. p.3.
2. W. van Warmelo. Koloniale Studien 1939. p.9.
3. Statistical Abstract for the Netherlands East Indies 1929. pp.312-3.
4. This was also true of the Philippines & India. In India output of cloth rose from 1,164 million yards in 1913-14 to 1,732 million yards in 1921-2. (S.D. Mehta. The Cotton Mills of India, 1854-1954. p.154)
5. Production of raw cotton rose very little during the twenties. The government did not support this crop at all and it is surprising that cotton managed to hold its own against other crops. Neither the move towards cheaper cloth imports nor the attempts to improve productivity in weaving had any effect on raw cotton production since spinning was entirely confined to the very inefficient cottage industry. In fact, in the thirties Indonesia actually exported cotton because there was no modern spinning capacity to process the domestic crop. In 1921 production was 2,773 tons of uncleaned cotton, in 1925 it was 4,519 tons, and in 1933 3,342 tons. (J. Panglaykim. Some Facts and Figures Concerning Textile Production in the Country. p.26; also Evie Koo. Industri Tekstil di Indonesia, Keadaan dan Masa Depan. p.3).

The only private commercial textile factory in the twenties was a western style weaving shed with power looms in Padang in 1922,¹ which by 1932 had put the handlooms of the surrounding area out of work.² The gradual introduction of more efficient methods in weaving continued, but even this was not of great significance. Particularly during the period 1921-26 was there very little investment.³

In 1922 the Textile Institute of Bandung was founded as a factory⁴ to set an example in mechanisation and efficiency to the rest of the industry. In 1926 the Institute built a new handloom, the 'Alat Tenun Bukan Mesin' (ATBM),⁵ or non-power weaving loom, which had five times the productivity of the old gedogan loom.⁶ A modern weaving shed with these handlooms was built at Padang in 1933. In 1930, not long after the new handloom was introduced, the first power looms (the Alat Tenun Mesin-ATM) were imported from Europe.

Table 2 shows the size of the textile industry (excluding the gedogan capacity) in the early thirties. The bulk of the expansion was in the improved handloom, very likely because of problems of capital investment, skills and electricity supplies associated with the power loom.

-
1. C.C. Allen and A.G. Donnithorne. Western Enterprise in Indonesia and Malaya: a Study in Economic Development. p.124.
 2. J.H. Boeke. The Evolution of the Netherlands Indies Economy. p.124.
 3. A.M. de Neuman, op.cit. p.250.
 4. Hirawan. op.cit. p.10.
 5. This loom was a combination of Dutch and Indian model looms. It had the advantages of being sufficiently cheap for the cottager and being locally made.
 6. Van Warmelo states that the "production differential between hand labour and mechanised labour was reduced from 1:50 to about 1:5 after the introduction of the new handloom (ATBM)." (W. van Warmelo op.cit. p.9).

TABLE 2.

NUMBER OF NEW HANDLOOMS (ATEM) AND POWER LOOMS (ATM)
1930 - 33

	<u>ATEM</u>	<u>ATM</u>
1930	257	44
1931	524	44
1932	777	44
1933	1,299	46

Source: J.H. Boeke. The Evolution of the Netherlands Indies Economy.
p.122.

The output of the ATEM is eight metres of cloth and of the ATM twenty to twenty eight metres of cloth per shift (seven hours). If the handlooms are worked for one shift and the power looms for two shifts for a 240 day working year,¹ capacity output amounted to about 1,000,320 metres in 1930 and 3,024,000 metres in 1933. This represents an increase of almost 200 per cent in three years.

At this stage of development, there were still no facilities for finishing the cloth output with modern techniques. Without these techniques the quality of the finishing process was generally poor and variable.

The situation on the eve of the Depression:

In the year before the beginning of the Depression, the population was largely dependent on imports for its clothing.² Table 3 shows the sources

-
1. The conversion factors used here were obtained from the Department of People's Industry. The figure of 240 working days a year is used throughout this thesis instead of the 300 days used by the Department because it is regarded as more realistic. It is, perhaps, a conservative estimate but in view of the difficulty of achieving full capacity in Indonesia in all periods, not completely inappropriate. The problem of capacity definition is dealt with in Appendix B.
 2. W. van Warmelo. op. cit. p.8.

of supply of textiles to the domestic market. The only data available are capacity of ATBMs and ATMs, domestic production of raw cotton in Java and Madura, value of yarn imports, value of combined yarn and cotton piece goods imports, and weights of combined yarn and cotton piece goods imports. In the estimation of separate weights for yarn imports and cotton piece goods imports, the assumption of equal value of yarn and cloth imports of the same weight is made. Further inaccuracy is due to the unregistered domestic production of raw cotton.

TABLE 3.

SOURCES OF POTENTIAL AND ACTUAL SUPPLY OF TEXTILES, 1933.

Domestic production of raw cotton in Java and Madura (tons)	Domestic production of yarn inferred from column I (tons)	Imports of yarn (tons)	Total supply of yarn (tons)	Imports of cotton piece goods (tons)	Weaving capacity output (excluding gedogans) (1000 metres)	Weaving capacity input (excluding gedogans) (tons)
I	II	III	IV	V	VI	VII
1,114	1,000	6,757	7,757	81,731	3,656	653

Sources:-

- I. J. Panglaykim. Some Facts and Figures Concerning the Textile Industry in the Country, p.26.
- II. This conversion is made assuming 10 per cent waste in the spinning process. (Interview at State Pilot Spinning Project, Bandung, 12.11.64)
- III. Statistical Abstract for Netherlands Indies 1935, p.270. The weight of yarn imports was found by taking a ratio of value of yarn imports to value of combined yarn and cotton piece goods imports and multiplying this by the weight of combined yarn and cotton piece goods imports.
- IV. Ibid. This is the sum of columns II and III.
- V. Ibid. The weight of cotton piece goods was found by subtracting the weight of yarn imports (III) from the combined weight of yarn and cotton piece goods imports.
- VI. From Table 2.
- VII. Calculated from Column VI assuming, on average, 1 kilogram=5.5 metres of cloth (Department of People's Industry source).

In 1933 domestic production of yarn was only 15 per cent of imported yarn although it was almost twice as much as the full capacity input of the ATBM and ATM looms. Total yarn supplies were almost 14 times the volume of the capacity of these new looms so that if it is assumed that there was no change in the level of yarn stocks, the

primitive gedogan loom was still the main source of domestically produced cloth. Nevertheless, total domestic production of cloth (inferred from yarn supplies) amounted to only 38 per cent of cloth imports.

The Textile Industry as a Means of Economic Development, 1934-42.

Reasons for the change in government policy:

The Depression and its very severe effects on indigenous income and export potentialities (and therefore the profitability of agricultural investment) undermined many of the arguments against industrialisation.¹ Since Indonesia's economy rested mainly on the export of agricultural produce, the collapse of world markets for primary produce affected her more seriously than it did most countries.²

1. It is difficult to point to any special date or issue which resolved the government's mind in favour of industrialisation and protection.

The influence of enquiries into the effects of imports on the cottage industry, concern of Dutch capitalists about a declining colonial market through diminishing incomes, business recessions, and disruption of trade routes during wartime had all left their mark. Formerly they had been rejected as arguments for industrialisation in deference to the pressure of Dutch plantation owners who felt manufacturing would divert resources from their relatively profitable line of business.

2. During the Depression more than 100,000 labourers were sent back to Java from the other islands. (J.H. Boeke. The Evolution of the Netherlands Indies Economy. p.31). Sugar estates in Java shrunk to one fifth of their size. There was also the ever present structural problem of Java becoming overcrowded. Every year Java's population was increased by about 500,000 to 600,000. The government feared disturbances in the islands unless the economy could be improved. Existing western agricultural enterprises could not be further expanded.

P.H.W. Sitsen has calculated indexes on income and purchasing power before and during the Depression and these are presented in the table here.

INDEXES OF ECONOMIC INDICATORS: 1928, 1932, 1935, 1939, 1940
(Base, 1928 = 100)

	<u>1928</u>	<u>1932</u>	<u>1935</u>	<u>1939</u>	<u>1940</u>
Population	100	106	110	118	119
Income from national agricultural exports in units of constant purchasing power (a)	100	52	64	88	116
Income from industries in units of constant purchasing power	100	165	210	335	370
Consumption of textiles per person	100	...	92	136	...
Consumption of primary foodstuffs per person (kg)	100	102	105	112	115

Sources:- P.H.W. Sitsen. Industrial Development of the Netherlands Indies. p.2

- (a) The purchasing power of the income for subsistence of a family with an income of about 360 guilders per annum was taken as a unit of purchasing power.

There is no full explanation of what is meant by a unit of purchasing power apart from this. However, if we assume that Dr. Sitsen had devised a reasonable measure of purchasing power the fluctuations portrayed by the figures indicate clearly enough the importance of falls in income levels on government revenue and returns to private investment. Real income from agricultural exports was almost halved between 1928 and 1932, and the consumption of primary foodstuffs lagged behind population increases.

Moreover, the argument against the industrialisation of the Indies put forward by Dutch textile manufacturers who hoped for a large colonial market had been weakened in the years before the Depression by advances made by Japanese textiles in the Indies market. Table 4 provides some indication of the extent of the decline of Netherlands participation in the market.

In spite of the fact that the Indonesian market for all kinds of imported textiles approximately doubled between 1913 and 1928, Netherlands exports of textiles to the Indies rose negligibly in absolute terms; and its *share* of the market fell from 39.3 per cent to 23.4 per cent.

Another factor determining government attitude towards industrial protection was the raising of tariffs by other countries; the pursuance of 'beggar-my-neighbour' policies. Until 1934 the levying of tariffs, which were very moderate, was designed to raise revenue rather than to protect the domestic industry. Clearly, when other countries raised their tariffs against her, the Netherlands Indies had to review her own tariff position.

However, there was still some debate on the nature of the protection measures to be taken. The civil servants in the administration desired a return to free trade and unfettered economic activity as soon as possible while private business interests demanded strong government interference. But these business interests themselves were divided. Importers and aspiring manufacturers wanted a strong market within the country and large imports of capital goods. Exporters dep-

TABLE 4.

NETHERLANDS SHARE OF SELECTED INDONESIAN IMPORTS (VALUE IN 1000 GUILDERS)

	<u>1913</u>		<u>1920</u>		<u>1926</u>		<u>1927</u>		<u>1928</u>	
	Total	Neths. %	Total	Neths. %	Total	Neths. %	Total	Neths. %	Total	Neths. %
Yarns, all kinds	8020	1940 24	11270	1980 18	14100	750 5	12120	720 6	12500	910 7
Clothes & Fancy Art	8900	2500 28	16600	3650 22	18540	1960 11	18830	1720 9	19330	1810 9
Cotton textiles	96280	40040 42	315750	82520 26	165680	44920 27	170800	41370 24	176530	45610 26

Source:- Statistical Abstract for Netherlands East Indies 1929.

pp.312-13

pended, in the long-run, on the low indigenous standard of living to sell their goods in the competitive world market. The civil servants' case was presented in 1937 by the head of the Department of Economic Affairs in the Netherlands Indies Government who said:¹

....But I am no less convinced that, while retaining this competency, it will have to aim at limitation of its activities; those of the present are, in the long run, both too drastic and too expensive for our Indian society. As this society again acquires more resistance, and as the threats from outside diminish, we should systematically strive to put out of action the de facto use of some of the powers conferred upon the Government by recent statutes. The tensions of and within the Government apparatus have become too great, in my opinion, for permanent use; these tensions today exist in many new domains where they cannot be maintained over a long period. The attraction of doing something new, of the call to action and the opportunity of showing results, attraction too of the chance to provide leadership and to support helpful movements, cannot in the long run be kept alive in scores of domains and for a relatively small group of live and versatile persons. There is the danger that the proper care for a number of important projects will drop to a mediocre level of devotion and skill, that the great evils of routine performance, formalism, red tape and ossification will appear. Further, it is undeniable that intensive government intervention, even under the best circumstances, leads to a certain rigidity in the relations between the authorities and the people, to a certain lowering of energy, love of ease, too easy acquiescence, and a weakening of the personal power of perception and initiative among members of the community....

A renowned Dutch commentator, Professor Boeke², stressed that the country:

1. J.H.Boeke. op. cit. pp.34-5.

2. Ibid. p.36.

could not stay behind as the whole world went by without suffering ill consequences. Indeed, private interests impelled government intervention and emphatically insisted on it... If it (the government) had readily followed all the wishes and demand of private interest, government interference would have been far greater than it actually was or is.

In the event the government showed it was prepared to use its powers for as long as was necessary to facilitate many long term changes, The same head of the Department of Economic Affairs acted as spokesman for the government when he said, moderating his earlier remarks:¹

Do I wish, then, gradually to go back to the former situation - to a passive government, to the principle of non-intervention in the play of economic forces, to the unimpaired rule of the law of free competition? No, decidedly not. I can see clearly a many-sided and extensive task for the Government in the Netherlands Indies. As I judge the situation, it will be obliged to continue to bring and keep together groups of the community, and if necessary to link such groups to one of its own organisations. It cannot tolerate that opposing groups should weaken our international economic position or harm the interests of other groups in this country through either controversy or too intensive a collaboration. It will still have to control the activities of certain groups, even bona fide activities, if they are in a position to cause serious damage to the concerns of the community, at home or abroad. It will have to continue to help the economically weaker groups to become stronger; and to this end it will occasionally have to hold in check the activities of other groups if the general public interest demands it, even though these activities may be valuable in themselves. It will have to take care that economic interests do not under all circumstances and as a matter of course take precedence over social interest....

1. Ibid. p.37

The reasons for the choice of the textile industry as a priority industry in this period corresponded to those of later years.

In 1933 Indonesia was poised to improve productivity of weaving enormously by the mass introduction of the new handloom and the power loom. Capital investment could be made by individual producers in small increments and the social overheads involved were small. The traditional weaving skills already existed and the application of new techniques to an old craft, established in numerous small units, is much easier than the introduction of an entirely new process. Marketing problems for textiles could be expected to be smaller than for heavy industrial produce because of the high degree of decentralisation of the textile industry over the country as a whole. Moreover, there was a large market awaiting the output of a textile industry,¹ particularly since the loss of export earnings in the Depression had forced the issue of import replacement of textiles.

The new policy:

The radical change of economic policy was brought about by legislation in the fields of importing and manufacturing which was effective in redirecting scarce foreign exchange and in controlling the development of new enterprises.

Imports:

The first stage of government interference in the economy came in the field of imports rather than production. The Crisis Import

1. The Philippines was not so fortunate with a large market and this was one of the reasons why it developed much later than the Indonesian textile industry. (L.D.Stifel. The Textile Industry- A Case Study of Industrial Development in the Philippines.)

Ordinance of 1933¹ covered any commodity which the government wished to protect. The administration could promulgate regulations to control imports of a commodity but the measures taken could not be enforced beyond ten months without the consent of the Netherlands Parliament. The stated objective of the Ordinance was the prevention of excessive imports, but the most important aim of the quotas and licences² was to protect the interests of European industry (especially the textile industry at Twente in Holland which supplied the Indonesian market with particular types of cloth).³ It could hardly be said that the

1. J.H.Boeke. op. cit. p.85.

2. The regulations, which allowed imports to be defined clearly by quality and quantity, were divided into three groups (free quota system, national quotas, and licence system). Under the free quota system the volume of imports permitted was determined by what was thought sufficient for the domestic market. Imports of ready made clothes were on this system, and later unbleached cottons were added in January 1935, not to protect the Indonesian industry but to limit the competition from Japan against bleached cottons which came from Holland. When bleached cottons were placed under quota in 1934, the batik industry changed to using the cheaper unbleached cottons. (J.H. Boeke. op. cit. pp.87, 88, 94). The national quotas were designed to protect well-established and specific exporters to Indonesia: in this context referring principally to Holland. As a form of quantitative restrictions, it was also intended to provide some protection to the Indies domestic textile industry. National quotas were placed on imports of woven, coloured piece goods, cotton blankets, yarns, towels, rayon piece goods. (J.O.M. Broek. Economic Development of the Netherlands Indies. p.65). They were continually renewed until 1941. (J.H.Boeke. op. cit. p.93). It was hoped that Dutch and other European importers and distributors would hold their ground against the intruding Japanese and to ensure this licences were issued in proportion to the business activity prior to the import licences. These licences applied only to essential commodities and their number could be increased if it appeared that prices were rising as a result of a shortage of imports. The price level of retail textiles was not much more after the regulation than before. (Ibid. p.88).

3. J. Panglaykim. Ekonomi dan Keuangan Indonesia. Vol.XVI.No.2.1963. p.8.

original aim of the legislation on imports was wholly protectionist but in the following years the government changed its mind on industrialisation and chose to interpret the regulations in a strictly protectionist manner for the Indies.

After 1940 the licencing^{system} was made ineffective by the government's direct control over imports through foreign exchange allocation.¹

At the same time as these quantitative restrictions were introduced, there was a change in tariff policy. In 1933 duties on imported yarns were withdrawn and in 1934 industrial machinery was exempted.¹ Imports of variegated woven sarongs (a popular import) were subjected to a 30 per cent duty.³

A new Ordinance in 1937 lifted the ten months duration limit of regulations after it had become evident that protection was required over a much longer period than at first anticipated in the regulation.

The need for long term protection was not a special characteristic of the Indonesian textile industry. The Philippines had been unable to develop its domestic capacity behind the import duties permitted by the 1909 Tariff Act.⁴ At the same time the already developed Indian textile industry was only just able to compete against Japanese imports with the aid of a 75 per cent duty⁵ on cloth in 1932. The Indian government

1. Ibid, p.93

2. J.O.M.Broek. op. cit. p.81

3. W. van Warmelo. Koloniale Studien 1939. p.9

4. It was finally only with the aid of quantitative restrictions in the fifties that the Philippines textile industry was able to develop. Protection (between 15 per cent and 30 per cent duties) under the 1909 Tariff Act was not sufficient. (L.D.Stifel. op. cit. pp.9, 16)

5. S.D. Mehta. The Cotton Mills Of India, 1854-1954. p.182

finally resorted to quantitative restrictions in 1934¹ after the confusion over the exchange rates throughout the twenties had caused an erratic expansion through uncertainty about effective rates.

Manufacturing:

In 1934, the 'Industrial Regimentation' decree, which empowered the government to prescribe volume, methods of production and marketing for industry, was introduced.² Initially the decree was aimed at those industries which had overproduced and whose capacity was several times the volume of their sales as a result of the Depression. However, the sarong industry was also brought under the law in 1935 so that as from that year only establishments of fifteen or fewer handlooms could be built without permission.³ The new import restrictions passed in the previous year were expected to give rise to enormous expansion in weaving, and it was hoped that the cottagers using the new handloom (ATBM) would benefit from it.⁴ Factories were licenced and had production quotas including specifications of type of output and wages to be paid.⁵

1. Ibid. p.188

2. W. van Warmelo. op. cit. p.5

3. The 1935 piece of legislation became known as the 'Industrial Regimentation of Weaving Mills 1935'. (Kadarijah, Masalah Kebedjaksanaan Administrasi Penjaluran Sandang. p.5)

4. As a result of the sudden increases in weaving enterprises, the legislation in 1937 restricted the number of handlooms in an unlicenced enterprise to five instead of the previous fifties. The regulation aimed at developing the cottage industry and protecting it from medium scale enterprises.

5. P.H.W. Sitsen. Industrial Development of the Netherlands Indies. p.3 As far as textiles were concerned, the regimentation was to limit the output of certain cloths, notably the sarong, and thus encourage the output of other fabrics. By restricting the expansion of the sarong industry it was hoped that the price-cutting war would stop and the position of existing firms strengthened. Some large organisations had successfully eliminated part of the small scale industry by price cuts.

This form of encouragement was needed because of the technical difficulties of starting new types of weaving and because of the lower sale price of imported cloth. One of the reasons for the success of the 'maakloon' system¹ was that the larger manufacturers provided technical advice to the cottager on a commission basis while the low commission paid enabled the large manufacturers to experiment in new types of production within the cottage system.

The second Industrial Regulation Ordinance,² in 1937, was an attempt to coordinate new economic activity as well as preclude the chances of undesirable industries emerging. 'Undesirable' industries were interpreted as enterprises not suited to native welfare, such as modern, mechanised and large scale establishments. This policy does not appear to have been carefully thought out because, while it helped to retain competition within the industry, the effect on the competition facing the industry as a whole was not taken into account. The emphasis of planning was placed on labour-intensive cottage industries which were to be aided by technical advice from government departments.

1. This was a method of producing on credit supplied by larger manufacturers. It appears to have had its origins at the time of the specialization of textile production after the introduction of competitive imports.

2. J.H. Boeke. op.cit. p.130.

But it is impossible to see how this kind of enterprise could have raised its productivity above the level, which fell substantially short of its western counterpart, without a massive reorganisation of the financial and marketing arrangements which would have placed the industry on a basis similar to the highly cartelised Japanese small scale weaving industry.¹ Although there is no evidence that this was explicitly stated it was most likely believed at the time that the Depression would pass and that the country would return to its great primary producing industries. Even at this stage, when population pressure, falling world markets for primary produce and the fear of a new disruption of trade through war were obvious, the government was still considering industrialisation as a means of raising native income by utilizing simple processes behind a tariff barrier and not as a vehicle for placing the country's productivity on a level comparable with modern industrial countries. It was only in 1940 when war broke out in Europe, and after years of struggling during which the small scale industry remained a high-cost industry, that plans were made to adopt large scale modern methods of production.

Other forms of protection:

Under the Department of Economic Affairs in Djakarta, the government set up three organisations to help private industry. Their functions were to provide technical assistance and credit and to report to the government on progress made.

First, in 1936, a Fund for Small Industry was begun² within the Industrial Services Section of the Department of Economic Affairs.

-
1. See later in this chapter under "Entrepreneurial weaknesses", for further reference to the Japanese industry.
 2. Ibid. pp.117-18.

Planned to provide low interest loans to small scale industry for starting new production, the Section soon discovered that sales credits were the greatest need of the industry. Second, in 1939, the government launched the Fund for the Financing of Medium Sized Industries. The main purpose of this Fund was to relieve producers of oppressive credit agreements with private moneylenders but the loans could also be used for enlargement of smaller factories.¹ Third, credit was made available for expansion of large scale enterprises in selected industries, including textiles.²

In 1927 legal provision had been made for cooperative societies but progress was slow and the credit provisions, mentioned above, contributed more to providing investment funds to individual indigenous manufacturers than to cooperative societies.³ Furthermore, these associations were managed by inexperienced Indonesians and the weaknesses they were supposed to help overcome in other enterprises were the causes of their own failure.

1. P.H.W. Sitsen. op.cit. p.37.

2. Ibid. p.37.

3. The table here illustrates the strength and distribution of cooperatives in 1930 and 1938. The bulk of the increase was in general credit cooperatives; and in 1938 'other cooperatives' amounted to only about 20 per cent of the total.

NUMBER OF REGISTERED COOPERATIVE SOCIETIES: 1930 and 1938

Year	Total coops.	Credit coops.	Consumer coops.	Producer coops.	Other coops.	No. members
1930	89	81	2	6	-	7,848
1938	540	427	16	37	60	42,031

Source:- Report of the Java Bank, 1951-52. p.132

Another form of assistance to private industry was the establishment of central production plants,¹ the origin of the later 'Induks', to aid small scale industry. It was hoped that these enterprises would bring regularity of production and standardisation of quality, would prevent oppressive credit relations arising for the producer, and would stimulate an efficient marketing apparatus. The central plants were to take the unfinished produce of the small scale manufacturer, finish it and then market it. Buffer stocks were also to be kept by these plants in order to stabilise supplies and prices. Loans to small scale industry could be taken out of the Fund for Small Industry at an interest rate of 6 per cent per annum.

At the outset of this period of government interference and support for the indigenous small scale entrepreneur, the internal trade of small scale production that did exist was almost entirely in the hands of Chinese who dominated the financial market on which indigenous producers were dependent. If Indonesians were to emerge as an owner-producer class, new investment incentives had to be introduced to break the control of the Chinese. But until 1934 the colonial administration had attempted, and succeeded, in winning the allegiance of the Chinese by giving them concessions and recognition beyond those accorded to the Indonesian. Donald E. Wilmott² has summarised their position in the colony thus:

they gathered the products of the land and sold them to big Dutch trading companies. Most of the small scale manufacturing enterprises of the country were owned and managed by them. Except for the smallest shops and market stands, retailing was also largely in their hands. And Chinese shopkeepers, traders, and usurers remained the main source of credit for the Indonesian people, in spite of their unconscionably high rates of interest....Furthermore, the advantageous economic position of the Chinese was accompanied by superiority attitudes and social exclusiveness.

1. J.H. Boeke. op.cit.p.118

2. Donald E. Wilmott. The National Status of the Chinese in Indonesia, 1900 - 1958.p.11

However, so thoroughly had the Chinese pervaded the financial world that the technical and credit help offered by the government was never able to free the Indonesian producer from being in debt to Chinese money-lenders. Measures taken against Chinese economic influence centred on the availability of credit and constituted a policy of competing with Chinese influence.

Entrepreneurial weaknesses:

The weaver's family was usually the production unit (sometimes supplemented by hired labour) and the appropriation of profits and reserves was made with the family's immediate requirements in mind; while social status and conspicuous consumption, although of necessity very limited, were more common than frugality and re-investment. One of the most important qualities of a successful entrepreneur is the ability to persevere with a problem of management when it appears insoluble. Too few Indonesian appear prepared to spend hours which a Chinese will devote to worrying over difficulties, and if necessary, to take those business headaches home at night. In the absence of a change in cultural conditioning factors of management-training programmes, these weaknesses were continued when the same people developed more mechanised capacity with the help of government credit and protection.

At the same time Chinese traders who had accumulated financial reserves were also attracted to textile production under the new favourable conditions and they introduced a strong element of competition within the industry.¹

1. A very similar situation occurred in the textile industry of the Philippines under protection, when the Chinese offered strong competition to the Filipinos, and the reasons appear to have been the same. (L.D. Stifel. op.cit. pp.15-6).

Although the pre-war expansion of the Indonesian textile industry has been given prominence by authors, methods of its financing are poorly documented and reference must be made to the recollection of manufacturers in 1964.

In the weaving section the looms available to aspiring entrepreneurs were the APEM (non-electric) and the ATM (power driven), which was imported and which had up to seven times the productivity of the APEM¹. It was possible to buy either of these looms as a beginning and to add further increments later. This was the usual practice of entrants.

An example of the financing of such a business was provided by one of the leading manufacturers in Madjalaja whose father began the family business in the early thirties.² In 1955, by selling one hectare of rice fields, it was possible to purchase 10 APEMs or 2 ATMs. This was by far the most common method of capital raising. However, this merely solved the problem of fixed capital. With so little reserves it was inevitable that indigenous entrants should turn to the private lender (who was usually a trader also) for assistance with working capital.

The amount of working capital required would depend on the amount of yarn in each batch of supply and on the intensity of labour input (or the time taken to process the yarn). Several manufacturers interviewed in Bandung and Madjalaja remembered good profits after 1954 but maintained that it was extremely difficult to become free from creditors because so much of their working capital had been borrowed at free market interest rates. The same Madjalaja manufacturer

1. Calculated on the basis of the ATM being worked for two shifts.
2. Interview with manufacturer in Madjalaja. 19.5.65.

who described the method of financing capital equipment explained how the profits were made. Seven kilograms of yarn, at 0.6 guilders a kilo, produced 20 sarong pieces. Labour charges amounted to 2 guilders and dyestuffs cost another 2 guilders. Thus each sarong piece cost approximately 41 cents to produce while the sale price was between 40 and 60 cents. Therefore, profit, although very variable, could be almost as much as 50 per cent.

It is doubtful whether an easy answer can be given to the question 'Why was the debt so difficult to pay off?' There are several factors to consider. First, the profit rate depended on the speed with which labour processed the yarn.¹ Second, the attitude to savings was, and remains today, extremely important. It is impossible to estimate accurately the economic effect of conspicuous consumption and the desire for leisure on the rate of capital accumulation, and no writer on economic development has dared to suggest how much of a drawback to industrialisation the attitude to commerce of the indigenous people has been.² However, there were Indonesian manufacturers who made rapid strides after the sale of rice fields and after years of diligent production and savings, and these examples suggest that many of the failures must be attributed to the attitudes and quality of other managements.

1. If the workers were members of the household, they would be kept no matter how hard they worked. In Indonesia nepotism is a virtue, and sometimes a necessity, but one that can be very expensive for the head of the household if he is also the employer. It was usually the case that when there were only one or two looms in the new business, members of the family acted as employees.
2. L.D. Stifel (op. cit. p.25) commenting on the development of the Philippines industry, observed that traditional values of the Filipinos led to conspicuous consumption rather than investment in industrial activity, but he did not attempt to quantify his observation.

Third, it was not only credit requirements which forced the small manufacturer to turn towards the trader for help. He had little knowledge of the market, its changing tastes, and its level of demand. One kind of creditor, known as the "verleger", offered the producer raw materials on credit in exchange for the final produce at a fixed price. Thus he also became responsible for the marketing of the cloth. Because of the dependence on the verleger for supplies of yarn and credit, this kind of trader was often in a monopsonistic position.¹ Another kind of creditor was the larger textile manufacturer who sought ways to expand his business by promoting work to the cottager on a part-time, commission, basis. In fact, this system, the "maakloon" system, was very similar to the verleger system, but under the latter the larger manufacturer provided technical assistance and pursued a patriarchal role in relation to the cottager.² Moreover, there was no bargaining on a set price for the cloth: payment was as for a wage.

Although it is true that the small scale industry was less efficient than the large scale industry, it is by no means certain that the physical size of the plant itself was very important. In the Japanese textile industry a large number of very small enterprises which were

-
1. W. van Warmelo records that a business attitude was emerging amongst the small scale producers in the later thirties when some came together to by-pass the verleger and seek markets of their own. (W. van Warmelo. op. cit. p.19).
 2. After the Second World War the term "verleger" was dropped and the term "maakloon" is popularly used to mean several kinds of credit transactions.

economically viable and which were able to compete with the largest firms, existed up to the early years after World War II.¹ The difference between Japanese and Indonesian small scale enterprises lay in other factors. The Japanese industry was highly concentrated and cartelised² so that the financial and marketing problems which were always present in the developing Indonesian industry did not occur with the same importance in Japan. The Industrial Regulations in 1935-37 limiting the size of Indonesian enterprises would not have increased the obstacles to efficiency if they had been accompanied by a successful attempt to place finance, purchasing of raw materials and selling of produce on a cooperative basis. As it was, the encouragement of small enterprises strengthened the bargaining position of the private lender and trader by restraining the more efficient entrepreneurs who might have expanded and by facilitating new entrants into the industry.

Moreover, the system of cartels in Japan meant that the continued strength of the individual unit was in the interests of the financiers. In Indonesia private lenders spread their activities over several industries and the desire to make their debtors more credit-worthy was not apparent. Furthermore, in Indonesia (as in the Philippines) the small scale manufacturers were usually indigenous while the private lenders were usually foreign. The unfortunate racial antagonism which inhibited the development of a cooperative or profit-sharing spiritⁱ was not present in Japan.

1. G.D. Allen. Japan's Economic Recovery. p.74

2. G. Fleming. Die Welt Strukturwandlungen und die Aussenhandelsverflechtungen in der Welttextilwirtschaft. p.50

On the other hand, Chinese producers achieved success in the manufacturing field in the thirties. They started with greater financial reserves, they had close contacts with the marketing and private lending worlds, and had a different attitude towards saving and conspicuous consumption from the Indonesians. Once again, L.D. Stifel's comments on the Chinese textile manufacturers in the Philippines seem appropriate:

Among the reasons for the superiority of the Chinese have been their frugality and regular re-investment patterns, aided by Chinese banking facilities and cooperative associations, as well as their diligence and business acumen.¹

When new production processes were introduced, it was necessary to acquire new technical skills. Short courses were provided by the Textile Institute in Bandung, but it rested with the producer himself to apply his new knowledge with care and diligence. Those managers who were the most competent in marketing and finance tended to be those who became more proficient in the new methods of production.

Entrepreneurial weaknesses caused a large number of failures amongst the new indigenous manufacturers, and in the last few years before the war, many Indonesian weavers sold their establishments to the Chinese.² Of those who remained in production many were still obtaining a small income but were heavily in debt to the government or to private lenders.

1. L.D. Stifel. op. cit. p.16

2. In Madjalaja, a textile centre near Bandung, 335 out of 1,500 large and small business were sold by Indonesian to Chinese in 1939. In 1940 35 went over to Chinese ownership. (P.H.W. Sitsen, op. cit. p.21) The transfer of weaving establishments to non-indigenous persons was recorded as early as 1937. In that year of 336 applications for transfers, 170 were for sales from Indonesian to non-indigenous persons. (J.H. Boeke. op. cit. p.123)

Capacity and Production:

The expansion to 1942:

By 1940 both area under cotton cultivation and crop production declined to a fraction of their 1934 levels.¹ This was mainly due to the abolition of duties on yarn imports in 1933 and the higher quality of the imported commodity. Also experiments in cotton growing had failed.

1. The Netherlands Indies Government was not unduly worried when production fell sharply in the decade before World War II. The table here shows the extent of the decline.

AREA UNDER COTTON CULTIVATION & COTTON PRODUCTION IN
JAVA & MADURA, 1934-43.

	Acreage (hectares)	Cleaned cotton (tons)
1934	11,438	1,575
1935	10,305	1,419
1936	13,382	1,842
1937	16,026	2,206
1938	8,184	1,127
1939	3,695	509
1940	5,510	759
1941	6,785	1,101
1942	2,843	380
1943	33,293	5,460

Source:- J. Panglaykim. Some Facts and Figures Concerning Textile Production in the Country. p.26

N.B. (i) In the Palembang region of South Sumatra, 7,300 hectares were planted in 1935 although the annual average for 1930 and 1934 was only 2,000 hectares (C.J.J. van Hall and C. van de Koppel. De Landbouw in die Indische Archipel. Vol.III. p.30). There are no other available data on cotton planting.

(ii) The 1943 figure shows the effect of forced cultivation of cotton by cottagers under the Japanese.

A further reason for the absence of anxiety over cotton production was the primitive nature of the cottage spinning industry compared with the improved weaving industry. The emphasis on weaving had encouraged import replacements of cloth to the exclusion of yarn import substitution. With the growing prosperity in the weaving section there was little incentive to process domestic cotton by a laborious and costly method of production when profits were lower than elsewhere.

The modern spinning industry only began to develop in the second half of the 1930s. In 1936, 5,000 spindles were added to a large weaving mill, N.V. Java Textiel My, in Tegal in Central Java,¹ and another 10,000 spindles were added in 1940.² Another mill, Nebritex, was started in 1936 in Pasuruan, in East Java, with a capacity of 1,000 tons of yarn and in 1941 a mill, N.V. Djantra, with 15,000 spindles was opened in Semarang in Central Java.

According to spinning coefficients quoted by the Department of People's Industry in 1962 this total capacity could utilise 4,000 tons of raw cotton and produce 3,636 tons of yarn.

1. Hirawan. Departmental (People's Industry) memorandum, 1964. p.14; and J.O.M. Broek. op.cit. p.83.

2. According to Kadarijah (Development of the Textile Industry in Indonesia, p.17) the 15,000 spindles were capable of producing 2,200 tons of yarn; but the coefficients used by the Department of People's Industry are preferred here.

This is equivalent to 18.2 to 21.8 million metres of cloth.¹ However, it is not certain whether the mills ever worked at full capacity (which is defined as three shifts).

The weaving section, which showed the greatest expansion during the thirties, is difficult to define. There existed between 800,000 and 1,000,000 of the primitive gedogan loom,² with a capacity of one metre for every seven hours of work.³ If all these looms were operated seven hours a day for 240 days a year between 192 and 240 million metres of cloth a year could have been produced. However, because of their extremely low productivity, and because of competition from both cloth imports and the improved looms, it is not possible to even guess how many were in use during this period.

In Table 5, the increase in other weaving looms, is shown. Although the biggest absolute increase was in handlooms, the proportionate increase between 1930 and 1940 was about the same for the improved handloom as for the power loom. Moreover, the number of power looms was rising much faster in the later years.

1. The Department of People's Industry uses the coefficient one kilogram = 5 to 6 metres of cloth for all its calculations.

2. Hirawan. op. cit. p.13.

3. Interview at the Bandung Textile Institute. 12.11.64.

TABLE 5.

NUMBER OF IMPROVED HANDLOOMS AND POWER LOOMS, 1930 - 1940.

	<u>No. improved handlooms (ATBM)</u>	<u>No. power looms. (ATM)</u>
1930	257	44
1931	524	44
1932	777	44
1933	1,299	46
1934	1,622	258
1935	3,919	414
1936	4,376	668
1937	12,000	2,000
1938	30,028	4,400
1939	35,000	6,600
1940	44,000	8,000

Source:- J.H. Boeke. Economics and Economic Policy of Dual Societies. p.287

The ATBM is capable of producing eight metres of cloth and the ATM between 20 and 28 metres of cloth every seven hours.¹ If the average productivity for the ATM is 24 metres, then, in 1930 the annual capacity for ATBMs (one shift, 240 days a year) was 493,440 metres and for the ATMs (2 shifts, 240 days) was 506,880 metres: a total of 1,000,320 metres. In 1940 the figures were 84.5 million metres and 92.2 million metres, respectively, totalling 178.6 million metres (or about 2.4 metres per head of population). This is roughly ten times the capacity of the modern spinning industry of that time, and would utilise approximately 32,160 tons of cotton yarns.

Almost all of this expansion was in non-cottage weaving establishments. The big increase in ATBMs and ATMs is reflected in the rise of

1. Interview at Bandung Textile Institute. 12.11.64.

non-cottage weaving establishments from 81 in 1937 to 1,866 in 1942.¹

One characteristic of the new industry worthy of note is its geographical distribution. In 1935, 86 per cent of ATBMs and 85 per cent of ATMs were in Java.² But in 1940 almost 100 per cent of ATBMs and only 5 per cent of ATMs were in Java.³

The knitting industry did not exist before 1942. Singlets, which were not so common as today, were imported. But in 1942 there were twelve factories with hand knitting machines.⁴

Finishing plants which, like modern spinning establishments, were slow in developing because of large capital outlays, were started by the government under the state central factory (Induk) scheme which aimed at the standardisation of quality. Their capacity was very small compared with that of weaving, and most of prewar finishing of cloth was done in cottages under poor and variable conditions. It was the low quality of this stage of the domestic production process which contributed so much to the success of finished cloth imports.

One of the factors limiting the increase of power capacity was the shortage of electricity.⁵ Spinning plants used their own generators which enabled them to function for three shifts.

1. Madjalah Warta Industri. Vol. III. No.2. February 1957. p.7.
Department of People's Industry. Djakarta.

2. Hirawan. op. cit. p.13.

3. This variation was most likely due to the strong influence of the Bandung Textile Institute in West Java when it distributed its own invention, the ATBM. The low incomes in Java would have tended to encourage the use of labour-intensive production processes, but it might also have been the case that the large mills using power looms in Sumatra were due to the initiative of a few individual businessmen. Nevertheless, the data are remarkable and show that weaving productivity in crowded Java was a great deal lower than in Sumatra.

4. Hirawan. op. cit. p.14.

5. Madjalaja, which produced 40 per cent of total cloth output in the 1960s, had electricity installed in 1937 and this marked the sudden and large growth of the industry in that town.

Production:

The table below shows the composition of imports of all textile materials. Between 1935 and 1937 the capacity input of the modern weaving industry increased by 6,144 tons a year,¹ while yarn imports increased by 5,094 tons. The raw materials of the batik industry, bleached and unbleached cotton piece goods, almost doubled in this period of protection. Finished textile imports declined a little.

TABLE 6.

IMPORTS OF TEXTILE RAW MATERIALS AND FINISHED GOODS: 1935 - 1937
(gross weight, tons)

	1935	1936	1937
<u>Yarns:</u>			
Cotton	5,867	6,040	10,961
Other kinds	2,153	3,040	5,104
<u>Cotton Piece Goods:</u>			
Unbleached	7,615	9,759	12,918
Bleached	12,940	13,171	23,822
Dyed	11,712	10,804	15,723
Printed	6,633	6,516	10,996
Woven coloured	6,995	8,191	11,964
Woven coloured sarongs	2,434	2,348	2,146
<u>Clothes:</u>	10,441	10,004	11,920

Source:- Statistical Abstract for Netherlands Indies 1937. pp.327-28.

The only figure for 1940 was for cotton yarn imports amounting to 18,100 tons (Statistical Pocketbook of Indonesia, 1963. p.135).

1. Calculated from Table 5 using 5.5 metres per kilogram of yarn.

In 1935 almost 6,000 tons of yarn were imported while the modern (ATBM and ATM) weaving sector was capable of utilising 1,560 tons¹. If stocks of yarn remained unchanged this indicates that 74 per cent of yarn imports were available for the primitive gedogan looms after the new looms had been fully supplied. In 1937 the modern weaving industry was capable of absorbing 7,000 tons of yarn a year while imports were almost 11,000 tons. This suggests that a decreasing proportion of total yarn imports, and a slightly smaller absolute amount, was available for the gedogan looms.

The sources of textile cloth for the market in 1940 are presented in Table 7. The first column, giving capacity of the new weaving industry allows a comparison with actual production.

TABLE 7.

SOURCES OF SUPPLY OF TEXTILES IN 1940

Capacity of ATBMs and ATMs (Mill.metres) ¹	Domestic cloth production (mill.metres) ²	Imports of cloth (mill.metres) ³	Total supply of cloth (mill.metres)
176.6	128.0	139.2	267.2

- Source:1
1. Calculated from Table 5 on the basis of a 240 days working year.
 2. J.O.M. Broek. Economic Development of the Netherlands Indies. p.83. (Believed to exclude production from the gedogan loom).
 3. Imports in 1940 were 25,300 tons, of which 24,200 tons were raw material cloth for the batik industry. (Statistical Pocketbook of Indonesia 1963. pp.134-5). Using a conversion factor of 5.5 metres per kilogram (Department of People's Industry) this represents 139,150,000 metres.

In 1940 yarn imports were 18,100 tons², or the equivalent of about 99.5 million metres. This is a good deal less than the yarn equivalent of

1. Ibid.

2. Statistical Pocketbook of Indonesia 1963. p.135

official statistics of cloth production and strongly suggests that the domestic spinning industry remained an important supplier of yarn. Total cloth supply was only about 4 metres per capita¹ which implies that the domestic cloth production figure does not include all cottage weaving (mainly gedogan looms), particularly for household use.

Assessment of the expansion:

The most notable characteristics of the new policy on textile production were the drive towards mechanisation, the expansion in overall capacity, and the development of indigenous ownership of modern equipment.

The first was successful in so far as it encouraged a great deal of capital investment in anticipation of good profits. The second was a qualified success because the high profits did not materialise and the financial basis of the industry was precarious amongst the indigenous ownership. It is possible that the expansion reached a 'saturation point' around 1940 for several reasons. Returns to capital investment might well have been lower than returns in other industries in 1940. Also the domestic industry was still unaccustomed to producing a wide variety of textiles usually imported and the cloth it did produce, which was comparable in type to imports, was not comparable in quality. The demand for the poorer quality product could have been already satisfied.² The increased welfare

-
1. It is thought that this figure is very low in comparison with the target of 10 metres in the Eight Year Plan and consumption in India and Indonesia during the 1950s. Indonesia was prosperous in 1940 and cloth consumption could easily have been higher.
 2. Nevertheless, the fact that imports of yarns increased 500 per cent between 1930 and 1940 demonstrates the very great increase in activity in the domestic industry. (J.O.M. Broek, op.cit. p.83). In 1940 total cloth production (including part of the cottage industry) was 128 million metres, which is over 70 per cent of the combined capacity of the ATMs and ATMs.

of the other islands in the later thirties increased the export of cotton piece goods from Java to the rest of the archipelago and assisted in the accelerated expansion of capacity in the last few years before the outbreak of war.

Finally, the rise of indigenous ownership cannot be regarded as successful in the long run. It undoubtedly helped to increase incomes in many enterprises and in those cases where Indonesians were successful it provided experience and an example to others. However, the poor entrepreneurial basis to the new industry lowered the chances of diminishing the influence of middlemen and moneylenders to an extent which allowed the new Indonesian owner to free himself from crippling debt.

After a government enquiry in 1940 into the state of factory development two civil servants, P.H.W. Sitsen and Surachman,¹ provided details of an industrial development plan which was the result of a search for a balance between modern and primitive methods of production. Modern industrial efficiency was not to dominate planning, but was to co-exist with indigenous techniques. Spinning capacity was given great thought and there was strong feeling that further encouragement should be given the textile industry in general; but nothing resulted and in early 1942 the Netherlands East Indies fell to the Japanese. This marked the end of effective intervention in the industry by the Dutch colonial Government.

1. A.M. de Neuman. Ekonomi dan Keuangan Indonesia. Vol. VII. No.3. 1954. p.252.

The Industry Without Government Planning, 1942-1950.

The Japanese Occupation:

The final aim of the Japanese Occupation was to make Indonesia an integral part of the Greater East Asia Co-Prosperity Sphere. It is extremely doubtful whether the Japanese would have encouraged a textile industry in Indonesia (were it ever able to compete with the Japanese textile industry), but their short run policy was to make their occupied territories as self-sufficient as possible for the duration of the war¹.

This policy encouraged many Chinese workshops to enter production. It is not known what role textiles played in this expansion but the pace of development of the industry during the thirties was certainly not maintained during the war. Indonesian entrepreneurs, being the smallest and financially weakest, were not offered the biggest contracts by the Japanese and this in turn further weakened their position. Relative to his Indonesian counterpart the Chinese emerged from the Occupation in a stronger position than before. J.P. Meek has commented that there was a large increase in the proportion of handlooms owned by Chinese after the war².

-
1. Much of the textile production in Indonesia at this time was in the form of supplies to the occupation forces and the general population was reduced to rags by the end of the war. In their efforts to increase production by means of self-sufficiency the Japanese ruthlessly forced householders to grow cotton. (A.M. de Neuman, Ekonomi dan Keuangan Indonesia. Volume VII, 1954 p.333)
 2. J.P. Meek. The Government and Economic Development in Indonesia 1950-54, p.86

Postwar Development:

Expansion of capacity:

By the end of the war the destruction of the capital stock and the shortage of raw materials had reduced production to a fraction of its prewar level. It has been suggested that as much as 60 per cent of total capital investment was destroyed¹, but it is reasonable to assume it was much less in the textile industry because of the drive to self-sufficiency in clothing production during the war.

The Dutch did not control the whole of Indonesia in the years 1945 to 1950 and coordination of the entire economy was impossible².

1. A.M. de Neuman. *op.cit.* p.333.

2. In spite of the obvious need for immediate reconstruction, the 1940 long term industrial plan was studied by the colonial administration (in Djakarta) and by the Republican Government (in Djogjakarta) and was the basis of the economic planning of both until the 1951 Sumitro Urgency Programme. The Republican Government rejected the prewar liberal economy on ideological grounds and examined the 1940 Plan with a view to using it as the foundation for a planned economy. The intention of this kind of government interference was to change not only methods of production but financial and organisational aspects of the economy with a view to strengthening the indigenous sector. But in formulating a plan the government was hampered by provincial and sectional interests. A Three Year Economic Plan (*Ibid.* p.332) which finally came to be known as the Kasimo Plan, and which has been the basis for industrial planning ever since, was circulated to all interested bodies. Because of the Revolution there was little chance of implementing industrial programmes during this period.

Nevertheless, the textile industry made strides in areas under Dutch administration¹.

The progress of capacity expansion is presented in Table 8².

The spinning industry did not expand in the immediate postwar period and some of the prewar equipment might well have been destroyed in the Revolution.

TABLE 8.

CAPACITY INPUT AND OUTPUT OF SPINNING, WEAVING AND KNITTING
SECTIONS OF THE TEXTILE INDUSTRY, 1949 AND 1950:

	Equipment		Input (tons of yarn)		Output (tons of yarn)	
	<u>Dec.1949</u>	<u>Dec.1950</u>	<u>Dec.1949</u>	<u>Dec.1950</u>	<u>Dec.1949</u>	<u>Dec.1950</u>
Spinning: (spindles)	32,500	32,500	N.A.	N.A.	N.A.	N.A.
Weaving: handlooms (ATEM)	67,161	72,001	22,300	24,000	134	144
powerlooms (ATM)	10,590	11,322	11,500	12,400	63.5	65
gedogans	800,000	800,000	33,000-	33,000-	200-	200-
	1,000,000	1,000,000	42,000	42,000	250	250
Knitting: machines	233	257	N.A.	N.A.	N.A.	N.A.

1. Since the Japanese Occupation left the Chinese relatively stronger than before the war and with the financial resources of the administration strained under the burden of reconstruction it was inevitable that the Dutch looked towards the Chinese for the expansion of textile capacity.
2. The absence of data for the years immediately after the war is due to the inability of the authorities to resume statistical collections in the chaos of Revolution and rehabilitation. It is believed that the data for the year 1949, when much of the textile industry in Central and East Java was in Republican hands, were drawn from both Dutch and Indonesian sources because they were published for the first time in 1951. It was not until 1949 that the Central Bureau of Statistics began to collect industrial information after the war with the help of contacts, advertisements, etc. (E.A. van de Graef. Statistics in Indonesia. Chapter 4. p.1)

TABLE 8 (cont'd)

Source:- (i) weaving handlooms and powerlooms, and knitting machines from Report of the Java Bank 1951-52, p.189.

(ii) numbers of spindles recorded in the Report of the Java Bank 1951-52 were 203,210 and 204,028, respectively, for the two dates. In Report of the Java Bank 1952-3 (p.178) the number of spindles recorded at 31.12.51 is 119,750 and at 31.12.52 is 63,486. The decrease is assumed to arise from few returns from the cottage industry, and that included in the former figure are more of the primitive spindles. Because of the very low productivity and doubtful commercial use of such spindles the number of modern spindles and their production capacity recorded in 1942 is used for 1950.

(iii) Input and output figures for weaving are derived from known technical coefficients (Department of People's Industry). Handlooms (ATEM) and gedogans produce 8 metres and one metre of cloth per seven hours, respectively. The Department of People's Industry assumes a coefficient of one kilogram of yarn per 6 metres of cloth. Full capacity is one shift, 240 days a year. The power loom produces 20 to 28 metres of cloth per seven hours and uses one kilogram of yarn for 5 to 6 metres of cloth depending on the width of the loom. Full capacity is two shifts 240 days a year.

The 32,000 spindles must refer to the modern spinning industry which was installed between 1936 and 1942 with capacity input of 4,000 tons of raw cotton and capacity output of 3,636 tons of yarn. The knitting machines recorded by the Java Bank are believed to be hand machines.

In this chapter it was stated that the modern power machines were introduced in 1953. Hirawan (Departmental memorandum- People's Industry, p.14) records that in 1942 there were about 12 knitting factories with hand machines. With an average of about 20 machines per factory, all 233 of 31.12.49 could be accounted for. The productivity of these machines is not known, but if they ^{were} handmachines, their input and output would be very small compared with those of weaving.

It is interesting to note the size of the increase in weaving capacity between 1949 and 1950, a period of chaos and lack of raw materials.

The bulk of the increases in weaving capacity between 1940 and 1950¹ appears to have taken place immediately after the war. The reason for this was the severe shortage of textiles and their high prices in the early postwar years. However, the expansion was rushed and badly supervised².

1. See Table 5 for weaving capacity in 1940.

2. The Report of the Java Bank states:

....it has not always been clearly realised what type of textiles might be expected to be in regular demand in the home market and which sort of looms should be acquired in order to be able to cope with such demand. Furthermore, in many cases the efficiency and professional knowledge of these new enterprises have left much to be desired. Report of the Java Bank, 1951-52. p.190

In 1950 approximately 2.75 metres of cloth per head of population¹ could have been produced by the ATBMs and ATMs alone, and if the primitive gedogans were used this output could have been increased to reach 5.5 metres per head of population.² Knitting factory capacity was still very small. Finishing and printing capacity in 1950 was less than that in 1942 because of destruction and lack of maintenance during the years of the Occupation.

Production of raw cotton had declined after the war when the enforced cultivation conducted during the Japanese Occupation was discontinued. In 1950 only 1,363 tons of cotton were produced³ compared with 5,460 tons in 1943.⁴ It is probable that households which grew and consumed their own supplies escaped the official statistics but if cotton production is to be compared with spinning capacity in commercial use (that is, the modern spinning capacity) official production statistics alone provide an appropriate comparison.

Production and imports:

Table 9 indicates changes in the level of activity in the textile industry. If we assume that no stocks of goods were built up after the war and that all imports were consumed soon after their arrival it is possible to directly compare the level of domestic activity with supplies of imported finished goods.

-
1. The population in 1950 was 77 million. (Statistical Pocketbook of Indonesia 1962, p.11)
 2. This extra output would be using very low productivity processes.
 3. J.Panglaykim. Some Facts and Figures of Textile Production in the Country, p.28.
 4. Ibid. p.26.

TABLE 9.

IMPORTS OF TEXTILE RAW MATERIALS AND FINISHED GOODS, 1938, 1947 to 1950
(gross weight in tons)

	1938		1947		1948		1949		1950	
Raw cotton:	575*		N.A.		N.A.		1,770		2,860	
Cotton yarns:	9,100		1,870		7,310		8,200		15,800	
Cotton piece goods	(a)		(a)		(a)		(a)		(a)	
unbleached:	7,300	40.1	6,590	36.2	5,530	30.4	5,400	29.7	14,900	82.0
bleached:	19,800	108.9	3,990	21.9	7,480	41.1	8,100	44.6	10,500	57.8
Sewing threads:	1,100		220		580		600		800	
Cotton piece goods										
dyed:	11,100	61.1	4,950	25.0	10,180	56.0	9,800	53.9	10,800	59.4
printed:	5,600	30.8	3,340	18.4	5,130	28.2	7,600	41.8	6,000	33.0
coloured woven:	7,900	43.5	2,420	13.3	6,400	35.2	3,800	20.9	5,400	29.7
Cotton singlets & mesh shirts:	2,700	14.9	930	5.1	1,090	6.0	1,400	7.7	1,100	6.1
Other clothing:	3,800	20.9	1,400	7.7	1,160	6.4	1,800	9.9	1,000	5.5
TOTAL:	68,400	320.2	25,710	127.6	44,860	203.3	52,700	208.5	66,300	273.5

Source:- Reports of the Java Bank 1949-50, pp.161-2, 1950-51 pp.170-1, and 1951-52, p.190

*This is the figure for 1940.

(a) This is the equivalent in metres. The data for cloth imports are not given in metres in the official statistics, but if the coefficient 1 kilogram = 5.5 metres is used, columns (a) may be deduced

The data reflect the effect of excessive demand on the one hand and competition from cloth imports on the other. In 1947 although yarn imports were only a fraction of their prewar level cloth imports were of the order of 50 per cent of their former quantities¹. In 1948 strict quantitative restrictions were imposed and the shift to raw materials imports was very marked although imports of finished goods continued to increase, absolutely and relatively, ~~and~~ In 1950 a new exchange allocation method accompanied by monetary reform helped to enhance the position of the domestic industry. At the beginning of the new decade imports of finished cloth and made-up textile goods had not yet reached their prewar level while yarns and unbleached cloth imports reached record levels².

-
1. The weakness of the domestic industry in the face of overseas competition in 1947 and in the second half of 1950 was also due to low liquid resources and the physical hazards of production. The indigenous sector of the weaving industry had suffered economically from the Japanese Occupation and had little working capital with which to begin production. The urban traders were conducting profitable activities in a situation of overall scarcities and the returns to imports of essentials were especially high. But the distribution of raw materials outside the militarised urban areas was hazardous during the 1945-50 Revolution and in this physically dangerous situation the risks attached to transporting goods to and from the factories lowered the profitability of importing raw materials and intermediate goods. It is not known whether the producer or the trader bore this risk. If it were the former this would be reflected in lower production profits; if it were the latter higher prices for yarn would be demanded. In the absence of high tariffs, this disadvantage was only overcome when quotas were introduced in 1948.
 2. Although it is not intended to evaluate activity in the batik industry it is worth noting that imports of its raw materials since they compete with other textile imports and with the produce of the domestic weaving industry. After the war some of the raw materials of the batik producers, which are shown in Table 9 under the heading of 'unbleached and bleached cotton piece goods,' were purchased by consumers (before printing) because of current very low purchasing power, and it is not known how much of these imports was ever finished. But the strong competitive position of this source of cloth in 1949 was only temporary.

Capacity utilisation in 1950:

When the Republican Government achieved effective sovereignty over the whole of Indonesia in December 1949 domestic production had not reached its postwar level¹. Although the overall deficiency in textiles supplies was caused by a shortage of foreign exchange the low degree of utilisation of weaving capacity was also a result of imports of competitive goods. Domestic cloth production was only one seventh the quantity of cloth imports in spite of the fact that the industry was operating at about 36 per cent of its capacity.

Table 10 summarises data on total supplies of raw materials and the volume of domestic production of cloth in 1950.

TABLE 10.

TOTAL SUPPLIES OF TEXTILE RAW MATERIALS AND CLOTH, 1950

<u>Raw cotton (tons)</u>		<u>Yarn (tons)</u>		<u>Cloth (million metres)</u>	
<u>Pro-duction</u>	<u>Imports</u>	<u>Pro-duction</u>	<u>Imports</u>	<u>Pro-duction</u>	<u>Imports</u>
1,363	2,860	2,450	15,800	40.5	390.3

Sources:- Pang Lay Kim Some Facts and Figures of Textile Production in the Country. pp.28,32 and 35. and Reports of the Java Bank 1950-51, pp.170-71, and 1951-52, p.190
 Cloth production of 40.5 million metres is equal to approximately 7,400 tons of yarn. This leaves almost 8,000 tons of yarn which would be appropriated by the knitting industry, weavers who are not included in the statistics (quite unknown) and stocks.
 Knitting production not included was:

<u>Singlets</u>	<u>Sports shirts</u>	<u>Undervests</u>
1,534,188	652,548	47,088

Domestic production of raw cotton (1,363 tons) alone amounted to 34 per cent of full capacity input of the modern spinning industry².

- In 1949 industrial output as a whole was 30 per cent to 130 per cent (averaging 50 per cent) of 1940 output depending on type of product. (Report of the Java Bank 1949-50.p.120)
 A year later the overall utilisation rate of fixed capital was estimated at 50 to 60 per cent. (Report of Java Bank 1950-51.p.115)
- See footnote to Table 8 (ii)

Raw cotton imports of 2,860 tons were enough to bring the utilisation figure to 100 per cent. The spinning industry consisted of expensive mechanised equipment owned by a few foreign companies. The problem of overseas competition was not felt to the same extent as in the weaving section because of the highly developed purchasing and selling contacts of its owner-managements, the less industrial strife with the higher degree of mechanisation, and the higher and more uniform levels of efficiency and productivity. The combined production of ATBMs and ATMs, which amounted to 40.5 million metres¹, or 30 per cent of capacity production, represented about 8,000 tons of yarn or 2.3 times the yarn production of that time. Another 390.3 million metres of cloth were imported.

It is inferred from this that the difference between total supplies of yarn (18,200 tons) and yarn requirements to produce 40.5 million metres (7,400 tons) was absorbed by the knitting industry, the accumulation of stocks and an unknown part of the weaving industry which is not recorded².

-
1. This figure is compatible with 19.9 million metres of cloth, 5.9 million sarongs, 0.3 million shawls, and 2.4 million towels. (Pang Lay Kim. op.cit. pp.51-52)
 2. It is not known how much yarn was consumed by knitting machines, but if singlets can be assumed to be equivalent to 0.5 metres and sports shirts to 1.0 metre each, not more than 300 tons of yarn would have been consumed. The amount of unrecorded production from recorded yarn supplies would probably have been very small because those weavers who did not make returns, in the early postwar years, amongst whom the small establishments would predominate, would have found production extremely difficult with the prevailing tight credit and high raw material costs. Stocks of yarn at the end of the year were reported to be very high. Even after allowing for a large degree of error in the quantities of yarn available and consumed, the demand for yarn for purposes of stock-building must have been very substantial. The large quantities of stocks were the principle reason for the reluctance to import further supplies in 1951.

The change in composition of all textile materials imports between 1949 and 1950 reflects the influence of the drastic economic measures of March of the latter year and it is worthwhile describing the nature and efficacy of these measures because they were designed to meet an inflationary situation which was repeated in later periods. Moreover, the obstacles to these measures exerting a favourable influence on domestic textile production were common to those which occurred in following years.

Economic reform in 1950:

Measures taken:

By 1950 it was clear that special measures had to be taken to halt inflation and bring balance into external trade.¹ In March a monetary purge took place aimed at halving the money supply and thereby radically deflating the economy. The target of the reduction of money was 2.5 billion guilders/Rupiahs (or 66 per cent of the money supply).² A few days before the purge the Foreign Exchange Inducement Certificate system was introduced whereby an exporter received a Certificate equal to half the value of his foreign exchange earnings at the official rate. An importer was obliged to purchase Certificates at face values equivalent to the total value of his imports.

1. The devaluations of 1946 and 1949 had only a temporary effect. Output for both exports and domestic consumption was very low and the production of goods for the home market was as necessary as the production of exports to enable the country to import. Inflation had encouraged the tendency to augment supplies by imports; what was necessary was greater incentive to increase production. It is doubtful whether the country could have waited for the greater export capacity to develop following a simple devaluation to increase supplies of essentials. A more selective policy than simple devaluation appeared to be required.
2. This was calculated on the basis of using the Inducement Certificate to produce equilibrium between the internal and external value of the Indonesian Rupiah. (Report of the Java Bank 1950-51 . pp.29, 36-7). The purge was carried out by a compulsory conversion of 1.6 billion guilders into a 3 per cent government loan.

At first these Certificates were priced on the free market but later the sale price was fixed at twice the face value¹. In effect, this amounted to an import rate which was 332 per cent of the former (official) rate.

A week after the monetary purge a short list of goods was drawn up for which there was made available unlimited supplies of foreign exchange. All other imports were subject to quantitative restrictions. This 'free list' was extended in May and August, and finally in November 1950 all goods were freed from quotas.

The last important economic measure of this series was taken in April 1950 when maximum prices set for certain imports were abolished². This meant that cheap raw materials would no longer be available to the textile industry. It was hoped that the free list of imports, which at this time excluded competitive textiles, would increase the supply of raw materials sufficient to prevent excessively high free market prices. The restriction on cloth imports was to assist in supporting a free market cloth price.

The effects of the measures:

The immediate result of the March measures was a fall in all imports for several reasons.

-
1. W.M. Corden and J.A.C. Mackie Malayan Economic Review. Volume VII. No.1 April 1962. p.40. The importer purchased them in addition to paying the normal amount (at the official rate) for his goods.
 2. Report of the Java Bank 1950-51. p.64. It is not indicated whether textiles were included in this category, but because of the 200 per cent rise in effective import rates and the widespread free market for textiles already existing, it might be assumed that they were.

First, when the Certificate was introduced there was hesitation in continuing to import because of the uncertainty of the rate of exchange attached to it.¹ Second, the price of imports rose considerably with the Certificate requirement. In most cases import prices rose by more than 200 per cent. Third, an extreme shortage of working capital and credit developed as a result of both the price increases and the monetary purge. Although this reduced the flow of imports it did not reduce the immediate supply of raw materials to industry because the working capital scarcity caused importers and traders to sell their stocks of goods in order to increase cash holdings.² But some of the goods dumped were finished textiles and these competed with new domestic production in a market in which purchasing power had been affected by the monetary purge and by general import price increases.

The dumping of stocks to increase liquid resources and the virtual halting of imports forced the government to increase credit facilities. Between March and September 393.⁴ million guilders (or about 10 per cent of the rapidly expanding money supply) was given in loans to commerce. As the

-
1. If the rate had dropped at a later date those who held Certificates or who had just imported goods with them would have suffered losses. For this reason the greater possibilities of obtaining imports through increased foreign exchange made available at that time were not exploited and there was a hiatus in imports of raw materials. When the government finally fixed the price at 200 per cent of the face value of the Certificate the confidence of importers was restored.
 2. 'Owing to the volume of money being halved the cash in hand suddenly dropped to 50 per cent of the normal quantities. On account of the precautionary and speculative motive a tendency developed to replenish the cash in hand. This was done on a large scale by disposing of goods... Of course, the disposal of supplies need not immediately involve a relative fall in prices under the confused conditions in this country'. (Report of the Java Bank, 1949-1950. p. 37)

pre-purge level of the money supply was reached as soon as September the effect of the monetary reform on working capital was short term although it was some months later that the money supply was sufficient to accommodate the increased import costs¹.

The free list system must also be regarded as the beginning of a liberalisation of the general quota system. In March cotton yarns were placed on the list. Extensions were made in May, July and November² when textiles in general (amongst other goods), were permitted unlimited foreign exchange. Unfortunately, as credit became less restricted the free list was extended to cover competitive imports and the protection it offered domestic manufacturing was lost. But while that protection lasted raw materials imports were able to improve their share of imports³.

-
1. By the end of 1950 there was a strong demand for textiles and the increased ^{credit} facilities were used to satisfy the consumer goods market. A high proportion of the gradually expanding credit facilities was used to purchase cloth imports to the detriment of the domestic industry. This was due to the larger profits of consumer goods imports because of a fixed exchange rate accompanied by a rising domestic price level. Neither the monetary purge nor the later expansion of the money supply could be of benefit to textile manufacturers and the uncertainty and confusion resulting from the change in economic policy might reasonably be expected to have affected the lengthier production process more than direct importing activities.
 2. Report of the Java Bank 1950-51. pp.64 and 66.
 3. With the exchange rate fixed through the Certificate and inflation continuing it was inevitable that finished textiles imports became more attractive to traders and at the end of 1950 stocks of imported finished textiles were accumulating.

The failure to continue with the policy of deflation rested mainly on the problem of working capital. Credit had to be extended in order to stimulate production, but the government (possibly frightened by the immediate consequences of the harsh economic measures) concentrated on credit to the import sector which could supply goods quickly to the market. The argument was that the new import rate, which was 300 per cent of the old one, warranted aid to the importer. It does not appear to have been fully appreciated that the producer had to pay this extra for imported raw materials too, and therefore required credit assistance to make his order. Moreover, the complexities of manufacturing in Indonesia in a difficult and uncertain monetary situation caused the domestic industry to lose ground to imports of cloth by the end of the year. Thus while it is difficult to blame the government in faltering in its ruthlessness in carrying out deflation it is fair to criticise it for failing to protect domestic manufacturers. This mistake was frequently repeated in later years and it has never been clear why the government allowed this to be so. Two reasons might be suggested. First, the policy of supporting indigenous entrepreneurship was more strongly pursued in the import sector than in the manufacturing sector. Second, problems of working capital often occurred at times when the supply of goods on the market was very low. For internal political reasons there would be a strong desire to supply finished goods to the market as quickly as possible as the foreign exchange became available.

The competitive position of the industry in 1950:

It is not easy to assess the ability of the domestic textile industry to compete with imported cloth at any time after the Second World War because there was never a situation in which the strength of competition could be observed free from the intervention of controls and other measures designed to alter the incidence of competition; although there were periods when the influence of controls was at its lowest.

For most of 1950 quantitative restrictions were used to protect the Indonesian manufacturer. The small tariff¹ on cloth imports which was viewed more as a source of government revenue cannot be regarded as an effective protective device or even as an approximate indicator of the strength of overseas competition. All that can be done in this discussion is to surmise the competitive position on the basis of reports and comments made at the time and by using price data.

The Report of the Java Bank² records that the spinning industry in 1950 was able to produce at landed import prices (with no tariff protection) but suggests that domestic weaving costs were more than 25 per cent above overseas costs. There is no explanation for this figure and it might have been based on nothing more substantial than impressions. The Report of the Java Bank for the following year³ states

-
1. Manufacturers interviewed remember import duties of these years as small, nominal percentages. Specific data on tariffs were unobtainable.
 2. Report of the Java Bank 1949-50, p.120.
 3. Report of the Java Bank 1950-51, p.115.

that before the measures of March 1950 were implemented abnormal profits were made in the industry in spite of low rates of capacity utilisation. These comments were made at a time when the industry was functioning at low rates of capacity utilisation behind a totally inadequate tariff.

There is no reason to believe that any one of these reports is untrue. They do, in fact, demonstrate the difficulty of assessing the competitive position of the weaving industry without dividing it between small and large sized enterprises, mechanised and unmechanised equipment, and indigenous and Chinese ownership.

It might well have been the case that the average costs of the whole industry were 25 per cent more than the costs of overseas weavers, but this does not preclude the possibility of many of the more efficient domestic weavers producing at the same average cost as their overseas competitors. Moreover, the cost ratio mentioned by the Bank Report does not take into account the possibility that if there were sufficient raw materials for the whole industry's capacity, and any amount of imports of textiles were permitted, this ratio would be altered. Furthermore, imports of both raw materials and finished textiles were purchased on the basis of a fixed exchange rate while domestic costs were being continuously increased by inflation.

Finally, if the problems arising from diverse costs within the industry are ignored, there remains the question whether the industry's competitive position is to be judged sufficient if it merely functions at its current full capacity (but does not satisfy the local consumer

market) or if it is also able to expand its capacity and thus eliminate all imports of textiles. If the latter is intended and the present capacities of the different stages of the production process are not equal the competitive strength of each must be judged separately. Although the spinning industry is alleged to have costs equal to imported yarn prices it has less capacity than the weaving industry which can be utilised to reduce imports. In order to attain equal capacity with the weaving industry it would require larger profits than the weaving section.

Because of these qualifications it is not realistic to make more than the most tentative of conclusions about the competitive position of the textile industry in 1950 on the basis of these reports.

An examination of prices data does not extrude any further information. Table 11 presents indexes of the money supply and selected free market and landed prices for 1938 and 1950.

TABLE 11.

INDEXES OF THE MONEY SUPPLY, AND FREE RETAIL MARKET AND LANDED PRICES OF RICE AND TEXTILES, IN DJAKARTA; 1938 and 1950. BASE 1938=100

	Money Supply	Price of Rice	Price of Textiles		Yeans 24"	Landed Price of Imports	
			Printed shirtings 24" flow-ered and plain	Striped twills 24" gingham		Cotton yarns	Dyed cotton piece goods.
1938	100	100	100	100	100	100	100
1950	910	1348	4960	4758	4073	478	608

- Sources:- (i) Money supply. Report of the Java Bank 1950-51, p.29.
(ii) Price of rice. Statistical Abstract of Indonesia 1955.p.68.
(iii) Price of textiles. Statistical Pocketbook of Indonesia 1955, 1963, p.263; and Statistical Abstract 1955, p.67.
(iv) Landed price of cotton yarns and dyed cotton piece goods derived from quantity and value data in Report of the Java Bank 1951-52, pp.242-43.

In 1950 free retail textile prices were between 40 and 50 times their 1938 level, while the price of rice was only about 13 times, and the money supply 9 times, the prewar level. Over the same period the landed price of yarn and cotton piece goods had risen only 3.8 times and 5.1 times, respectively.¹ Clearly there were huge profits to be made between the importing and retailing stages of cloth, and they were enjoyed by all groups in the commercial and business sectors: importers, wholesalers, retailers, inefficient weavers and efficient weavers. Without further information it is not possible to estimate the final costs of domestic production.²

If all textile materials were freed from quantitative restrictions the greater increase in the price of cotton piece goods imports than in the price of yarn imports since 1938 might place the domestic weaver at an advantage over the producer; but this would depend on ~~changes in~~ costs of production other than yarn which would be constantly changing under the influence of inflation.

-
1. The landed price was the Rupiah cost to an importer of purchasing a good overseas and clearing it through customs; at which stage he could sell it to wholesalers, retailers or manufacturers, whichever was relevant.
 2. There is no information on free market yarn prices and it is thought that this is because yarn supplies were supposed to be distributed at a controlled price not much greater than the landed price. If weavers purchased yarn at the landed price they too would be able to make a large profit. But the distributive system was such that weavers were granted allocations of yarn at an official price. The result was that inefficient firms sold their allocations to other weavers through the free market and the efficient weavers processed, what was to them, high cost yarn.

Summary.

At the end of the period of free trade the new modern weaving sector was a very insignificant source of textiles. The need to reassess the ability of the economy to maintain standards of living in overpopulated Java and the declining importance of Netherlands produce in total Indonesian textile imports removed the final obstacle to the development of a modern Indonesian industry behind tariff barriers and quantitative restrictions.

In the last few years before the Second World War the textile industry as a whole was supported by quantitative restrictions and tariffs, while the emerging indigenous sector was assisted by credit and advisory schemes. Between 1930 and 1940 the modern weaving industry increased its capacity from one million metres to 178.8 million metres. The latter involved raw materials amounting to 32,160 tons of yarn, or approximately 9 times the capacity of the modern spinning industry of that time. In 1940 the last year before the war for which data were available, the spinning industry was able to produce 3,636 tons of yarn which was the equivalent of something in the range of 18.2 to 21.8 million metres of cloth.

However, the low level of entrepreneurial ability meant that a large part of the weaving industry was financially very weak. It was clear that Indonesian producers would require many years of credit assistance before they could compete with Chinese producers.

Production capacity in the textile industry did not increase during the Japanese Occupation and some part of it was very likely destroyed or allowed to fall into disrepair. The postwar expansion in

weaving and knitting capacity was encouraged by strong demand and high prices but competition from cloth imports prevented the full utilisation of the industry in the immediate postwar period. There was no corresponding increase in the capacity of the modern spinning industry.

By 1950 the weaving and knitting sections of the industry had expanded to a capacity of 212 million metres (excluding the gedogan looms) plus the output of 257 power knitting machines; finishing and printing capacity was quite inadequate to handle this output.

The monetary purge and the big increase in import prices affected textile manufacturing by causing a working capital crisis and by diminished margins of profit.

The effects of the March measures would have been much more serious had it not been for the introduction of the free list of imports. Even this was a ^{only} temporary protection device because the list was extended to competitive goods a few months later.

It is not possible to draw any firm conclusions about the competitive strength of the domestic industry because apart from the absence of necessary data, the divergent cost structures in the industry and the presence of inflation make any measure of competitive ability of only partial and temporary use. Moreover, the criterion of competitive ability might also include the ability to expand capacity profitably to satisfy the whole of the consumer market, and a great deal more information than is available would be required for this estimation. The discrepancies between landed and retail prices of textile materials reflect not only cost differences but also scarcity of supplies.

CHAPTER III

GOVERNMENT PLANS AND THE EXPANSION OF THE INDUSTRY.

In this chapter the government's policy concerning the physical expansion of textile manufacturing capacity will be explained together with an examination of the causes of the failure to meet investment targets. The problems of competition from imports will be discussed where it is thought that this has a bearing on the change in the rate of expansion or has caused a re-scheduling of the expansion programme.¹ However, first it is appropriate to describe briefly, but without any attempt to analyse them, the main characteristics of the economic background which accounted for many of the difficulties of the growth of the industry.

Economic Background to the Expansion.

The new Republic began in favourable circumstances with the Korean War causing high prices to be offered for its exports, but this advantage was quickly absorbed in greater quantities of imports. After the War the pressure of demand on limited foreign exchange resources was aggravated by the continual presence of inflation which, with fixed exchange rates, undermined the incentive to produce for exports and raised the demand for imports. The recurring foreign exchange crises became increasingly more serious until in 1964 the small quantities of imported industrial materials were largely purchased on two-year credit contracts.

1. The causes and extent of foreign competition are left to Chapter VII, 'Protection and the Influence of Inflation'.

The rate of inflation in Indonesia, which was much greater than in India and the Philippines and about as severe as in Argentina,¹ is indicated in Table 12 by the indexes of prices of the essential goods, food and clothing. The price indexes are for the densely populated urban area of Djakarta where prices are usually highest. But for purposes of studying trends and fluctuations this limitation need not be regarded as an obstacle because there is no reason to believe changes occurred in different proportions over the whole of Indonesia.

1. Data on inflation for four underdeveloped countries are given in the table below:

COST OF LIVING INDEXES IN THE PHILIPPINES, INDIA, INDONESIA AND ARGENTINA, 1951-62; base 1958 = 100

	<u>Philippines</u>	<u>India</u>	<u>Indonesia</u>	<u>Argentina</u>
1951	88	82	37	30
1952	88	86	33	36
1953	95	87	37	36
1954	94	82	41	42
1955	93	82	56	45
1956	95	92	55	53
1957	97	95	85	66
1958	100	100	100	100
1959	99	104	118	202
1960	103	104	154	226
1961	105	108	256	269
1962	111	112	-	354

Source:- International Financial Statistics; published by the International Monetary Fund. 1951-53: Vol.14, June 1961, p.29. 1954-62: Vol.16, June 1963, p.35

The very small inflation in India and the Philippines would suggest that some of the structural changes observed in the Indonesian textile industry due to inflation were not so prevalent in their technically comparable industries; but it is not known whether any study has been made on the influence of inflation on the range of average production costs and on the incidence of protection in these other industries.

TABLE 12.

SELECTED PRICES IN THE URBAN AREA OF DJAKARTA. 1950 - 1964.

	<u>Imported textiles, free market, Djakarta prices.</u>		<u>Weighted index, retail prices, free market, Djakarta, 19 foodstuffs.</u>	
	<u>Index based on 1950=100</u>	<u>Annual per cent changes</u>	<u>Index based on 1950=100</u>	<u>Annual per cent changes.</u>
1950	100		100	
1951	77	-23	168	+68
1952	66	-17	177	+ 5
1953	75	+14	189	+ 7
1954	81	+ 8	200	+ 6
1955	147	+82	266	+33
1956	89	-65	304	+14
1957	110	+24	334	+10
1958	189	+72	487	+46
1959	481	+154	584	+20
1960	756	+57	725	+24
1961	588	-29	987	+36
1962	1,687	+187	2,417	+145
1963*	2,570	+52	5,957	+147
1964*	7,260	+183	12,740	+114

Source:- Price indexes 1950-62 calculated on the basis of figures in Statistik Konjunktur 1961, pp.76, 83; and January-April 1963 pp.78, 81. 1963 and 1964, unpublished data obtained in Djakarta, May 1965.

* As at December of each year.

Over the fourteen year period textile prices rose 72 times while food prices rose 126 times. However, this is not a fair comparison because textiles were in critically short supply in 1950 and a more reasonable base year would have been 1953. Since 1953, textile prices have risen more than food prices. The greatest annual price increases occurred in 1955, 1958-60, and after 1961; and there was a marked increase in the rate of inflation in the later years in spite of the decline in 1960.

The fluctuations in the state of the balance of payments were not the only cause of uncertain supplies of imported goods. The extent of government intervention in the quantity and quality of imports varied not only with the need for extra protection but also with the political ideology of the many different Cabinets. Administrative personnel employed to import and distribute raw materials through a frightening barrage of regulations were invariably neither competent nor incorruptible, and their activities were sometimes terminated in order to halt the chaos they caused. The extreme divergence of food and textile prices in the table above is the strongest evidence that supplies of essentials were not always affected by disturbances in the economy in the same way.

These unfortunate circumstances impinged most severely on the textile industry because of its almost total reliance on imported raw materials.

The rebellion in Sumatra in 1957 and the expulsion of Dutch management personnel in 1958 added to the general disturbances from which the economy never fully recovered.

One of the most influential factors in the economic situation was the promotion of the Benteng (or Indonesianisation) programme¹ because it directed most of the deficit-financed state bank credit to a new and inexperienced group of entrepreneurs. The provision of what amounted to heavily subsidised credit facilities² for an untried and not very successful trading and producing class imposed an extra cost burden on the community and forced greater competition on many of the well-established and experienced entrepreneurs.

1. The Programme was an attempt to bring indigenous Indonesians into the production and commercial sectors and to create an Indonesian middle class.
2. See Appendix A for details of these facilities.

It is in the light of these general economic problems that we now examine the progress of government plans.

General aims and principles of policy.

The 1940 Sitsen Plan for industrialisation¹ and the economic philosophy of the Republican planners were based on the belief that strong efforts should be made to industrialise the country, particularly over-populated Java. The need to draw some of the excess labour from the land and to increase overall productivity had become urgent. Employment opportunities on a large scale were very limited in rural Java; but problems of transmigration to the other islands were great, and even if they could be overcome, it was believed that the increase in productivity would not be as high as in modern manufacturing. Moreover, the extension of primary production on virgin territory was hazardous, expensive and demanding on the migrants. Finally, further industries in Java would create a subsidiary employment which would be close to the largest markets in the country.

The case for industrialisation appeared overwhelming but the choice of industry still had to be made.

The future of the country's balance of payments had to be taken into account in view of the pressures which economic development would inevitably place on the foreign exchange reserves². Export promotion presented difficulties because of low elasticities of demand for

1. A.M.de Neuman. Ekonomi dan Keuangan Indonesia. Vol. VII. No.3. 1954. p.252

2. These were the same reasons for the rapid expansion of the Philippines textile industry in the 1950s. (L.D. Stifel. The Textile Industry . A Case Study of Industrial Development in the Philippines. p.18)

primary produce and the danger of stationary or even declining supplies in an inflationary situation. An industry which was directly import-replacing appeared to have greater merit because domestic markets could be more easily predicted and guaranteed than overseas markets whose elasticities of demand could be altered by the introduction of synthetics or whose potential could be disturbed by the entry of new competitors.

The textile industry was an obvious priority for import-replacement. Textile imports had absorbed large amounts of foreign exchange in the past. Many Indonesians were already accustomed to the processing of raw materials, and the main process, the weaving of yarn, provided more direct employment per unit of capital investment than would highly mechanised, large, heavily industrial plants. The financing of the expansion would also be easier because the units of machinery could be purchased in small increments and spread over many firms and areas. Finally, it provided the government with an excellent opportunity to promote its Benteng programme, because the individual enterprise would not require large initial funds and the technical knowledge required was small compared with that for other industries quite new to Indonesia. There was no other industry which provided all these opportunities together. The batik industry would have provided employment but its productivity remained very low. The same was true of ceramics.¹ An iron and steel industry would have been costly to establish and would not have provided the same opportunity for employment per unit of capital and for promoting the Benteng programme.

1. Ceramics is another important cottage industry.

Within the textile industry modern spinning and finishing establishments required large outlays and highly skilled personnel to work the mechanised equipment. Because of this the weaving and knitting processes were the obvious starting points for the new expansion and this explains why weaving capacity remained so much greater than other capacities.

It was hoped that the cottage industry with its handlooms would continue to function and provide employment and income to the rural underemployed, but the difficulties of this occurring alongside a modern industry appear never to have been discussed in official pronouncements.¹ The failure to assess the implications of such a dual policy led to the problems which are discussed in Chapters IV, V, and VI.

The short run target, then, was to make the country self-sufficient in weaving and knitting capacities while in the long run, the entire industry, including cotton growing, spinning, and finishing, would replace all imports of textile materials.

Before the different programmes are examined a summary of the physical expansion is given to serve as a source of reference for the progress of the Plans.

1. The 1951 Urgency Programme, the Mechanisation of Small Scale Industries Programme, and the Five Year Plan did not discuss this problem.

The Expansion.

Table 13 provides as much data as were available on the growth of the different sections of the textile industry since 1950.

Table 13.

CAPACITY OF SPINNING, WEAVING, KNITTING, AND PRINTING INDUSTRIES
1950 - 1962

	SPINNING			WEAVING		KNITTING	PRINTING	
	No. Spindles	Output yarn (tons)	cloth Equival. (Million metres)	No. ATBM	No. ATM	Output (Million metres)	No. Machines	
1950	204,028	includes low pro-		72001	11322	268.8	257	N.A.
1951	119,750	ductivity hand spinning		71095	11971	274.6	342	1
1952	63,486	5506	30.3	69052	12119	272.4	351	8
1953	67,000	5810	32.0	67746	12994	280.0	545	8
1954	98,000	8540	46.9	74435	12480	286.8	700	18
1955	98,000	8540	46.9	78857	12697	297.8	772	18
1956	120,366	10439	57.5	84935	11477 #	295.3	970	18
1957	120,366	10439	57.5	115522	15301	374.2	2784	24
1958	122,000	10579	58.9	118897	16524	418.7	3460	29
1959	123,188	10683	59.5	N.A.	N.A.	N.A.	N.A. #	N.A.
1960	123,628	10716	59.7	150000	16896	482.8	N.A.	N.A.
1961	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1962	162,000	14053	77.4	223905	20284	663.7	7756 (or 93.5 million metres)	(17.4 million metres)
1964 (Nov)	223,000	19324	106.4	N.A.	N.A.	N.A.	N.A.	N.A.

Sources:-

- (i) No.spindles 1950-7 Reports of Bank Indonesia;1951-2 p.188. 1952-3 p.178; 1954-5 p.147; 1955-6 p.154; 1957-8 p.191
- (ii) No.spindles 1958. Kadarijah. Ekonomi dan Keuangan Indonesia. February 1958.p.14. (But the Report of the Execution of the Five Year Plan, 1956-60 published by the National Planning Bureau, Djakarta, gave the figure of 97,518 spindles, p.51)
- (iii) No.spindles 1959 and 1960. Perusahaan-2 Industri 1960, p.96
- (iv) No.spindles 1962. Pembangunan Industri Rakjat, p.13 Department of People's Industry, Djakarta. April 1962.
- (v) No. spindles 1964, information obtained from report of the Industrial Technical Centre Foundation, P.T. Djunti. p.5

(vi) Conversion factors: output figures are calculated on the basis of ratios obtained from Pembangunan Industri Rakjat, p.11. Full capacity is taken as three shifts a day, 260 days a year.

2. Weaving: (i) No. hand and power looms and knitting machines, 1950-3 Reports of Bank Indonesia; 1951-2, p.188; 1952-3, p.178; 1954-5, p.147.

(ii) No. hand and power looms and knitting machines, 1954-8, Report of the Execution of the Five Year Development Plan, Covering the Years 1956-58, p.51. National Planning Bureau, Djakarta. 1958.

(iii) No. looms 1960; Hirawan's memorandum (People's Industry) 1964.

(iv) No. knitting and weaving machines 1962. Pembangunan Industri Rakjat, pp.17-27. The output data also came from this source.

(v) Conversion factors: the ATBM (handloom) produces 8 metres, the ATM (power loom) of width 1 produces 20 metres, and the ATM of width 2 produces 28 metres per shift (seven hours). (Evie Koo, The Textile Industry, Now and the Future, p.63

The handloom is assumed to work one shift a day, 240 days a year and the power loom two shifts a day, 240 days a year. There are no available data on the division of power looms between the two types, so the ratio found by KOTOE's inspection team (KOTOE Report No. 11.2.65, Djakarta) will be taken as the basis for calculations on output of the looms. The KOTOE team found that of a total of 14,425 power looms inspected, 7,246 were ATMs of width 2. There is likely to be error from variations between the years but this is the least unreliable assessment possible.

(vi) The ratio of hand and power machines for knitting for the different years is not known but it is believed to have changed. The capacity input for 1959 was put forward by I.P. Andren (U.N. Advisor) in a memorandum to the Minister of People's Industry, titled Foreign Exchange Requirements 1960, p.2. The calculations for this figure were not given, but they probably refer to 300 days a year.

3. Printing: (i) No. machines 1951-6 from Reports of Bank Indonesia; 1952-3, p.178; 1955-6, p.154; 1957-8, p.191

(ii) No. machines 1957 and 1958 were taken from Report of the Execution of the Five Year Development Plan Covering the Years 1956-58, p.51. National Planning Bureau, Djakarta.

(iii) The capacity output figure for 1962 was obtained from Pembangunan Industri Rakjat, p.21 (20 million metres a year was deflated from the official 300 days a year to 260 days a year). Department of People's Industry, Djakarta. April 1962.

N.B. in 1956 there were 30,000 unlicensed ATBMs in the cottage industry. (Kadarijah. Ekonomi dan Keuangan Indonesia. Vol. XII. No.2/3 March 1959. The decreases in spinning and weaving capacities in the early fifties were most likely due to chaotic statistical services before the transfer of sovereignty in 1950.

// In 1959 the knitting industry was capable of producing 4,250 tons of knitted goods.

// This figure appears to be wrong but it is quoted as reported by the National Planning Bureau.

The definition of full capacity used by the Department of People's Industry is 300 days a year. In this thesis 240 days are used because it is thought this is more realistic.¹ Questions of depreciation and obsolescence are left to the Appendix but problems of errors in licenced capacity are discussed in Chapter VIII.

Spinning capacity doubled between 1953-54 and 1962 but the biggest increase occurred after 1960. The expansion of handweaving capacity was much greater than that of power weaving. However, the biggest increases in both types of loom occurred together in 1957 and 1960 to 1962. This was encouraged by the prosperity of the industry in 1955 and 1956, and by the heavy importing of raw materials through government channels in 1959 and 1960. Much of the increase in the last few years was due to the illegal re-writing of capacity licences by manufacturers who attempted to obtain larger allocations of raw materials as a result.² The very rapid rise in the number of knitting machines is due mainly to the growing demand for singlets and T-shirts and the ability of new mechanised knitting equipment to exploit this market in spite of overseas competition. Printing capacity, like spinning capacity, expanded fastest in recent years with the introduction of large mechanised plants.

Using the conservative capacity figure of 240 days a year, the weaving industry could produce about 6.6 metres of cloth per head of population annually in 1962; or more than double its capacity in 1950. All other sections of the textile industry experienced a greater proportionate increase.

1. See Appendix B for a discussion on capacity definition.
2. See KOTOE investigating team's report (February 1965) in Chapter VIII, 'The Industry after Fourteen Years of Support and Protection'.

The 1951 Economic Urgency Programme.

The Urgency Programme of 1951 was the first of the "Republican plans to reach the stage of implementation. Previous to this there had been the 1946 Kasimo Plan which laid down principles for industrialisation (which were referred to by the Cabinets of later years for guidelines), and an Operation Reconstruction¹ for the years 1948-51, which was to return production to its prewar level by 1951. However, in 1951 it was obvious that supplies of consumer goods had to receive first priority.

The immediate aims of the Programme, which was intended to cover a period of two years, were to meet the needs of the people by stimulating the greater utilisation of existing equipment and to improve and standardise the quality of production.² Much of the equipment used before the war had fallen into disuse for many years and spare parts were urgently required for repairs. The high priority given to small scale enterprises in which much of the disused equipment was found, and to cooperatives which were to channel the bulk of the assistance to small scale firms, was to be supported by the establishment of central cooperatives plants. These 'Induks' were to advise on mechanisation and standardisation of quality;³ but provision was made in the Programme for only one textile Induk.⁴ Large enterprises were encouraged where they could function as 'supporting elements' to small

1. Juan B. Gaztambide. An Interim Programme of Industrial Estates for Indonesia. p.13. Djakarta. 1.10.61. (U.N. Bureau of Technical Assistance Operations. U.N. New York.)

2. Ibid. p.4

3. Ibid. p.14

4. B.Higgins. Indonesia's Economic Stabilisation and Development. p.68

indigenous firms,¹ but only one such enterprise, a spinning mill, was erected by the government.² A large knitting factory did not go beyond the planning stage.³ The projects suffered many delays through technical difficulties and the government possessed limited managerial resources to place in the leadership of the new enterprises. It was hoped that private Indonesian enterprise would emerge from this kind of public intervention. Special support from deficit-financed credit was given existing enterprises to help them expand physical capacity.⁴

Although it is impossible to estimate by how much the Programme was a failure, because no fixed targets for the private sector were ever made, it is generally regarded by civil servants and manufacturers as having been only partially successful for three reasons. First, insufficient foreign exchange was set aside for raw materials and for imported spare parts which could not be made in the country at that time. Second, the rehabilitation and provision for technical advice required skilled personnel and organisation, and these factors were in very short supply in 1951. It was found that the poor quality management in the small scale industry did not respond to attempts that were

-
1. B. Higgins. Pacific Affairs. Vol.29. No.2. 1956, p.115
 2. L.A. Mears. Ekonomi dan Keuangan Indonesia. Vol.XIV.No.1/2.p.36
 3. B. Higgins. Indonesia's Economic Stabilisation and Development.p.75
 4. D.S. Paauw. Financing Economic Development. The Indonesian Case. p.66

made to re-organise it. Third, the government overestimated the capacity of the indigenous sector to absorb credit under generally accepted banking regulations.¹

In spite of the original goal of two years duration the Programme continued^{and} was merged into the Mechanisation of Small Scale Industries Programme.

The Mechanisation of Small Scale Industries Programme.

A five year plan with a very broad aims for economic development was drafted in 1950. The most important part of it was the strengthening of the small scale, indigenous sector by the activities of Induks, cooperatives, and training schemes.² It was never properly implemented and, together with the 1951 Urgency Programme, was absorbed by the Mechanisation of Small Scale Industries Programme.

It had become apparent that two reasons why the smaller, less efficient weaving enterprises were not competing satisfactorily with the rest of the industry or with imports were the low productivity of the equipment and the poor quality of the products. It was recognised that questions of finance and organisation were more complex and required attention over a longer period but it was hoped that technical help might show immediate improvements in output. The Programme for Small Scale Industries was specifically designed to provide this

-
1. Professor Paauw sums up the situation by stating: 'The rate at which traditional modes of production could supply the increased volume of administrative, technical and entrepreneurial skills to complement capital and credit was once again overestimated'. (Ibid. p.66)
 2. A.M. de Neuman. Industrial Development in Indonesia. 1955.

assistance to inefficient weavers. It also reflected a determination on the part of the government to sustain the less efficient sections of weaving and place them on a more permanent competitive basis.

An unspecified number of Induks (or Central Plants) were to be established and to act as cooperatives and training centres. By undertaking the purchasing of raw materials and the sale of the product it was hoped that they would be in a position to assist with working capital. The quality of domestic production was to be standardised and improved by offering guidance to small enterprises in new methods of weaving and by finishing their cloth produce in the Induks. However, unlike the cooperatives the Induks were to manufacture cloth too.

The Programme was conducted by the Departmental of Small Scale (later People's) Industry which supplied field officers who chose the enterprises (in all fields of the economy) to receive assistance by sending out questionnaires and by collecting information from many sources.¹ The selection was made with the aim of mechanising bottleneck small scale industries in order to expand their output and was originally confined to those firms employing fewer than 50 workers. In practice, larger enterprises were chosen for inclusion in the Programme.² To avoid abuses, the machinery, rather than the money, was delivered to successful applicants, and the new equipment remained the property of the Department until the loan, which was made on low

1. K.N.Rao. Economic Development and Cultural Change. Vol.IV. No.2. January 1956. p.167

2. J.Bennett & E.A.Tenenbaum. Indonesian Industrial Financing. p.82

interest rate terms, was paid off.¹ The length of time for repayment was about eight to ten years, but much of the total money lent was eventually written off as bad debts. By March 1958 Rp.34.4 million had been spent in all industries but only about 2 per cent had been repaid and it was doubted whether the rest would ever be recovered.²

The scheme was not regarded as successful.³ By March 1958 only 11 textile and clothing establishments had made use of the assistance received.⁴ However, in those firms which enjoyed greater mechanisation the increase in productivity was very large. A weaving mill in Semarang is reputed to have increased output 500 per cent when its looms were motorised.⁵

The reasons for the failure are varied. As far as the Induks were concerned, shortage of foreign exchange and government funds delayed their completion and the first was ready for commission at the beginning of the Five Year Plan in 1956. Moreover, the existing Induks which originated from prewar years were unable to operate as intended because of a shortage of working capital which restricted their lending operations. The Occupation years had depleted their liquid reserves and the government had not offered them sufficient practical help since the war.

1. K.N.Rao. op.cit. p.168

2. J. Bennett and E.A. Tenenbaum. op. cit. p.82

3. By December 1954 out of 49 enterprises in all industries which were to have taken part in the Programme only four were using new machinery although the remainder were alleged to have machines on order. (Zain and Mulia. Ekonomi dan Keuangan Indonesia. Vol. X. p.134) But by November 1956 only 22 out of the 82 enterprises in the Programme had received new machines and only 10 of them were using the equipment. (L.A. Mears. op. cit. p.36)

4. J. Bennett and E.A. Tenenbaum. op. cit. p.83

Furthermore, the local manufacturers tended to look upon them as government enterprises in competition with private enterprises rather than as centres of guidance and assistance.¹

The administration involved in ordering and importing new machinery was slow and inefficient because the equipment was imported by inexperienced national importers. Parts of a mechanised unit which were ordered from different countries would arrive at different times or would not fit together;² often the imports would exceed price and design expectations or would be broken in transit. In some areas there was no electricity available and the new equipment could not be used because the enterprises were too small to finance their own generators.³

There were also problems internal to the firm which were found to be major obstacles. Like the Induks, private establishments suffered from a shortage of working capital and this was found to be a frequent cause of idle machinery.⁴ Other difficulties encountered in the implementation of the Programme included marketing problems, lack of managerial ability, and problems of attracting permanent and skilled workers,

1. K.N.Rao. op. cit. p.165

2. Zain and Mulia. op. cit. p.134

3. J. Bennett and E.A. Tenenbaum. op. cit. p.87

4. Zain and Mulia. Ekonomi dan Keuangan Indonesia. Vol.XI. No.3/4. March 1958. pp.171, 201, and 208

Strong impressions were gained from lengthy interviews and many observations in 1964-65 that indigenous weavers were not nearly as interested in purchasing the most mechanised equipment as the already well-established firms, particularly the Chinese ones. Here we have listed specific technical and financial obstacles, but it is thought that the vast majority of small weavers were not enthusiastic about mechanisation because they were not convinced about its benefits and their ability to handle it.

During this period when mechanisation and credit support to the indigenous weaver was so strong, power weaving capacity hardly rose at all.

Table 13 shows the very slow expansion of weaving capacity during this period. The big increase in the number of knitting machines which doubled between 1952 and 1954 can be explained by the underdeveloped state of this part of the industry at a time when demand for knitted wear was very strong. It was later, after levels of utilisation of existing capacity were high and profits were large, that power weaving capacity experienced a big expansion.

The Five Year Plan, 1956-60.

The Five Year Plan, which was presented to the Cabinet in May 1956, was designed to be the first of four plans and was to allocate 6 per cent of national income to investment,¹ but only 25 per cent of total government investment was scheduled to go to industry and mining.

1. This percentage was to rise to 16.2 in the fourth plan.

Textile projects were divided¹ between Central and Regional schemes. The single Central Project was a 30,000 spindle mill at Tjilatjap capable of producing 3,900 tons of yarn a year.¹ This project had been started in 1955 but it was 1957 before it was in commission. In that year 2,181 tons of yarn were produced and in 1958 the output was 2,800 tons.²

The regional projects consisted of the Central Textile Plants (the Induks) and Pilot Projects. The intention was to build a large number of these projects and to locate them in areas where the textile industry was concentrated so that they could encourage further private expansion. In 1956 three such factories, a weaving Induk at Madjalaja in West Java, a weaving Pilot Project at Kudus in Central Java and a knitting Induk at Madiun in East Java, were completed. No factories were completed in 1957, but in 1958 a weaving Induk at Tjeper in Central Java started production and the building of two Induks was begun in North Sumatra and South Sulawesi, respectively.

During the Five Year Plan there was a further remarkable expansion of knitting capacity.³ Even during the early fifties the number of knitting machines had increased more rapidly than the number of looms. It is not clear why this was so although it could have been due to the late start of the knitting industry and the change in clothing fashions. The Philippines textile industry also experienced a very large expansion in knitting capacity during the same period and some interesting explanations have been put forward.

1. Report on the Execution of the Five Year Development Plan Covering the Years 1956-58. Published by the National Planning Bureau, Djakarta. 1958. p.240
2. Ibid, p.242
3. See Table 13.

L.D. Stifel¹ says that after the first knitting factory was established in the Philippines in 1950 others followed in Schumpeterian fashion. It is difficult to see what is meant by this because the production techniques were imported. However, the demonstration effect of the success of a first plant of an entirely new process might have encouraged others to venture into production. There would not have been problems of finding a market in the Philippines for knitted goods. Later, Stifel, mentions that knitting enterprises involved less initial capital, a shorter installation period and fewer complications of training personnel.² But it is thought that this comment was made with a comparison between knitting plants on the one hand and finishing and spinning plants on the other. It is not certain how knitting establishments would compare with weaving establishments.

The achievements of the Plan fell substantially below the hopes of its architects. The main reason put forward by manufacturers was the presence of declining profits and, therefore, incentives in textile manufacturing due to difficulties caused by inflation. J.A.C. Mackie appraised the Plan on similar lines when he commented:³

1. L.D. Stifel. op.cit. p.37

2. Ibid, p.41

3. J.A.C. Mackie. The Indonesian Economy: 1950-63. p.26

The whole Plan depended on the avoidance of inflation and the continuation of the rising production trends of 1951-56. Both assumptions collapsed in 1957, when political turmoil sharply accelerated inflation (with a 30 per cent per annum increase in money supply from 1957-61, then a much higher rate) and threw all development plans and the budget into confusion. Some of the projects continued, but the entire budgetary process fell into disarray and the Five Year Plan had become almost irrelevant by 1958.

In spite of the problems of ordering imported machinery, imposed by the deterioration in the foreign exchange position, private weaving capacity increased rapidly in 1957-58. The allocations of officially priced yarn based on machine capacity to small and medium sized weavers in 1956 provided a reason for investing in new equipment in these enterprises. But where attempts at mechanisation promotion by the government had failed in earlier years, it was noticeable that the profits earned during 1955-56 by the most efficient firms encouraged heavy investment in further power capacity. This bears out observations during field work in 1964-65: that the efficient, well-established firm received investment incentives through profits and then invested in mechanised equipment.

The result of the expansion in weaving capacity was a further imbalance in capacity within the whole textile industry which was carried over to the Eight Year Plan.

However, after 1957-58 incentives to expand capacity were reduced because of developments in the economy in general. The foreign exchange reserves had suffered from the heavy importing of 1955-56 and inflation continued unabated. Drastic measures were necessary to

rectify the balance of payments situation and in these measures the interests of the textile industry were overlooked. It might have been assumed at the time that the prosperity of the industry would continue or that it would not suffer as much as other sections of the economy. However, the use of an Inducement Certificate¹ for all imports as part of the reform of 1957 reduced the competitive position of textile raw materials and made investment in weaving capacity considerably less attractive.

The Eight Year Plan, 1961-1968.

The second Indonesian development plan which was implemented was different from that which was intended in 1956. Whereas it was hoped that there would be four Five Year Plans, the second plan was extended to eight years and the targets rescheduled because of the disappointment of the first Five Year Plan. In the textile industry, in particular, the changes in composition of projects were very great. The Eight Year Plan concentrated almost entirely on the spinning industry and in some areas there were, in fact, ceilings on weaving capacity in the private sector.

1. See Chapter VII, 'Protection and the Influence of Inflation'.

Targets:

The final target of the Plan's clothing programme was complete self-sufficiency in textile production at the spinning, weaving, and finishing stages: this was defined as a production capacity of 1,699 million metres of cloth a year, or 15 metres per head of population by the end of 1968.¹

Table 14 shows how this was to be programmed over the years 1961 to 1968. The figure for yarn output capacity in 1961 assumes that all the spinning equipment which had arrived in Indonesia at that time was in commission. The biggest increases in both weaving and spinning capacity were to come in the last two years of the Plan. The intention of holding consumption at 10 to 12 metres per capita until 1967 was based on the assumption that such a level of output could be achieved in 1961.²

TABLE 14.

TEXTILE EXPANSION ACCORDING TO THE EIGHT YEAR PLAN

	<u>Expected population (millions)</u>	<u>Per capita output (metres)</u>	<u>Total cloth production (million metres)</u>	<u>Total yarn production (1000 tons)</u>
1961	94.9	10	949	158
1962	97.1	10	971	162
1963	99.3	10	993	165
1964	101.6	12	1,219	203
1965	103.9	12	1,247	208
1966	106.3	12	1,276	212
1967	108.8	15	1,635	278
1968	111.3	15	1,699	278

Source:- National Planning Bureau report, Clothing Needs in Indonesia.
Djakarta. 20.10.64.

1. National Planning Bureau report. Clothing Needs in Indonesia. Djakarta. 20.10.64.
2. Calculations in Table 33 on capacity output for 1962 show that only 6 to 7 metres per capita could be produced.

Execution: The target for spinning was 7,500,000 spindles, of which

The spread of investment expenditure over the years shown in Table 15 does not correspond closely with the figures for expansion of capacity unless one assumes a lag of three to four years between investment expenditure and the start of manufacturing. The actual implementation of the Plan is best studied under the headings of training, spinning, weaving and knitting, and finishing.

1. Technical training: There is provision in the Plan for the establishment of a Textile High School in Bandung for 84 students.¹ This was to be finished by the end of 1962, but by December 1964 the Textile Institute in Bandung was still undertaking all training responsibilities. The publicity drive amongst secondary school students in Bandung who might be interested in textile training had begun.²

TABLE 15

PROJECTED DISTRIBUTION OF EXPENDITURE ON THE TEXTILE INDUSTRY
UNDER THE EIGHT YEAR PLAN (Rp. millions)

Total expenditure	Expenditure on projects not fixed in time.	1961	1962	1963	1964	1965	1966	1967	1968
28,945	180	5624	5624	5624	2538	2538	2538	2139	2140

(of which Rp. 14,705 millions will be spent in foreign exchange).

Source:- U.S. Economic Survey Team to Indonesia. Indonesia, Perspective and Proposals for U.S. Aid. 1964. p.171

1. Development of People's Industry in the National Overall Development Plan. Table of projects obtained from paper from National Planning Bureau. Djakarta. 1964.
2. Interview at Textile Institute in Bandung, November 1964.

2. Spinning: The target for spinning was 1,700,000 spindles, of which 130,000 were already installed before the beginning of the Plan.¹ Of the remainder 60,000 spindles were expected from Japan under the War Reparations Scheme, and 400,000 spindles on U.S. credit.² Platt Brothers of the United Kingdom, sent 90,000 spindles valued at approximately £stg.4.9 million to be repaid over a seven year period.³ Although the equipment arrived in 1961-62, it was not ready for production in mid 1965. A contract was signed in April 1964 with Yugoslavia for another 30,240 spindles, valued at \$U.S.5.5 million, to be delivered no later than the third quarter of 1967.⁴ It is not known what further contracts have been signed.

A report to the Minister of People's Industry in December 1961 stated that 194,672 spindles were installed, 150,000 spindles (including the Platt Brothers contracts) were currently being installed, and a further 115,000 would be installed in the near future.⁵ As far as is known, by the end of 1964 the second group was still being installed and the third had not yet been undertaken: another 875,000 spindles

-
1. Development of People's Industry in the National Overall Development Plan. Department of People's Industry, Djakarta, April 1962, p.11.
 2. Interview at Department of People's Industry, 12.10.64.
 3. Departmental memorandum (People's Industry) to the Minister, 20.12.64.
 4. Ibid.
 5. Unpublished data from Department of People's Industry, Djakarta, November 1964.

were in the blue-print stage.¹ Therefore, by the end of the first year of the Plan the spinning capacity targets had been reduced from 1,700,000 spindles to 1,334,000 spindles, and by the end of the fourth year not more than 345,000 spindles were in the country in some stage of installation or in production.

-
1. An interdepartmental report to the Minister (3.12.60) stated that 30,000 spindles were added to the spinning mill at Tjilatjap and were ready for production at the end of 1963. (List of Projects, Progress Report 1963. Bureau for the Development of New Projects. Department of People's Industry, Djakarta, 31.12.63, pp.27-9). It has been found to be impossible to decide from the various reports whether the Tjilatjap extension has been included in the figure for spinning capacity in Table 16. There is another 212,588 spindles currently being installed. (Ibid. Report for 1964. 31.12.64, pp.5-25). The projects are Djakarta (30,000 spindles, should have been completed in 1963; hoped to complete 1966); Lawang- East Java (15,200; 1964; 1965); Denpasar - Bali (15,200; 1964; 1966); Tjipading - Bandung (30,132; 1963; 1965); Setjang - Central Java (30,000; 1964; 1966); Grati - East Java (30,132; 1963; 1965); Badjajaran - Bandung (30,784; 1966 is the first date mentioned for completion); Semarang - Central Java (31,140; 1966 is the first date mentioned for completion).

Cumulative Total

171,076

145,274

Source:-

Report to Minister of People's Industry, 31.12.1964.

In June 1963 an entirely different list of spinning projects was issued

as totalling 100,000 spindles. These did not differ significantly from the

figures. On the basis of discussions with officials of the Department of People's

1. Deputy of President of Republic of Indonesia, 31.12.1964.

A report to the Minister in December 1964 (of which Table 16 is an extract) stated that the Platt Brothers mills, Tjipadung-Bandung, Setjang-Magelang and Grati-Pasuruan, were completed. Visits to these projects in the same month revealed that this was obviously false and it might be more accurate to interpret "achievements" as the arrival of the equipment in the country or merely the signing of the contracts.

TABLE 16.

ACHIEVEMENTS IN THE SPINNING INDUSTRY UNDER THE EIGHT
YEAR PLAN

	1960	1961	1962	1963	1964
P.P.K. Tjilatjap	30,000				
P.P.K. Djantra-Semarang	31,528				
P.P.K. Siantar (Rami)	6,000				
P.P.K. Texin-Tegal	37,072				
P.T. Wisma Usaha, Bandung	8,600	2,000		6,000	
Nebritex, Pasuruan	16,876				
T.D. Pardede, Medan	1,000	15,200	14,800		
GKBI, Djogja			34,000		
Ba P.J., Bandung			8,000		
Tjipadung, Bandung				30,000	
Setjang, Magelang				30,000	
Grati, Pasuruan				30,000	
Djakarta					30,000
Lawang, Simpuk					15,000
Bali					15,000
Total for year		17,200	56,800	126,000	60,000
Cumulative Total	131,076	148,276	205,076	241,076	391,076

Source:- Report to Minister of People's Industry, Djakarta. January 1964.

In June 1963 an entirely different list of spinning projects was drawn up totalling 190,000 spindles¹. These did not include any contracts already signed. On the basis of discussions with officials of the Department of People's

1. Decree of President of Republic of Indonesia. No.115. Year 1963. State Secretariat. 20.6.1963.

Industry it can be concluded that these projects were to take the place of the 115,000 spindles soon to be built plus the 875,000 spindles still in the planning stage.

The most recent data for spinning capacity were supplied by the Department of People's Industry to the Industrial Technical Centre Foundation in December 1963. The report of the Foundation¹ stated that 223,000 spindles were installed by that month. In the absence of further official data and with first-hand knowledge of the progress of the Platt Brothers projects it will be assumed that spinning capacity remained at 223,000 spindles for the remainder of the period covered by this thesis.

3. Weaving and knitting: The ceilings which were imposed on weaving capacity in some areas were not strictly supervised and capacity in the private sector increased sharply in 1961-62.

Capacity for another 27 million metres of cloth production was under implementation in 1962² while capacity for another 262 million metres was being planned. However, the latter is thought to have been postponed by the shortage of foreign currency. There was a brief resumption of large scale development expenditure in 1961³.

It was hoped that knitting projects in each region, capable of producing a total of 26.4 million yards of mosquito netting, would be ready for production

-
1. Report of Industrial Technical Centre Foundation P.T. Djunti, Djakarta, 21, 12, 1963. p.5
 2. Development of People's Industry in National Overall Development Plan. Department of People's Industry, Djakarta. April. 1962. p.19.
 3. J. A. C. Mackie. Op.cit. p.29.

by 1962, but it is not known what happened to these projects. A report from the Department of People's Industry in April 1962 merely stated that 22 enterprises were being planned to produce 26.4 million yards of mosquito netting.¹

4. Finishing: Sixty large finishing enterprises, each with a capacity of 15 million metres per annum, were to be established in all regions.² Together with the existing capacity (as at April 1962) of 138 million metres and expected private expansion it was hoped that all domestically produced cloth would be finished by modern processes by 1968.³ But it is doubtful whether any of these new state factories have been built. In April 1962 it was stated that twelve of these enterprises were expected to be built in that year⁴.

Causes of the failure of the Plan:

The principle cause of the failure of the Plan was the serious foreign exchange position and the inability to obtain further overseas credit. But even when some equipment did arrive there was the added difficulty of a shortage of Rupiahs for the financing of the buildings to house government projects. This problem caused endless delays, and in the case of the Platt Brothers' 90,000 spindles, when the crates were finally opened, it was found that 10 per cent of the equipment had been stolen and another 15 per cent had rusted. The scraping of the new equipment was expected to delay completion of the project by another six months.

1. Development of People's Industry in the National Plan. op. cit. p.29.

2. Development of People's Industry in the National Overall Development Plan. Paper from National Planning Bureau, Djakarta, 1964.

3. Development of People's Industry in National Overall Development Plan. Published by Dept. of People's Industry, Djakarta, April 1962.

4. Ibid.

A plan for cotton growing was included in the Plan but it was recognised that requirements of imported cotton for the years 1961 and 1963 were not likely to be affected even if the cotton plans were successful.¹ In 1964 it was found necessary to hold in abeyance plans for planting cotton over a large area while further research with fertilisers and seeds was undertaken. The state of this research is given in detail in Chapter VIII, 'The Textile Industry After Fourteen Years of Support and Protection'.

An Alternative Plan.

In 1959 I.P. Andren (U.N. Industrial Advisor) set out short and long term plans for the weaving industry which would increase supplies of textiles without resorting to a further expansion of capacity. The short term plan would have provided 6 metres per capita and the long term plan 9 metres per capita per annum after taking account of population increases in the meantime. This figure compares well with the targets for each year under the Eight Year Plan. The calculations (Andren's originals) assumed a 300 days working year where all other capacity production figures in this thesis assume 240 days a year for weaving production.

The data in Table 17 show that fixed capital was to be held at approximately the 1958 level (see Table 13) but the number of shifts worked was to be increased by greater supplies of electricity and more intensive use of the ATEMs. Moreover, the primitive handloom was to be utilised. The more intensive use of ATEMs and ATMs would raise output by more than 80 per cent.

1. I.P. Andren (U.N. Advisor). Foreign Exchange Requirements. October 1959.

TABLE 17.

THE ANDREN SHORT AND LONG TERM PLANS FOR WEAVING: 1959

	No. looms.	Short term		Long Term	
		No. shifts	Input of yarn(tons)	No. shifts	Input of yarn(tons)
Gedogan (primitive handloom)	610,000	0.5	18,000	0.5	18,000
ATBM	119,000	1.0	54,000	2.0	108,000
ATM ₁	9,005	2.0	18,000	3.0	28,350
ATM ₂	7,519	2.0	<u>22,500</u>	3.0	<u>33,750</u>
			103,400		188,100

Source:- I.P. Andren. (U.N. Industrial Advisor). Memorandum to Minister of People's Industry. Foreign Exchange Requirements. Appendix D. Jakarta. October 1959.

The advantages of this scheme are that technical, managerial and financial problems of expanding capacity would be eliminated. Also, inflationary credit expansion could be restricted by limiting new credit to established entrepreneurs¹. On the other hand, there might be expected to be difficulties associated with organising more shifts and further capital would have to be invested in electricity projects. Moreover, the more intensive use of the handloom industry might require stronger measures of protection. Andren's plan,

1. The unfortunate effects of inflation on the development of the industry, through uncertainty about protection and profits and confusion over government projects, have already been discussed. India recognised the dangers of inflation when she drew up her first Five Year Plan and she planned for a cautious expansion of all industries. (S.D.Mehta. The Cotton Mills of India, 1854-1954.p.212) The target of a 24 per cent increase in output of consumer goods was to be primarily achieved from a fuller utilisation of capacity. The existing capacity of textile mills was assumed to be sufficient for current demand while the better utilisation of it would reduce the average costs of output. Andren's calculations suggest that Indonesia is well capable of limiting new weaving capacity as did India.

which was an alternative to the desire expressed in all the government plans to expand capacity, was drafted at the same time as the Eight Year Plan but was never seriously considered.

The role of the public sector.

All state factories were designed to act as an encouragement and incentive to other firms to enter the textile industry.¹ Essentially the role of the public sector within the industry was the same as envisaged by the colonial administration before the war. The Central weaving and finishing Plants (Induks) were planned to help smaller enterprises with technical and marketing advice, but instead they developed into competitive enterprises,

The state-owned factories originated from projects under the Programme of 1950, the Five Year Development Plan and the Eight Year Development Plan, and were mainly concerned with spinning and finishing. In 1957 Dutch enterprises which were taken over by the government were added to this group. The chief reason for the emphasis of the role of the public sector in spinning and finishing was the large outlay of capital required for modern plants. The failure of private enterprise to move into this field had caused bottlenecks in the production process and delays in the import-replacement programme. Furthermore, the necessary protection measures for weavers had resulted in small profits for spinning.² The government recognised this as another reason why it should enter the field of production. Thus, the shift of emphasis from

1. Government enterprises in the Philippines textile industry were also planned with this in mind. It was recognised that some projects had to act as path breakers for private enterprise in a completely new field. (L.D. Stifel. op. cit. p.19)
2. Spinners' output was subject to price control and the profits made depended on the ability to circumvent price control.

new increments of weaving and knitting capacity to finishing and spinning capacity was accompanied by the public sector assuming a more significant role. Table 18 shows the extent of government participation in the industry. Out of a total spinning capacity of 14,053 tons of yarn¹, 6,520 tons were under the direct control of the government. The share of weaving and knitting is only a fraction of the total.

TABLE 18.

STATE-OWNED TEXTILE FACTORIES IN 1965.

	Cotton spinning ⁽ⁱ⁾ <u>3 factories</u>	Weaving ⁽ⁱⁱⁱ⁾ <u>7 factories</u>	Knitting <u>1 factory</u>	Finishing <u>2 factories</u>
Annual capacity output:	6,520 tons of yarn	28.5 million metres	1.0 million singlets 288,000 prs. socks	N.A.
Employment:	4,956	6,894 (ii)	233	138

Source:- Office of state-owned enterprises, P.N.P.R. Djantra Yasa and P.N.P.R. Djantra Busana. May 1965.

- N.B.
- (i) Plus one rami spinning mill with output of 400 tons.
 - (ii) This includes employment in two combined weaving-finishing factories.
 - (iii) This includes two combined weaving-finishing factories.

Government activity was scheduled to have begun earlier than actually occurred, but the influence of inflation and the huge defence share of the government budget (especially during the Eight Year Plan) meant that the state projects were constantly delayed and the long term plan to make the public sector a rallying force for the weaker manufacturers and a pace-setter in product quality was interrupted. Had the government included more spinning and finishing projects in the earlier plans it might have had more success when the budget was less burdened with non-developmental expenditure.

1. See Table 13.

Technical problems of the expansion.

The most obvious technical difficulty of the expansion in capacity was the extra burden it placed on limited resources of organisational ability and skills. The low level of general entrepreneurship has been discussed in the previous chapter. The greater technical skills involved in erecting and running modern spinning and finishing establishments contributed to delays in their installation, although foreign technicians often arrived with the imported machinery. The resulting imbalance in growth between the spinning and weaving industries caused special problems of protection because yarn had to be obtained from both imports and domestic production. According to J.C.Champion¹ 223,000 spindles would require the employment of 89 men with technical knowledge from top maintenance officers down to shift supervisors. Indonesia might have such a number of competent technicians but it is doubtful whether she has the 534 technicians required for the revised target of 1,534,000 spindles. Therefore, the bottleneck of skills has not shown itself because other factors contributed to the realisation of plans falling far short of the targets.

Another problem was the availability of electricity. There has always been a shortage of power in Indonesia and state electricity was laid on to factories only during the day, usually between 6 a.m. and 6 p.m. This meant that any factory which wished to work three shifts

1. Letter from J.C. Champion to Soedibjo, Department of People's Industry, Djakarta, 18.3.61.

had to purchase its own generator. The initial capital investment was large and supplies of fuel through official channels were uncertain. Free market supplies were also erratic and the price sometimes extremely high.

It is hoped that when the Djatiluhur hydro-electric project in West Java comes into commission there will be sufficient supplies for industry in the Bandung region, but already some doubt has been expressed whether household usage will not consume excessive quantities.

All the handlooms and some of the cheaper power looms, which were generally regarded as not as efficient or as durable as imported machines, were made in Indonesia. The workmanship was generally poor and the metal parts were made from scrap iron which caused the equipment to depreciate rapidly. Furthermore, the low quality of precision work caused frequent breakages in the yarn and time was lost in repairs. The only advantage of the Indonesian-made looms was that in periods of foreign exchange scarcity it was easier to obtain spare parts for them than it was for imported looms. It was the practice of manufacturers to draw pictures of the parts of an imported machine which were required and a local metal workshop would do its best to imitate the piece. This was not altogether a successful practice and manufacturers usually suffered disappointments; but the alternative was to wait for up to two years for imported spare parts.

Skilled operators and maintenance men were required for the large, highly mechanised spinning and finishing plants. The technicians

in charge of installing the three Platt Brothers spinning mills received a year's training in Britain¹ but the personnel who operate and repair the machinery must be found amongst Indonesian-educated technicians. So far there has been no great difficulty in this regard but this may be because little of the planned capacity has been in full operation.

Obstacles to expansion of fixed capital.

In spite of the very large increases in capacity recorded in Table 13 the various measures taken by the government have enjoyed only a partial success. Officers from the Department of People's Industry were disappointed by the response to the Mechanisation of Small Scale Industries Programme, while spinning and finishing remained inadequate for weaving capacity because the implementation of government projects suffered such long delays. Weaving capacity expansion began very slowly and it was only in 1956-57 and 1961-62 that large increases were recorded.

From the chaos of frequently changing government regulations and the fluctuations in the economy it is not possible to extract a clear picture of the causes of these failures, but those obstacles which have been held to be the main causes will be examined and tentative conclusions drawn.

1. Interview at Tjipadung (Platt Brothers) factory. 19.11.64.

Shortage of foreign exchange:

The low rates of utilisation¹ of weaving capacity would indicate that foreign exchange for new fixed investment was not an urgent requirement for a large section of the industry. Until capital equipment is being used at near full capacity² there is no strong reason to expect the industry as a whole to expand.

The modern spinning and finishing sections have consistently operated at high utilisation rates and because they constitute bottlenecks in the production process it might be thought that this indicates a shortage of foreign exchange. In the sense that the weaving section was strongly promoted and allowed to appropriate much of the foreign exchange made available to the textile industry there was a shortage of funds for the spinning and finishing sections. It is also true that it was difficult to acquire overseas credit for large single investments which modern plants in these sections required. The Japanese War Reparations, which were set aside chiefly for the textile industry and which might well have been used for large outlays on plant, were seen by the government as an opportunity to provide indigenous manufacturers with a few looms each. But to the extent that the foreign exchange which was spent on weaving capacity was not purchased by aspiring spinners, the reluctance to make these investments was a problem of lack of entrepreneurship because protection was less of a problem than for the weaving industry.

1. See Table 29 for data on capacity utilisation rates.

2. See Appendix B for a discussion on capacity utilisation rates at which further investment becomes desirable.

There were also occasions when foreign currency was used inefficiently and imported fixed capital remained unused for long periods of time. Equipment obtained under the Mechanisation Programme was sometimes left idle for various reasons for several years. The 90,000 spindles from Platt Brothers remained in crates for nearly two years.

Hence, for the industry as a whole it cannot be assumed that the expansion of capacity was delayed by a shortage of foreign exchange although there were individual years of serious balance of payments difficulties when new capital investment was forced to come to a halt. However, it is not completely satisfactory to construe underutilisation of existing capacity as an indication of sufficient supplies of foreign exchange for imported equipment. In an industry such as the Indonesian weaving industry, in which levels of efficiency vary greatly, some weaving enterprises will be producing at near full capacity while others will be using only a fraction of their capacity. In this case, individual manufacturers might find it profitable to expand and, for various reasons, prefer not to purchase the unused equipment of other weavers; nor might this equipment be offered to them for sale because of the valuable yarn allocations attached to a weaving licence. This variation in production performance must account, in large part, for the big expansion in 1956-57 and 1960-61 which followed years of effective support and protection in spite of the fact that the industry as a whole was still using less than half its capacity. For those efficient manufacturers there might have been a

real lack of foreign exchange to purchase new equipment particularly in 1957 which was a year of austerity.

If some weavers were able to utilise nearly all of their capacity it is pertinent to enquire whether it was a shortage of foreign exchange which reduced most of the weaving industry to low levels of capacity utilisation. Again, there is little reason to believe that a shortage of foreign exchange kept the weaving industry at between 20 and 40 per cent utilisation for most of the time.¹ Data presented in Table 19 show the share of foreign exchange spent on all textile materials which was apportioned to yarn imports.

TABLE 19.

VALUE OF IMPORTS OF FINISHED TEXTILES AND YARN 1952 - 59.

(millions of dollars)

	Finished textiles	Yarns
	-----	-----
1952	156	14
1953	148	18
1954	110	20
1955	87	24
1956	105	26
1957	88	14
1958	47	18
1959	28	21

Source:- Unpublished paper, Djakarta. May 1965.

If the domestic weaving industry had had first call on the total foreign exchange recorded in Table 19 there would be little or no underutilisation of weaving capacity although much of the cloth produced domestically would have been poorly finished by cottage processes.

1. See Chapter V, 'Supply and Distribution of Raw Materials'.

From this analysis it would seem that the failure of the textile industry to successfully utilise its capacity and expand further cannot be attributed to a lack of foreign exchange. Of the other likely reasons for the failure the most obvious is inadequate protection from overseas competition.

Inadequate protection:

It was noticeable from the data on capacity that after a period of high levels of activity in the industry there was an increase in the rate of expansion. Interference in, and protection for, textile raw materials in 1954-56 and in 1958-59¹ were followed by periods of large increments of new capital investment in spite of the prevailing economic difficulties. Conversations with manufacturers often led to criticisms of foreign textiles supplies to the domestic market, and complaints about the government's protection policy were accompanied by assurances that, given guarantees of high levels of activity, there would be further new investment and re-investment. Even when small scale producers were prepared to sell their capacity licences manufacturers preferred to purchase new equipment because of the more up-to-date production methods and cheap bank credit which was available for overseas purchases. Furthermore, many of the large manufacturers already controlled the smaller firms financially, and transferring capital equipment from one licence holder to another would not increase the total amount of official yarn allocations received by the individual large manufacturers.

1. See Chapter VII, 'Protection and the Influence of Inflation', for a more detailed examination of the kind of protection applied.

The formal protection policy was partly undermined by the discriminatory nature of the government's credit policy. That section of the textile industry which was most closely competitive with overseas producers was almost entirely in the hands of the Chinese who were not permitted to enjoy the very cheap bank credit policy. The Chinese producers were forced to resort to the private banks or to moneylenders whose interest rates were several times as high as those of the state banks. Indonesian weavers could enjoy the lower rates only if they met certain standards of credit-worthiness and their frequent inability to do so was one of the reasons why so much of the cheap credit was obtained by the new class of Indonesian trading agents. Especially in the relatively easy business of importing was it easier for indigenous entrepreneurs to show greater credit-worthiness than in manufacturing industry.

Although the Chinese manufacturers could benefit from the cheap credit by indenting the Indonesian importer for yarn, he found it difficult to compete with the profitability of cloth imports because his factors of production (other than yarn) were sometimes purchased on high cost credit.

Another reason why the prevailing protection policy provided insufficient incentive to the individual entrepreneur to invest in fixed capital was the frequent changes in trade regulations and the influence of inflation on existing measures. Private bankers and Indonesians were not keen to invest while protection appeared to be so erratic. A stock-broker summed it up by saying:

'Indonesian industry depends on imported raw materials. Imports depend on the volume of exports through legal channels, and that is just too uncertain'.

One private banker would only make long term credits if they were guaranteed by the government, because as he said:

'the regulation of imports is controlled by the government, not by me'.²

In 1958 almost all new investment in fixed capital was stopped.³

The rapid development of the Philippines textile industry has been attributed to import controls by L.D.Stifel. Protection in this case was affected not by tariffs (or surcharges) but by quantitative restrictions which provided a high rate of return on investments in the industry.⁴

1. J. Bennett and E.A. Tenenbaum. Indonesian Industrial Financing.p.42

2. Ibid. p.68

3. Ibid. p.40

4. L.D.Stifel. op.cit. pp.37, 40,61. But the Philippines textile industry developed imbalances as a result of the pattern of quantitative restrictions. These imbalances appear to be in the opposite direction from those prevailing in the Indonesian textile industry. In the case of the latter, weaving developed rapidly because of smaller capital outlays and less complex processes, causing a bottleneck in finishing. In the Philippines, spinning and finishing capacity increased rapidly while weaving lagged behind so much that unfinished cloth was imported in order to keep the finishing factories in production. Stifel believes the Philippines imbalance was caused by unco-ordinated tariff and quantitative restriction policies. He also mentions that central bank credit provided incentives to those entrepreneurs wishing to integrate weaving and finishing in one shed. After 1957 the tariff on yarn was much higher than the tariff on woven fabrics, and this difference was bound to stimulate investment in finishing capacity unless other factors intervened. The tariff on yarn was 35 per cent, and the tariff on woven fabrics was 10 to 25 per cent.

It would appear that, in the absence of a discriminatory credit policy, protection along the lines of quantitative restrictions is more necessary in an inflationary situation than otherwise. But, in the case of Indonesia, the presence of inflation, the erratic nature of protection, and the failure to allow the most efficient section of the industry to compete with imported textiles on equal credit terms contributed to weakening the incentive of entrepreneurs to invest more. Limited managerial ability and absorptive capacity:

We have noted the failure of the textile industry to respond to a generous credit policy and the effect of the indigenous promotion policy on the competitive ability of the industry. Because of the emphasis placed on this policy it is worthwhile examining the reasons why a small established class of Indonesian manufacturers failed to emerge. J.P. Meek, writing on the Benteng programme and its degree of success pointed many times to the lack of experience of the new group of entrepreneurs and stressed the importance of management training, particularly in marketing.¹

It is appropriate to quote the Indonesian economist who was at the centre of all economic plans and monetary affairs during this period and who was more involved in policy formation than any other man. The former Finance Minister, Sumitro Djojohadikusumo said:

1. J.P. Meek. The Government and Economic Development in Indonesia 1950-54. pp.273-5.

In reference to capital expenditure I cannot fail to make the following remark. There is a widespread assumption in this country that many problems would soon be solved if only the necessary equipment, machinery and other capital goods, were available. The rush for making rather indiscriminate commitments for the purchase of capital goods can partly be traced to such belief. We have experienced to our bitter disappointment however, the capital equipment purchased resulted in actual capacity loss just because no account was taken of the organisational preparations and skills required to generate capital expenditure into really productive results. I would consider for the next five years, the problem of human investment of equal importance as capital investments, if not more important.

The Benteng programme was designed to offer special financial facilities to the indigenous, weaker commercial and production groups while the Mechanisation of Small Scale Industries Programme was intended to improve their efficiency and thereby help them to be more competitive with other sections of the economy. Apart from some effort at training managers to handle the new machinery the Mechanisation Programme did nothing to overcome the poor quality of management.

The expected response of indigenous managements did not eventuate from the programme and the additional problems of an inflationary situation made it even less likely to emerge as the years passed. The experiment with deficit-financing showed that cheap credit does not always overcome backwardness because the absorptive capacity of managements for credit is limited. The low credit-worthiness of applications received by the Credit Foundation² and the very poor record of repayments suggest that the volume of credit actually extended was greater than the handling capacity of many indigenous managements.

1. Sumitro Djojohadikusumo. Ekonomi dan Keuangan Indonesia. Vol. VI. January 1953, p.10

2. See Appendix A.

warranted. It is difficult to see any Indonesianisation policy being successful until entrepreneurs are trained in the fields of finance and marketing.

If the government had distributed its deficit financed credit policy on the basis of merit the Chinese manufacturers would undoubtedly have been in a stronger position by the end of the 1950s. The overall efficiency and competitive ability of the textile industry would also have been greater.¹ However, it is not certain whether this different textile industry would have been able to compete very effectively in the long-run against the import sector. All that can be concluded is that more credit would have been absorbed in fixed capital and less in importing finished ^{textiles} ~~than~~ actually occurred.

Some effort has been made in training indigenous managers through Advanced Management Programmes but these have been concentrated in the universities and their facilities used mainly by large entrepreneurs, Army officers and University teachers.²

-
1. Another aspect of the poor entrepreneurial ability which weakened the new industry was the tendency amongst Indonesian manufacturers to purchase handlooms. One of the complaints of the technical personnel working in the Mechanisation Programme was that indigenous entrepreneurs preferred handlooms because they were easier to use and less troublesome if they broke down. The handlooms produced 8 metres of cloth a shift while the powerlooms could produce between 20 and 28 metres each. Each handloom required a worker but two power looms could be supervised by one person. Electricity provided by the government was very cheap. With cheap credit there is little doubt how the Chinese and larger Indonesian manufacturers would have invested their funds.
 2. J. Panglaykim. Far Eastern Economic Review. Vol. XXXVII. No.13. September 27, 1962. pp.609-11

Difficulties of working capital:

The financial weakness of large sections of the industry, the origins of which were explained in Chapter II, continued in the 1950s and were reinforced by the inability to obtain state bank credit. Appendix A shows how the more profitable and more reliable of the (Indonesian) enterprises were able to acquire this cheap credit. The main role of Bank Indonesia was to control credit to the foreign trade sector because of the lack of other forms of direct control over imports at a time when inflation increased importing profits.¹ Often the importance of this function led to the neglect of credit facilities in the production sector. Some state banks were instructed to specialise in small scale establishments but because of the greater profits elsewhere they failed in this function. The alternative source of credit for unsuccessful applicants was a great deal more expensive.

Even when special attention and assistance were offered enterprises under the Mechanisation Programme it was noticed by field officers that one of the main reasons for the failure to use new equipment installed under the Programme was the lack of working capital.

In those firms which had invested in new equipment, the expansion contributed towards straining the liquid resources required for working capital. This, in itself, acted as a disincentive to expand further. The same problem was observed by L.D. Stifel² in the rapid

1. H.K.Charlesworth described the primary function of Bank Indonesia as the concern of the foreign trade sector which meant that its credit policy 'has been conditioned by the extent of import requirements necessary for the economy'. (H.K.Charlesworth, A. Banking System in Transition. p.174)

2. L.D.Stifel. op. cit. p.101

development of the Philippines textile industry during the same decade. He claimed that the liquidity of the firm had been strained so much by investment in fixed capital that its ability to secure additional credit for working capital was severely limited. In the case of Indonesia this was aggravated by the reduced credit facilities accompanying the expansion of 1957 and 1961-62 which followed the prosperous years of 1954-56 and 1959-60.

The shortage of working capital in the cooperative sector (the Induks and the cooperatives) caused the failure of that sector to offer the marketing and credit facilities which were intended to provide suitable incentives for expansion.

In the public sector the shortage of public funds to build factories for machinery has been apparent in the spinning industry. All government projects have been delayed through inadequate budget appropriations to meet rising building costs.¹

Conclusions.

The textile industry was chosen by the Republican government as an important vehicle for industrialisation because of its employment creating potential, the simple techniques, and the small units of investment in the weaving industry. The last was the reason why weaving capacity continued to expand while spinning and finishing capacities lagged far behind.

1. Interview at National Planning Bureau, Djakarta. 11.12.64.

Spinning capacity increased by about 180 per cent between 1952 and 1964 while weaving capacity increased by almost 150 per cent between 1950 and 1964.

The chief policy instruments used to encourage this growth were protection and cheap credit to the Benteng group, but the different programmes and plans since 1950 were not very successful in reaching their specific goals in either the public or the private sectors. The Mechanisation of Small Scale Industries Programme affected only a few enterprises and these were not amongst the smallest establishments as was intended.

The weaving and knitting sectors were more successfully expanded than any other part of the industry but the aim of placing the weaving sector on a mechanised basis was undermined by the tendency of those receiving support to invest in handlooms. The spinning and finishing capacity inadequacies were allowed to continue without intervention by the government until the Eight Year Plan, but by 1962 the government's finances were so disordered that the projects in the Plan were only partly implemented. As a result these deficiencies still existed.

The overall expansion of the industry was due to periodic spurts of investment in the private sector, largely by Chinese manufacturers, following a year of strong activity in the industry.

In spite of frequent complaints from civil servants and Ministers of a shortage of foreign exchange for the development of new industry it appears from analysis that this was not an important obstacle to the expansion of the textile industry. Much more damaging appeared to be the weakness and erratic nature of protection policy which undermined the confidence of manufacturers and bankers in the future of the industry. The government's credit policy founded on racial discrimination contributed to this by effectively subsidising imports of cloth while the more efficient sections of the weaving industry were forced to resort to the free market for much of its borrowed working capital.

The chief reason for the failure of the indigenous section of the industry to respond to the generous assistance programmes was the low quality of entrepreneurial ability which was described succinctly by the former Finance Minister, Sumitro Djojohadikusumo. The limited working capital resources were part of this managerial problem but this was aggravated by a range of levels of credit-worthiness.

The next chapter discusses in more detail the range of managerial efficiency and costs of production and demonstrates the effect of inflation on this range.

CHAPTER IV

COSTS AND DIFFERENCES IN COSTS

One of the difficulties of making generalisations about the textile industry is the very great variability of size, degree of mechanisation, managerial abilities, and financial resources. A report in 1965 on textile industries in the ECAFE region pointed out that because of these differences it is impossible to arrive at a general estimate of average manufacturing cost.¹ There are numerous combinations of cost differences and the industry might well be regarded as being composed of a number of separate sub-industries. However, analysis along these lines would be too cumbersome while the ever changing composition of the industry would cast doubt on the validity of conclusions drawn from such an analysis. Moreover, some of the inputs, such as management and labour, would be difficult to quantify in periods of underutilisation.

In this chapter the source of cost variations and the likely differences in magnitude of costs will be examined. Inflation affected various costs of production in different ways and it was inevitable that, with initial differences in composition of production costs, a long period of inflation would have a varying effect on firms. It will be demonstrated here that inflation had a polarising effect on the weaving industry: the widening of the range of final cost per unit of output and the strengthening of a small but very efficient large scale section. This polarising effect has helped to distinguish those sections of the industry which are most capable of competing with overseas manufacturers from those who

1. Sectoral Study. Textile Industries. Asian Conference of Industrialisation. ECAFE Conference, p.37.

appear to have permanent features of weakness and inefficiency, because inflation has had a worse effect on small firms than on large firms.

This kind of study is important because the different cost structures present the government with problems of protection and support. If it applies one criterion to the whole industry, on matters such as credit and the supply of price controlled raw materials, the benefits will not be uniformly distributed over the whole industry. The profits in some firms will be disproportionately large and will help to reinforce the favourable financial strength of those same firms since the efficient firms tend to be the financially sound ones. Therefore, if protection and government assistance are designed to benefit all sections of the industry uniformly they must be discriminatory. Conversely, if the aim of the policy is to improve the competitive ability of the industry the weak elements can be eliminated by a uniform protection policy.

Furthermore, recognition of wide variation in costs offers a suitable introduction to the study of the manipulations in the supply of raw materials in Chapters V and VI.

Throughout this thesis the textile industry has been assumed to be divided into sections whose degree of efficiency varies directly with size of operation. This has been done in the belief that organisation, marketing and financial benefits on the one hand, and size of establishment on the other, are closely related. Both were brought about by good management in the past. The efficiency in all round organisation enabled a firm to expand faster than others begun at the same time. There can be advantages in marketing and finance also directly caused by size: for

instance, a large output might bring about economies of transport and selling, as well as inspire greater confidence in bankers and private moneylenders. But experience in the Japanese small scale weaving industry would suggest that the cartelisation of enterprises (or the activity of really effective cooperatives) can go a long way to making marketing and financial costs independent of size.

There are no data on costs which can be drawn upon to prove this hypothesis of correlation, but it is supported in this thesis by the description of the origins of the industry given in the ^{second} chapter and by corroborative explanations and descriptions of the industry offered during interviews in 1964-65. Strong impressions were gained during these interviews of two typical establishments: the large, efficient Chinese firm and the small, inefficient Indonesian enterprise. In this lengthy chapter recourse is made to cost investigations in other countries and conclusions are argued on the basis of characteristics noted in Indonesia.

However, it should be pointed out that there can exist some small (new) entrants which are more efficient than larger ones. For most purposes of this thesis these new enterprises might be classified as 'large'. Conversely, a large factory with chronic financial problems and poor marketing and general administration might not be capable of continuing production. But because of the high degree of correlation between actual size of operation and degree of efficiency 'large' and 'efficient' are used synonymously.

It should be said that under certain circumstances a small scale, or cottage, industry can enjoy lower costs, especially on capital costs per unit of output. M.Dobb¹ describes the chief characteristics necessary for this situation. With cheap labour a low capital-to-output ratio can prove highly profitable. If the opportunity cost of labour in a country of excessive labour supply is zero then that employment might as well be utilised, however inefficiently. But it is possible to reach a point where the marginal product of labour is zero. Further employment will increase wage costs without increasing output. If the practice of employing labour-intensive techniques is easily accepted it is sometimes difficult to stop recruitment at the point where marginal product is zero. Full time employment of entire households of small scale weavers on a few handlooms might be such a case. Furthermore, the acceptance of labour-intensive methods is not by itself a guarantee of a low capital-to-output ratio. The production technique can be so inefficient that the little capital used is costly in relation to output.

It would appear from extensive observations of levels of activity in Indonesia in 1964-65 that the large enterprises were able to produce at much less cost than the small ones. Thus in a situation of permanent scarcity of raw materials where most of the available supplies go to the most efficient producers the labour-intensive producer, in effect, experiences a high capital-to-output ratio because of long term underutilisation. Admittedly, this is not the typical example where a government sets out to plan a new industry and must choose between two methods of

1. M. Dobb. Economic Growth and Underdeveloped Countries. p.46.

production, but it does reflect the dilemma of the present Indonesian government which faces an industry, embracing both labour- and capital-intensive techniques, which has over-expanded in relation to the country's capacity to maintain it fully utilised.¹ Given this over-expansion, the free price mechanism and the shortage of yarn, the small scale weaver does not have a very low capital-to-output ratio. There might also be a case, if supplies of raw materials increase, to expand the mechanised section while leaving the unmechanised section completely idle. But the exploration of this suggestion goes beyond the scope of this thesis. Here we are concerned with existing differences in costs of the two sections of the industry.

Finally, if a small scale producer is unable to reach the standard of quality of output of the mechanised process this might well have a derogatory effect on the competitive position of the industry, and therefore, on the balance of payments.

There are, however, two more reasons in support of retaining labour-intensive production techniques. First, it is often possible to increase the level of employment at which the marginal product is zero by re-organisation and better administration as well as by improving the quality of labour. This could be done in the fields of specialisation of jobs, finance, marketing, and standardisation of quality. All these factors have been recognised by past Indonesian governments but little and erratic effective support has been given them. Nevertheless, it is worthwhile noting the ability of the Japanese small scale weaving industry to survive profitably into the early 1950s alongside large and highly mech-

1.. See Chapter IX, 'Conclusion'.

1
 anised factories. G.D.Allen¹ has shown how factors favourable to small scale production were turned to advantage in the Japanese textile industry where the numerous small weavers were brought under huge cartels which were responsible for credit-raising, purchasing of raw materials, marketing of cloth, directing specialisation of product, and maintaining standardisation of quality.

Second, even though wages are greater than returns in a certain industry, that same labour declared redundant would still have to be kept by the community, either through the family system or by direct government subsidies, unless new employment opportunities were created. In poor countries where wages are little more than subsistence payments the social and economic costs of unemployment might be almost as much as wages paid in employment. Concern with the increased consumption arising from greater employment would not be relevant in this situation. It would be more important to consider the effects of total national output of employing limited capital most effectively in one industry, or in one part of an industry, rather than in another.

This thesis does not attempt to generalise about all small scale industries: it merely studies the situation of the Indonesian small scale weaver. Indeed, if any generalisation can be made it is that all small scale industries must be judged on their own merits and against the particular economic background in which they are found. This chapter demonstrates why, in the case of the Indonesian textile industry, there is reason to believe that the advantages of small scale activity are outweighed by other influences.

1. G.D.Allen. Japan's Economic Recovery. p.74

There is no available information on size of manufacturing establishments according to plant capacity but there are data on size according to numbers of persons employed in firms using power. Table 20 shows this distribution for textile and total manufacturing industries. Even amongst enterprises using power equipment there is a large range of sizes and only a very small proportion employ more than 200 persons, although this is higher for textile manufacturing than for total manufacturing. If non-power equipment were included in these figures the smallest sized firms would be a great deal more numerous than in Table 20 and would very likely indicate that textile manufacturing was more heavily concentrated in small establishments than was total manufacturing.

TABLE 20

NUMBERS OF ESTABLISHMENTS IN TEXTILE AND TOTAL MANUFACTURING
AT END OF 1961, BY NUMBERS OF PERSONS EMPLOYED.

	<u>Textile manufacturing</u>	<u>Total manufacturing</u>
0 - 4	5	1,444
5 - 9	27	3,012
10 - 24	190	3,990
25 - 49	260	1,878
50 - 99	213	1,033
100 - 199	140	573
200 - 499	66	231
500 & over	25	102
<u>TOTAL</u>	<u>1,106</u>	<u>12,263</u>

Source:- Statistical Pocketbook of Indonesia 1963, pp.110-11.

As size of operation is regarded as being correlated with levels of efficiency in administration, marketing and finance it will not be regarded as a separate cost influence but rather as a factor included in other costs and, therefore, will be discussed only in reference to them.

It is not the purpose of this chapter to demonstrate how size of operation in time led to differences in costs. All that is intended is to explain cost variations as they existed at the beginning and at the end of a period of inflation.

This chapter will be divided into two sections. First, the different sources of cost differences and the effect of inflation on them will be analysed. Second, an assessment of total cost differences and the effect of inflation will be made.

Sources of cost differences and the effect of inflation.

This section begins with fixed costs.

Managerial ability:

1. Differences in attitude to commerce:

The main stratification of managerial resources in Indonesia is along the lines of racial background of the owner-management. The origin of these differences was described in Chapter II and the impression gained during interviews was that much smaller differences in managerial quality arose within the racial groups. The dominance of the Chinese in commerce and production rests on their historical business role in the countries of their adoption. Like the Chinese in the Philippines textile industry¹ they have developed their own trading and financial associations and work in cooperation with each other to a much higher degree than do their Indonesian counterparts. Their attitudes towards saving and re-investment are very frugal in comparison with the Indonesian manufacturer. Children are expected to take over the parents' firm and are trained at an early age to be fit to do so. Although it is true that family

1. L.D. Stifel. The Textile Industry. A Case Study of Industrial Development in the Philippines. pp.12, 15, 16, 25, 40.

inheritance of a business is equally strong amongst Indonesians, the Chinese father emphasises the importance of business acumen and financial security while the Indonesian father is primarily concerned with the family's social status. The cultural origins of most Indonesians, especially the Javanese, also make them reluctant to enter the fierce competition of the business world.

The Benteng programme of the 1950s was not rigorously administered¹ and did not include a management training course. The lack of official concern for the cares of running an enterprise was amazing considering the totally inexperienced background of most of the aspiring Indonesian businessmen. One of the main internal factors hindering the success of the small scale mechanisation programme was the lack of managerial skills amongst the Indonesians.²

Quality of output was a very important consideration in Indonesian cloth production because cloth imports were generally regarded as superior. Any producer who built up a reputation for constant high quality output would have fewer marketing problems. The cooperatives were never able to standardise the quality of output of small scale weavers as the management of Japanese textile cartels did for their smaller members.

Very few of the 48 manufacturers interviewed in Bandung and Madjalaja attempted any kind of production and quality control and all those

1. This is dealt with in more detail in Chapter III, 'Government Plans and the Expansion'.

2. W.Mulia. Ekonomi dan Keuangan Indonesia. Vol. XI. No.3/4. 1958.p.201.

who did were of Chinese origin. The sample was admittedly small but the difference between Chinese and Indonesian in attitude towards the idea of regulating the pace of production and checking the uniformity of quality was overwhelming. Some of the largest of the Indonesian manufacturers assumed the production practices of the Chinese although it was surprising to learn that one of the leading Indonesian manufacturers in Madjalaja existed almost entirely by selling his yarn allocations on the free market during 1964. It might well be impossible to find a large scale Chinese weaver in the whole of Indonesia who did this.

The rapid rise in costs placed a strain on these low managerial resources and had a profoundly demoralising influence on many entrepreneurs. The result was an increased readiness to sell allocations of yarn.

It is not an entirely satisfactory explanation of the apparent differences in managerial efficiency to conclude that Indonesians lack the business cunning of the Chinese. The ability of the small Indonesian trader, who carries his wares on his back, to make a living in a situation where his costs and prices are rising erratically, but on average 10 per cent a month, suggests that powers of business calculation and market discrimination are not just latent, but are used every day as a matter of personal economic urgency. The highly developed bargaining tradition of the Indonesian is legendary. The suggestion is put forward here, that the Indonesian manager is basically no less capable than his Chinese counterpart, but that his motivation to work harder does not correspond with that of the Chinese. The Indonesian is accustomed to using his business acumen when his basic needs require it; the Chinese will

use it at all times. The demonstration effect of Chinese success on the Indonesian has very likely not yet become fully effective and the result is the apparent differences in managerial ability.

2. Financial competence:

After competitive imports and the Depression had effectively diminished or eliminated any resources they might once have held, Indonesians came to rely on the resources of others to start their textile enterprises. Several manufacturers, interviewed in Bandung and Madjalaja, stressed the fact that amongst the Indonesians, efforts of fund raising were directed towards the purchase of new equipment and it was generally accepted that the running expenses of the new production methods would be met in the same way as those of the former low productivity method. Therefore, while the sale of rice fields and other possessions contributed to the purchase of fixed capital the first batch of raw materials was usually obtained on credit. The need for loans in order to obtain a maximum return on fixed investment placed the entrepreneur in a dependent position from which his lack of experience in modern methods of production and management made him unable to extricate himself.

The next government-sponsored attempt (in the 1950s) to encourage Indonesians to enter the textile industry was no more successful than the earlier one in improving their financial basis. Although the plant and machinery were installed on generous bank credits, the working capital was usually obtained from private lenders because Indonesians could not meet credit-worthiness requirements of the banks, and the Indonesian sector today appears as much in the debt of the Chinese traders as ever.

It is, admittedly, very difficult for an entrepreneur to succeed in Indonesia if he begins with heavy debt and does not meet the credit-worthiness requirements of the banks, but the financial incompetence of many of the entrants into the textile industry since 1950 was so great that access to cheap bank credit might not have been of much help.¹ The inclination to spend profits rather than re-invest is very strong and would probably have been equally, or more, effective if abundant cheap credit had been made available.

Inflation aggravated this situation by making the financial aspect of management more complex and by increasing the difficulties of achieving profits from working capital borrowed from the free lending market. This is discussed in more detail under 'Working capital'.

3. Personal relationships:

Another factor which influences management is that business in Indonesia is very much a matter of personal friendships and contacts. This is primarily due to the skill exercised by management in the past. The advantages of a widely flung network of contacts arise in acquiring greater knowledge of the money market and of the availability of supplies of raw materials and finished cloth on the market. Especially in the fields of bank credit and seeking official allocations of raw materials was it apparent, from interviews, that an established relationship with the supplier was very important. The greater knowledge of activity throughout the economy as well as in the textile industry provides the well organised large scale entrepreneur with a very substantial advantage over the weak,

1. The emergence of a large number of malafide Indonesian producers and 'briefcase' importers would suggest that this has, to some extent, been shown to be true.

small scale firm, particularly during inflation when there is an element of uncertainty about the profitability of production.

Marketing practices:

1. The high costs of marketing in Indonesia:

Because of the historical, entrepreneurial weakness of the small scale manufacturer,¹ the marketing of his produce is invariably performed by traders who usually finance his production also. Unlike Japan, where small firms are concentrated and cartelised, the Indonesian small scale producer is very much on his own and completely exposed to changes in the free market for credit and sales. His financial weakness has meant that he cannot become his own trader should a new market become obvious to him. Moreover, the monopsonistic power of the trader (who acts as his moneylender also) is maintained, in spite of the large number of traders, because of the well-established creditor-debtor relationship between the two. Together with geographical divisions and inadequate knowledge, the credit market and, therefore, the sales market, emerge as very imperfect markets. The costs of marketing are incorporated in lower sale prices and commissions.² It would be impossible to assess how much the small scale producer pays for sales service acquired in such an imperfect market.

In similar situations in Malayan small scale industries, E.K.Fisk has pointed out that however exploitive the middleman is the small producer needs him because he has not the resources to provide various necessary

1. See Chapter II, the section on Entrepreneurial Weaknesses.

2. The Mechanisation of Small Scale Industries Programme encountered difficulties in extending its aid because of marketing problems. Where marketing outlets were poor the incentive to invest in mechanisation and more efficient production processes was low. This was one vicious circle. (W.Mulia. Ekonomi dan Keuangan Indonesia. Vol.XI.No3/4.1958. p.201).

services for himself.¹ First, imported supplies of raw materials involve large amounts of capital as well as knowledge of their overseas sources. Second, there are some technical points which are beyond the capacity of the small weaver, but which can be efficiently performed by a middleman servicing a group of weavers. Third, marketing and storage facilities require working capital, and a knowledge of the consumers' market.²

Although the Chinese trader is known to be painstaking and efficient in his own environment, it is by no means certain that the marketing system he is part of is as efficient as its European counterpart.³

J. Panglaykim⁴ has illustrated frequently how the state trading corporations had to win over the confidence of numerous middlemen who were links in the distribution and collection channels of imported consumer goods and export products. As in most underdeveloped countries goods for sale are passed through several people, each of whom takes a commission. The distribution system is complex and cumbersome, and trade relationships are often on a personal or historical basis. If there is any uncertainty due to inflation or changes in government policy each link in the distributive process demands its risk factor as an added cost. If one person were to bear all the risk the effects of inflation and confusion, caused by government policy, on marketing costs might be decreased.

-
1. E.K.Fisk. The Development of Small Scale and Cottage Industries in the Rural Areas of Malaya. p.6
 2. E.K.Fisk. The Economics of the Handweaving Industry of the East Coast of Malaya. p.9
 3. The method of distribution through Chinese traders in the Philippines was regarded by Stifel as unnecessarily complex and inefficient. (L.D.Stifel. op.cit., p.29)
 4. J.Panglaykim. An Indonesian Experience: The State Trading Corporations.

2. Marketing by the manufacturer:

The larger producer might sell his produce to wholesalers or to retailers, or he might possess his own retail shops so that he sells his produce to the final consumer himself. If it is sold to wholesalers or retailers it is usually on a regular customer basis as this is advantageous to both buyer and seller.

If he makes the effort to retail his own cloth it is because he believes he can gain a greater profit for his produce even after the marketing costs have been met. There are several reasons for believing that a small number of manufacturers are well able to extend the business into retailing. First, the practice of retaining the business in the hands of the family with its large number of children usually presents a self-trained pool of managerial ability to be used outside the factory itself. Second, many Chinese producers have moved their resources from the foreign trade sector back to the production sector after they suffered discrimination in the former. Their main experience was in marketing and finance and it might be expected that they would trust their own ability to market their produce most of all. Nearly all the textile manufacturers interviewed who owned retail shops were Chinese. Third, the low supplies of raw materials might suggest to them an outlet for their profits by investing in marketing facilities rather than in greater production capacity.

If the producer has the advantages of surplus experienced management and sufficient financial resources he could make much greater profits by undertaking vertical integration. Especially in an uncertain situat-

ion when risk factors increase the charges of intermediaries the further the manufacturer can extend his contact to the final consumer the more profitable it should be for him. However, in periods of underutilisation his overhead expenses on storage, transport facilities and marketing services are an extra burden; and this must have been the case periodically in Indonesia. There may also be times when working capital is tied up in uncleared stocks.¹ Within this group itself it is invariably the large scale and efficiently organised who have built up contacts and influence which extend into the retailing business.

3. Marketing by the cooperative:

One of the original functions of the cooperatives was to assist in marketing the produce of its members, particularly small scale enterprises, to ensure a good sale price. The execution of this function would have involved substantial sums of working capital, not only for the running of marketing services but for the retention of stocks in periods of low demand. The enterprises needed returns from sales quickly and, with inadequate reserves of working capital caused by insufficient practical government support, the cooperatives would have had to market the product as quickly as possible.

The cooperatives failed in this purpose through a combination of mismanagement and lack of initial funds and this infortunate situation left the small manufacturer more vulnerable to the free market at a time when the rate of inflation was increasing and with it the costs and risks of the several intermediary traders.

1. Many people buy almost all their textile requirements at the Christmas or Lebaran festivals. At the latter, everybody is supposed to receive one piece of cloth about 1.5 metres in length.

Without the assistance of a cooperative or a cartel along the lines of the Japanese small scale weaving industry the weak Indonesian weaver did not stand a good chance of competing with the large scale manufacturer when the effects of inflation were felt by the industry.

Mechanisation (and depreciation):

1. Spinning equipment:

Since the modern spinning industry consists of modern equipment from Japan and Europe cost differences arising from extreme degrees of mechanisation do not occur in this sector. Because of the nature of the equipment the plant must be of a certain size, but greater than that, production per unit of modern equipment and the number of workers required per unit of equipment do not vary much;¹ although it has been suggested that the minimum economical size for spinning is 10,000 spindles but that above that size production per unit of capital does not rise much.² All spinning mills in Indonesia contain at least 8,000 spindles and differences in their productivity are more likely to be caused by differences in managerial competence.

2. Weaving equipment:

The largest and most important differences in degrees of mechanisation in the textile industry arise in the weaving and knitting industries which are also the biggest consumers of officially controlled raw materials, which have been in such short supply.

1. L.D.Stifel. op.cit. p.152

2. Ibid. p.157

The capacity of a power loom is defined by the Department of People's Industry as between 20 and 28 metres per shift depending on the model; but the age of the machine also influences its performance. Power looms which were installed in one factory in Bandung thirty years ago, and which produced 20 metres a shift when new, could only produce 17.5 metres a shift in 1965.¹ In the same weaving shed Japanese power looms purchased five years ago were producing 21 metres a shift. This variability of power machine productivity is not taken into account by the Department in its allocations of yarn which are simply divided between handlooms, power looms of width 1, and power looms of width 2.

It is not known what the initial capital cost of the equipment was, but data provided by A.K.Sen for five different weaving techniques in India include capital output ratios for similar capacity outputs. These are shown in Table 21.

The productivity of the last three looms was very high, but the amount invested in the automatic power loom was a great deal more than for the factory non-automatic power loom although they had equal capacity outputs. Assuming that the figures in Table 21 apply to ^{two} shifts a day, the 'Banares' semi-automatic handloom is roughly comparable with the ATM, and the factory non-automatic power loom almost comparable with the most modern ATM.²

-
1. Interview with manufacturer in Bandung, 31.3.65
 2. The figures for Indonesia are given in metres while those for India are given in yards. Even after allowing for this difference it is difficult to draw closer comparisons with the different kinds of looms used.

TABLE 21.

OUTPUT AND CAPITAL-OUTPUT RATIOS FOR FIVE WEAVING
TECHNIQUES IN INDIA.

<u>Techniques</u>	<u>Output per loom per day (yards)</u>	<u>Capital-output ratio</u>
Fly-shuttle handloom	6	.11
'Banares' semi- automatic handloom	20	.13
Cottage power loom	30	.66
Factory non-automatic power loom	80	.66
Automatic power loom	80	1.67

Source:- A.K.Sen. Choice of Techniques. pp.104-5

Unlike spinning factories, weaving plants do not have to be of large size before the benefit of modern machinery is achieved.¹ The actual size of the plant does not provide much scope for greater efficiency in itself. Stifel states that there is disagreement whether economies of scale ^{of plant size} in cotton textile manufacturing do exist.²

In Indonesia at the end of 1960 there were 188,879 ATBMs, 9,005 ATM₁s and 7,519 ATM₂s.³ This means that 88 per cent of the looms could each produce 8 metres of cloth and 12 per cent could produce between 20 and 28 metres of cloth every seven hours. In 1962 there were 223,905 ATBMs and 20,284 power looms,⁴ and an increase of 88 per cent and 23 per cent, respectively, over 1960. Since 1950 ATBM ^{total} capacity has risen 211 per cent and ATM ^{total} capacity 78 per cent.⁵ However, a KOTOE team investigating

1. Unless, of course, the Indonesian manufacturer wishes to operate three shifts and requires a private power generator. Clearly it would not be worthwhile making this large investment for only 10 power looms.
2. L.D. Stifel. op.cit. p.157
3. I.P. Andren. UN Advisor. Memorandum to Dept. People's Industry, 2.10.59.
4. Madjalah Industri Rakjat. No.6, June 1963. Dept. People's Industry. p.31
5. Departmental memorandum (People's Industry) by Hirawan. p.12

licences of capacity found that of 13,598 looms of licenced capacity inspected only 303 actually existed.¹ This makes the 88 per cent increase highly suspect, but it is impossible to eliminate the error over the whole country from this sample. After 1962 there was very little expansion because of the shortage of foreign exchange for imported equipment.

The method and pattern of expansion of capacity in the weaving industry affected the distribution of mechanisation between well-established firms and new entrants. As already noted in Chapter III the new indigenous entrants tended to invest in the handloom, the ATBM. Unfortunately there are no figures on distribution of modern equipment according to size of firm or racial origin of owner, but the impression was gained from interviews that large manufacturers were not interested in purchasing hand equipment, and that the Chinese tended to invest heavily in power looms.

The profitability of purchasing power equipment depends on its initial cost relative to the cost of hand equipment, as well as on the cost of labour involved. The next section shows how inflation contributed to making purchases of power equipment more profitable.

3. The cost of mechanisation:

The initial cost of new equipment was not as serious a source of difference in overhead production costs as might be considered in a developed and economically stable country. Most of the new capital in-

1. KOTOE Clothing Team Report. February, 1965.

vestment of the 1950s was made on very easy credit terms with low interest rates. The effect of inflation of between 60 per cent and 150 per cent a year for the last ten years was such that government loan financing schemes for new equipment were tantamount to huge subsidies to ⁱaspiring entrepreneurs. The Chinese were not excluded from these benefits because frequently they were the real applicants, using Indonesian names on official forms, for government credit.¹ Moreover, the purchase of overseas equipment offered special subsidies through the blackmarket for foreign currency. Manufacturers who wished to acquire foreign equipment were allocated sums of foreign exchange which were accounted for by invoices.² By acquiring a double set of invoices from the seller of the goods part of the foreign exchange allocation could be retained and exchanged for Rupiahs at the blackmarket rate for hard currency. If the blackmarket rate was four times the official rate 25 per cent of the allocation would have to be exchanged illegally to acquire new equipment at no cost whatever. This practice was very widespread and some manufacturers thereby acquired both capital equipment and working capital, having begun with no funds. The last such favourable exchange rate offered textile investors was in 1962 and this is the main reason why investment in overseas machinery stopped then.

Thus capital repayment and interest charges did not influence overhead costs in the Indonesian textile industry to the same extent

1. See Chapter III, 'Government Plans and the Expansion'.

2. One manufacturer admitted he obtained Rp.3.8 million in foreign exchange (Rp.11.40 = \$U.S. 1.00) in 1954 which surpassed his own expectations. Interview in Bandung, 6.4.65.

that they did in other countries. Compared with the problems of rapidly increasing and fluctuating costs, capital charges play a very minor role and most capital investment made in the mid 1950s was repaid by the early 1960s. The depreciated cost of capital equipment under these inflationary conditions made investment in more expensive and modern machinery much more profitable than it would otherwise have been. Although easy credit would not alter the ranking of the capital-output ratios for various weaving techniques, as described in Table 21, it could change the order of profitability by reducing capital costs of the more mechanised processes by a greater proportion of total costs than in the case of less mechanised processes.

The rise in interest rates and the increase in bribes to bank officials in recent years contributed to the decline in new investment in both domestically produced and imported capital equipment. It is true that licences of capacity increased as it became more important to acquire a larger allocation of officially priced raw materials, but this was achieved by a simple re-writing of licences rather than by the installing of new plant and machinery.

The extra costs of production associated with mechanised weaving apparatus are fuel^{costs} and more expensive maintenance services.

The availability of spare parts presents difficulties particularly for factories equipped with foreign machinery.¹ In the case of Indonesian made equipment spare parts are available but are made from scrap iron and by poor quality processing.. New parts for foreign

1. Even the state spinning factory in Bandung experienced problems of spare parts. Interview, 11.11.64.

machinery might be imported but in the last two years there has been no special allocation of foreign exchange for them. The free market rate of the dollar has had to be paid for these imports recently. This made the repairing of machinery extremely expensive, and, in some cases where large quantities of parts were required, economically unfeasible. The alternative was to draw the required part and request a local metal-working shop to imitate it in scrap iron. This method of repair met with varying success. Smaller repairs are performed by maintenance officers at the factory.

There is no information on the amount of equipment requiring spare parts, but private estimates of power equipment in disrepair range from 30 per cent to 50 per cent. Machinery which broke down in 1963 has never been repaired because of shortage of raw materials. Moreover, accessories such as shuttles have to be imported and most enterprises have grossly inadequate supplies for full capacity utilisation.

As in the weaving industry, power knitting machines have supplanted handmachines in production. Because of the shortage of raw materials the entire knitting production is now performed on power-driven equipment. Unfortunately there is no comprehensive information on cost and production of knitting machines, but the effects of easy credit for capital investment and of problems of supply of spare parts on the weaving industry also apply to the knitting industry.

It was assumed by most manufacturers interviewed that the government would be forced to offer very easy credit and exchange rate terms for spare parts at such time as it increased the supply of raw materials sufficiently to utilise the present broken equipment and for this

reason they have postponed the rehabilitation of their fixed capital.

4. Finishing factories:

The modern finishing section of the textile industry is very highly mechanised and is unquestionably the most profitable part of the whole manufacturing process today. The machinery, most of which was installed in the last seven years, is of the most up to date in the world and its purchase was made under very favourable credit terms. The price of foreign currency to the private investor was fixed in Rupiahs and inflation and underinvoicing have assisted him in repayments. The management of state-owned finishing factories has never been bothered by capital repayments and interest charges.

5. Depreciation:

Estimates of depreciation can be used for calculating the rate of profit on fixed capital or for creating a fund for replacing equipment at a later date, but in Indonesia it is totally ignored by textile manufacturers, small and large alike. Historical cost means little with inflation of between 60 per cent and 150 per cent a year. Such a charge on the profit and loss account would be negligible after the machinery was about five years old and the profit rate on this basis would be excessively high. Historical cost records are kept only for purposes of taxation which permits 10 per cent of historical cost as a tax reduction. The replacement cost is more realistic in these circumstances but it is not calculated because of the uncertainty of exchange rates and inflation in the future. Such an estimation can give an approximate

indication of profit but it would be unsuitable as a replacement fund unless the reserve could generate income which allowed its real value to be maintained from one year to the next; otherwise even this fund would depreciate in an inflationary situation. In interviews with manufacturers the universal opinion was expressed that inflation would become a great deal worse because of the inability of the government to deal with the accumulated mismanagement of the balance of payments.

The attitude of textile manufacturers towards a machine which breaks down completely was summed up by one entrepreneur who said,

'if a machine breaks down, that is just too bad, We have much bigger problems to think about. We cannot think about/ the long run. In inflation it is impossible to depreciate carefully and buy again when necessary. We prefer to wait for the government to offer favourable foreign exchange rates before we buy machinery. There is absolutely no long run planning in the private sector of the industry'.

A failure to allow for depreciation has been noted by observers of textile industries in several other countries. S.D. Mehta believed that one of the reasons why the Japanese mills were able to supply the Indian market so successfully in the years 1906 to 1927 was because the Japanese producers charged less than 5 per cent depreciation costs to their profit and loss accounts for eleven of those years.² He does not supply evidence but states that while they were mounting an aggressive and efficient sales drive in India, their loose accounting system assisted them in selling at very low prices. Mehta also stated, on the basis on interviews with Indian manufacturers, that during the years of severe underutilisation in the Indian industry in 1924 to 1929, it was common practice not to make any depreciation

1. Interview with manufacturer in Bandung, 27.4.65.

2. S.D.Mehta. The Cotton Mills of India. 1854-1954. p.166

charges.¹ This incomplete accounting system was also noticed by S.J.Kennedy² in a study of textile mills in the United States in the 1930s. By not including these costs the marginal firms were consistently selling their output at below cost over a period of several years. These mill owners very likely had less hope of heavily subsidised spare parts in future than their Indonesian counterparts today.

In the absence of any information on depreciation costs obtained from interviews with manufacturers it is necessary to turn to examples from other countries to gain some idea of depreciation costs under more normal conditions than those prevailing in Indonesia.

In the New England weaving industry 14 per cent of total costs were taken by depreciation.³ If this cost had been allowed for in Indonesia it would have closed many firms. It represents about one-fifth of total raw material costs in the Philippines or in Indonesia (in 1960), and a good deal more than the wages bill in the latter country. If capital-output ratios are taken as an indication of the proportionate burden of depreciation charges on total costs, data from the Philippines presented in Table 22 suggest that weaving production has a higher depreciation burden than spinning production and that both spinning and weaving have much higher depreciation charges than other secondary industries.

1. Ibid. p.161

2. S.J.Kennedy. Profits and Losses in Textiles. p.151

3. Report of the New England Textile Industry, 1952. p.24. Committee of the Governors of New England.

TABLE 22

CAPITAL-OUTPUT RATIOS OF SELECTED INDUSTRIES IN THE
PHILIPPINES

Spinning	3.0
Weaving	3.3
Food processing	1.36
Paper and paper products	1.42

Source:- L.D.Stifel. The Textile Industry - A Case Study of Industrial Development in the Philippines. p.175

Further data on weaving coefficients were supplied in Table 21 which compared fixed capital output ratios for five different weaving techniques in India.¹ These figures show that the burden of depreciation charges per unit of value added would be very much higher for the automatic power loom than for the others if depreciation were calculated in proportion to fixed capital investment.

However, these ratios are of limited use as indicators of the burden of depreciation costs because different equipment might have different lengths of life. E.K.Fisk has judged a depreciation rate of $2\frac{1}{2}$ per cent to be appropriate in the Malayan handweaving industry, because the looms lasted over 40 years.² This would suggest that depreciation burdens on handweavers are even less than the capital-output ratio would indicate.

We might conclude that in a situation where expectations of heavily subsidised repairs were absent, depreciation costs would be a much greater burden on the larger and more mechanised firms than on the

1. These ratios are much smaller than Stifel's for the Philippines but there is no obvious explanation.(L.D.Stifel. op.cit. p.175)

2.E.K.Fisk. op.cit. p.14. Fisk suggests that the low initial capital cost and the long life of the looms explain why such a high proportion of the weavers own their looms, despite their low income.

cottage industry. However, in the unusual circumstances in Indonesia the neglect of depreciation charges contributes to widening the effective range of cost differences within the weaving industry, as well as enabling more enterprises to keep producing than would otherwise be expected if producers wished to cover all accounting costs. If the true depreciation costs were reduced by equal proportions over several weaving techniques, the absolute reductions would be greater amongst techniques using the most expensive machinery, so that their apparent profits would be increased by the largest amounts. Hence the order of magnitude of profitability would most likely change.

Raw materials:

Since raw materials comprise the biggest single production cost,¹ variations between firms are very important.

1. Raw cotton prices:

The spinning factories did not experience a blackmarket of any magnitude because being so few in number they were more easily controlled. Moreover, as they were mostly state enterprises their supplies were better guaranteed.

1.. This is borne out by a study by G. Fleming, (Die Struktur wandlungen und die Aussen handelsverflechtungen in der Welttextilwirtschaft. p.75) over several countries including Japan, India, Britain, and the U.S.A. The Report of the New England Textile Industry (op.cit. p.27) estimated that for one dollar of a finished textile article 10 cents went to raw cotton and 19 cents to the other costs of manufacturing cloth.

2. Yarn allocation prices:

Before 1958 allocations of officially priced raw materials were made to small sized and some medium sized establishments only. They gave these enterprises cost advantages over the larger ones but the benefit was not as great as it would be today because the difference between official and free market prices at that time was not very large.

After 1958 when official yarn allocations were introduced in the entire industry, power looms and knitting machines received larger amounts because of their higher productivity and because they could be used for two shifts. But with the break down of control over official distributions of raw materials extra payments were involved in the purchase of factors of production. To obtain his rightful allocation of yarn, a textile manufacturer was often compelled to pay a bribe. There were two categories of manufacturers especially prone to this treatment. First, the large Chinese manufacturer was a target, partly because of racial hostility and partly because it was well known he could afford it better than others. Second, the unorganised small scale entrepreneurs were easily misled into paying extra sums because they were never fully aware of what the allocations were supposed to be.¹ In the badly supervised system of yarn distribution it was only with great difficulty that weavers could check on their rightful allocation; and even then redress was not guaranteed. This form of corruption was carried out by officials of the cooperatives whose function it was

1. See Chapter V, 'The Supply and Distribution of Raw Materials'.

to channel raw materials from importers to manufacturers. It was not long before this corruption became institutionalised and some manufacturers were continually paying more than others for their raw materials. Although this practice always existed to some extent whenever there were official allocations¹ it was greatest after 1962.

3. Free market yarn prices:

Another source of variation in total raw materials costs was the free market. The final yarn cost depended on the mixture of officially distributed and free market yarns which was processed. The financially strongest and most efficient manufacturers bought the largest shares of free market yarn and would therefore have borne the highest average yarn costs. Those who preferred to hold their yarn allocations and process only those quantities, even at the cost of underutilisation, would have the lowest raw materials costs; except for those who sold part of their allocations.

4. Official and free market prices compared:

Table 23 provides an example of the difference between official and free market prices of yarn. As can be seen from the data, purchases of yarn from the free market merited very serious considerations from the manufacturers.

1. There were allocations to small scale and some medium scale firms in 1954, 1955 and 1957 because of their inability to compete with other enterprises.

TABLE 23.

YARN PRICES (RUPIAH PER BALE -20/s) 1963 & 1964

<u>Date</u>	<u>Free Market Price</u>	<u>Official Price</u>
5.6.63	175,000	25,000
2.12.63	105,000	82,147
2.6.64	250,000	58,026
7.12.64	1,000,000	58,026
6.4.65	400,000	58,026

Source:- Unpublished data, Central Bureau of Statistics, Djakarta.

When the price of foreign exchange rose rapidly in late 1964 the highest price of freely imported yarn was Rp.1,400,000 a bale in late November.¹ Bank managers admitted offering credit to manufacturers to purchase yarn at this price but no manufacturer or official from the Department of People's Industry interviewed would believe this possible. If it is true that some manufacturers were willing to process yarn at this price they must have been a good deal more efficient than even the free market yarn price suggests.

Chapter VI demonstrates that inflation was not a cause of the rise in free market yarn prices. The very high prices were caused by an overall shortage and the uncertainty due to the extreme irregularity of official allocations. If inflation had any effect it was to increase the proportion of their allocations offered by small manufacturers to the free market and thus depress the price. The reason for the reluctance to buy more free market yarn was the greater competition

1. I.P.Andren. U.N.Advisor. Textile Industry in 1960. Planning and Data to Determine and Control Progress of Textile Manufacturing Industry. Memorandum to Department of People's Industry. 7.4.60. p.3.

from cloth imports due to the effect of inflation on measures of protection, and this affected the whole industry.

5. Prices of raw materials for finishing:

The bulk of the finishing factories' raw materials comprises the products of the weaving and knitting industries, and since finishing constitutes a bottleneck in normal periods of production it is in a strong bargaining position for pricing its raw materials (or determining its commission). Chemicals and dyes are mainly imported and allocations are based on the same system as allocations of yarn. The free market in these goods would be less important than that of yarn because of the much smaller variability of costs within the modern finishing industry.

Labour costs:

The share of total production costs taken by wages is difficult to determine for several reasons. First, in many enterprises the difference between family labour and hired labour is unclear while in others the salaries of the management are based on an ad hoc arrangement depending on current profits. Second, the underutilisation in the textile industry provides an unclear picture of the true labour cost in production. Much of the unused labour is deliberately retained because it is desirable to keep on workers already trained. This inflates the wages share of total costs during underutilisation of capacity. Third, the fluctuations in other costs are very great and the proportion of total costs taken by labour can move within a range of 10 per cent in a short period. Fourth, wages have lagged far behind the cost of living¹ and it is now the

1. See Chapter VII, 'Protection and the Influence of Inflation'.

practice of a worker to have three jobs where formerly one was sufficient to keep himself. These changes in labour costs upset comparisons of the importance of wages in various parts of the industry.

1. Wages and labour productivity:

In a study over several countries including Britain, the U.S.A., Japan and India, G.Fleming concluded that wages in textile manufacturing appropriated between 15 per cent and 25 per cent of total costs.¹ This was due to differences in degrees of mechanisation as well as differences in levels of wages. If his data are examined further some idea of the importance of mechanisation on labour productivity can be gained.

There was a wide range of wages over the countries Fleming studied.² However, the higher productivity of European and U.S. labour helped to offset these very big differences. Table 24 shows wages in the spinning industry in the U.S. as almost eight times as high as in Japan but labour cost per pound weight of output was only a little more than six times as much. India, with very low wages had a high labour cost per pound weight of output. Since the mechanisation of spinning processes is not as variable as that of weaving processes it might reasonably be expected that the differences in labour productivity between ^{weaving} processes are greater.

1. G.Fleming. op.cit. p.76

2. European wages were four to six times, and U.S. wages nine times, as high as in Japan.

TABLE 24.

INTERNATIONAL COMPARISON OF WAGES, PRODUCTIVITY, AND LABOUR
COSTS IN COTTON SPINNING: 1932

Country	Productivity lbs./labour hour	Standard wages/ hour	Labour costs/lb. output
U.S.	5.6	18.65	3.33
U.K.	4.5	9.90	2.20
Japan	3.1	1.65	0.53
India	1.0	2.43	2.43

Source:- G. Fleming. Die Strukturwandlungen und die Aussenhandelsverflechtungen in der Welttextilwirtschaft. p.79

The Report of the New England Textile Industry estimated that in 1950 wages took 15 per cent of all costs in rayon cloth production and 33 per cent in cotton voile production,¹ while a study of the Philippines textile industry placed the share of wages in total cost of weaving as high as 27 per cent.² Hence labour costs can vary greatly according to type of cloth output as well as to mechanisation and wage levels.

2. Differences in wage costs:

Although there are no data on the share of total costs taken by wages and by raw materials in Indonesia, it was learned through interviews that in periods when supplies of raw materials were good, raw materials costs accounted for about 70 per cent of small scale industry's costs, and 60 per cent of large scale industry's costs. Wages accounted for about 20 per cent of the total costs of the large factory, while in

1. Report of the New England Textile Industry. op.cit. p.27

2. The percentage here was obtained from the tax returns of an integrated spinning-weaving factory and might be unduly inflated. (L.D. Stifel. op.cit. p.149)

the case of the small enterprise it might be assumed that almost all of the remaining 30 per cent would be taken by wages (or earnings).

3. Trends in wages costs:

In years when supplies of raw materials were scarce, and especially since 1962, it is believed that two factors have caused changes in this range of labour cost shares.

First, the money value of wages in cash and kind appear to have fallen behind price increases, not marginally, but very substantially, since 1956. While textile manufacturers in the Philippines have complained of high wages¹ and an ECAFE report in 1965 commented on rising labour charges throughout the region,² it was very noticeable during interviews in Indonesia that all manufacturers affirmed that labour and wages presented no problems. One large scale manufacturer stated that in 1961 wages accounted for 25 per cent of his total production expenses but that at the end of 1964 they did not take more than 10 per cent.³ But regulations on dismissal of workers could make it difficult and expensive to reduce the staff.⁴ A few years ago it was found desirable

1. This was one of the main arguments for further protection. (.L.D. Stifel .oplocit. p.61)

2. Sectoral Study. Textile Industries. Asian Conference of Industrialisation. ECAFE Conference. p.87

3. The report of the Industrial Technical Centre Foundation, P.T.Djunti, pp.24-5, 28, 32-3), assumed wages would take between 9 & 10 per cent of total costs of production of a new factory in 1963. They also allowed for 10 per cent depreciation of the highly mechanised equipment. The estimate of the share of the wages bill might have been quite accurate. However, for less mechanised processes in a situation in which factory employment provides a sufficient living, it is doubtful whether the share can remain as low as this.

4. Regulation No.12.10/9/64. Department of Labour, Djakarta.

to retain workers trained within the factory for as long as possible because they might be difficult to locate later on; and in the meantime they were employed of gardening and cleaning tasks.

In 1964 when factories began closing down or drastically cutting back on production because of low supplies of raw materials, managers could no longer afford this practice. Before September 1964 dismissals were negotiated with the unions without much difficulty by means of a lump sum payment. The ease with which manufacturers dismissed workers was due, more than anything else, to the acceptance of bribes from manufacturers by union officials. The extent of corruption amongst union officials in Indonesia was an outcome of the political structure and could not have been tolerated in other South East Asian countries with their patterns of political behaviour. This is the chief reason why wages and labour productivity in Indonesia presented no problems to the manufacturer.

Cooperation from the unions was usually obtained by agreeing to the re-employment of workers at a later date when further raw materials became available. This was classified as temporary dismissal although the suspension of production might have been more than six months. In September 1964 a regulation was passed¹ whereby dismissals had to be registered with the local branch of the disputes committee of the Department of Labour. This was intended to have an inhibiting effect on mass dismissals but since it came at a time of acute shortage of raw materials there were no disputes over dismissals. A compromise was

1. Ibid.

worked out between worker and management such that workers requested dismissal in exchange for a lump sum which was usually the equivalent of three months' wages.¹ The system was the same as before September 1964 except that it was formalised by the intervention of the Department of Labour, whose officials were pacified by manufacturers in a similar manner to union officials.

Workers' contracts are incorporated in agreements between union and management. Unions are usually organised on industrial lines and there may be several unions represented in one factory. The management would draw up a contract with the largest on behalf of all.² These negotiations decided wages over and above the minimum laid down in the regulations of the region's Governor. Sometimes the local association of manufacturers³ would bargain on behalf of the employer. Wages are the most important aspect of the contract, especially payment in kind in view of continuous price increases. Official wages in the textile industry are lower than the average and before 1964 some manufacturers paid twice the negotiated wage by way of premiums in order to prevent workers from moving to other jobs. The average earnings of a worker in a weaving shed were about Rp.5,000 a month in early 1965 (everything included). At that time a family of four required a minimum of Rp.50,000 a month to exist. The deficiency of Rp.45,000 was made up by outside employment. Most of the textile employees are women or young men and

1.. Interview with manufacturer in Bandung, 6.4.65

2. In Madjalaja there are five textile unions and any combination of them can be seen in the factories.

3. In Bandung, Pretex, an association almost entirely of Chinese manufacturers frequently negotiated for manufacturers.

this employment provides them with a guaranteed, though small, income. Not many of the main breadwinners could afford to be textile workers.

In spite of the low income and many dismissals no disputes in the industry have been brought before the disputes committee since 1963. This was because of the sympathy for textile manufacturers in their depressed condition but it had the effect of ensuring labour costs were kept very low in the industry so that variations amongst the contracts between union and management, when they existed, were not of great significance.

Earnings in the small scale industry have been reduced by higher credit and marketing costs, although with little administration and capital costs underutilisation should not have been a great cost burden to this kind of producer. However, it is unlikely that earnings in the small scale industry could take such a reduction as has been experienced by factory wages. The history of the small scale producer has been that he was left with little surplus and was permanently in debt. On several occasions in the fifties¹ there was so little economic incentive to continue production that weaving stopped. It is more likely that if earnings fell very much full time weaving activity would have been terminated.

Hence the advantage which small scale weaving might have had with a low capital-output ratio was lost when factory wages lagged behind the living expenses of the self-employed weaver.

Second, the lower real income obtained from each job has noticeably lowered the willingness to work and, therefore, also the product-

1. The years 1954 and 1957 witnessed the closing down of many small scale weaving establishments.

ivity of the worker. Some manufacturers complained that workers came to the factory as though they were ^{there} merely to collect attendance money. Their employees reserved their energies for the second and third jobs they would undertake after factory hours. Small scale weavers, on the other hand, have little reason to work less enthusiastically once they have taken the decision to produce cloth because they are more directly concerned with the ownership and administration of the enterprise and are bound to work harder in order to obtain sufficient payment from the traders. If they should find the work insufficiently remunerative, they are more likely to stop weaving. In some cases it can be argued that they find it more in their interests to work harder to obtain the real value of their former earnings. Hence if the productivity of the small scale producer changes under inflation it is more likely to rise. But there is a limit to human effort.

The first influence leads to a fall in wage costs per unit value of output with the lower limit of the range (the factory wage bill) falling proportionately more than the upper limit (the small weavers' earnings). The second influence suggests a counter-balancing movement, by reducing the utility of one unit of labour in the factory, but accompanied by a possible further lowering of wage costs per unit value of output in the small scale industry. Without data it is not possible to make any conclusive statement on the final outcome but it is thought that the fall in real wages has been so great that it is most unlikely that the decrease in physical product of factory labour was great enough to stabilise the share of wages in total costs. It is one thing to talk of labour productivity for a given machine being

lower in an underdeveloped country because of poor supervision and skills, or because of a different attitude to work. It is quite another issue to state that labour productivity has declined from this already low level. Although it must be recognised that the lower incentive to work has probably had some effect it is questionable whether it has prevented the share of value of output passing to wages from declining. It is assumed that this is what is meant by manufacturers who say they have no wages problem and that this together with no provision for depreciation is how they accommodated high raw materials costs. Finally, although the self-employed weaver had greater incentive to improve his productivity during inflation, it is difficult to imagine ways in which this might have been done.

All that can be concluded is that the share of wages in total costs has altered in the last fifteen years for each firm, and that inflation has affected the relative wages burdens of large and small enterprises to the disadvantage of the latter.

What cannot be said without further data is whether, after full allowances for capital depreciation costs, the lower labour costs per unit of output of the more mechanised equipment would result in lower final average costs. Now that the small scale well-organised Japanese weavers have been finally supplanted by very large mechanised units it is tempting to conclude that this must also be the case in Indonesia. The complete closure of small scale weaving firms in 1964, while some activity continued in the large firms,

would tend to corroborate this. However, the apparent large differences in costs might, in fact, be small differences plus the utter demoralisation of the small weaver which prevents him from attempting to process any of his allocation.

4. Low productivity and high wages in medium sized firms:

Special mention must be made of the medium sized weaving enterprises which hire labour but which are usually less efficient than the large scale enterprise. It is quite likely that in the fifties the wage bill was a higher proportion of total costs than in the small scale industry.¹ In 1957 when the free market price of yarn rose sharply it was noticeable that there was a stronger tendency to close down amongst medium sized enterprises than amongst small sized enterprises. But with the fall in the real wage of hired labour in later years the effective wage burden became lower than that in the smaller sized section of the weaving industry.

1.. G.D. Allen (Japan's Economic Recovery, p.82) refers to a similar situation in Japan in the middle fifties when the Labour Standards Law raised the cost of labour in all but the smallest enterprises. The contraction of production which followed was borne mainly by the medium sized firm.

Power costs:

1. State electricity:

The cost of electricity concerns only those establishments with power equipment. Government electricity which is a great deal cheaper than power from private generators is available in some areas for two shifts a day¹ although in the town of Madjalaja which produces 40 per cent of Indonesia's cloth output there is enough for nine hours only.²

2. Private generators:

Factories using their own diesel generators include spinning and finishing establishments which work three shifts. One finishing manufacturer stated that dyes took 60 per cent of his total costs, labour 20 per cent and fuel and overheads 20 per cent in a normal period.³ Some large weaving factories installed generators several years ago, before low yarn supplies reduced their utilisation rates, in the hope that one day they might add a finishing plant to their weaving sheds.

3. State and private power costs compared:

It is difficult to estimate how much cheaper state provided electricity is because equipment for private generators might be paid off at various effective rates of foreign exchange and the free market price of fuel fluctuates greatly. The usual brief answer received from manufacturers was that private electricity supplies are twice as costly as government supplies.⁴

1. Government electricity is available from 6 a.m. to 6 p.m.

2. Interview with manufacturer in Madjalaja, April 1965.

3. Interview with manufacturer in Bandung, 6.4.65.

4. Interview with manufacturer in Madjalaja, 19.4.65.

Inflation increased the running costs of privately generated power as part of the allocation of solar oil was bought on the free market (as was yarn). The price of state electricity, like the price of all public services, lagged far behind the general rise in prices.

In April 1965 the official price of solar oil (used for private generators) was Rp.1.30 a litre while the free market price was Rp.35 per litre.¹ At that time official supplies of oil no longer existed after months of gradually decreasing supplies. One manufacturer stated he was unable to continue running his factory at this high fuel price,² while a finishing factory with large orders awaiting attention could not work at full capacity for a short while because the owner was unable to find supplies of solar fuel at any price.³

Working capital:

The cost associated with borrowing working capital requirements is closely allied with managerial problems because the present financial basis of the enterprises, and therefore their credit-worthiness, is the result of the quality of management over a long period of time. However, it is simpler to regard these expenses as a cost separate from current managerial efficiency.

1. Raw materials:

Of the factors of production which absorbed working capital by far the most important were raw materials which in periods of high activity took between 60 per cent and 70 per cent of total production

1. Interview with manufacturer in Bandung, 22.3.65.

2. Interview with manufacturer in Bandung, 31.5.65.

3. Interview with manufacturer in Bandung, 3.5.65.

costs.¹ Moreover, unlike the other variables, it was usually paid for, in part at least, in advance. Prior to October 1964,² factories paid these advances to the Perusahaan-2 Dagang Negara (P.D.Ns. - State Trading Enterprises) either through their cooperatives or directly, and this money has been known to be held for three to six months before the arrival of the raw materials. Smaller firms were sometimes asked for smaller advance payments, but often they were not regarded as exceptional cases, and they could only acquire working capital from their moneylenders or from middlemen who were convinced of their profitability, and who offered an acceptable commission.³

If there is no hiatus in the supply of raw materials or if there is no other reason for producing at irregular intervals, once the initial supply of working capital has been acquired there should be no further difficulties, so long as the firm is at least breaking even. But because of the irregularity of supply, working capital needs have

-
1. Periods of high activity in investment have meant periods when supplies of raw materials are large and prices are low. At other times with low utilisation rates and high prices, raw materials can assume as much as 90 per cent of total production costs.
 2. In October 1964 Kommando Tertinggi Operasi Ekonomi (KOTOE- Supreme Command of Economic Operations) altered the method of payment for raw materials to cash on delivery. (Regulation No. 39/WPB-KOTOE/1964. 19.10.64.
 3. E.K.Fisk (op.cit., p.28) describes the middleman in this role as the 'indispensable catalyst of credit-worthiness that makes the provision of this capital to the weaver possible'.

fluctuated. I.P.Andren¹ stressed the burden placed on working capital resources by irregular supplies of yarn, while E.K.Fisk has argued in the case of the Malayan handweaving industry that:²

As supplies are sometimes difficult to obtain and shipment is not always regular, the minimum safe figure for average stocks carried is three months' supply - and this is very definitely a minimum.

Moreover, regulations on the importing and distribution of raw materials have varied so much that, at one time, it was necessary to offer full payment at the time the contract for imports was signed with overseas suppliers, which was usually several months before the goods arrived. Before 1959 private importers were sometimes prepared to pay 80 per cent of landed cost on behalf of manufacturers. This money might be locked up in the importing process for up to six months.³ The advantage to the manufacturer was that, although interest on this credit raised by the importer would be included in the final price of the yarn, importers usually found it easier to convince the state banks of their credit-worthiness and so raise credit at low interest. At other times, payment was required a few days before the factory might claim its allocation. If the former regulation coincided with easy credit policies the effect was not so severe. But if it came at a time when reserves had been decimated by a period of severe inflation and the government was simultaneously undertaking a credit restriction policy the result could be disastrous to the individual firm.

-
1. I.P.Andren (U.N.Advisor). Foreign Exchange Requirements (Machine Capacity, Short & Long Term Planning). Department of People's Industry memorandum, p.5. 14.10.59.
 2. E.K.Fisk, op.cit. p.19.
 3. Interview with manufacturer in Bandung, 27.4.65.

The inability to integrate overall credit policy with the needs of the industry meant that textile production was often subjected to economic measures which conflicted with the government's policy on industry.

2. Wages:

Another important source of need for working capital, especially in the cottage or small scale industry, were wages. The family cottage industry usually required an advance from its commissioners because in most cases the producer had not sufficient reserves to keep himself and his family until the cloth was ready to sell.¹ This advance was readily made but the interest was extracted in the form of lower prices for the product or smaller total commission. On the other hand, most of the labour employed by the larger firms was paid weekly or fortnightly and at the end of the pay period. There was more chance of returns from sales arriving before the wage bill was paid in this case. However, this comparison cannot be drawn too closely because the period of production in the cottage industry could vary and the pattern of production and sales of the large manufacturer might be irregular.

1. E.K.Fisk has noted a similar situation in the handweaving industry in Malaya. He commented:

'The average weaver is unable or unwilling to wait so long (14 days) for the work in progress and therefore advances are paid by the middlemen at the start of the order, and augmented as work proceeds'. (op.cit. p.18)

3. Marketing:

Finally, marketing required a reserve of liquid funds unless there was an immediate cash sale. It is thought that this was not nearly as important a burden on working capital as raw materials and wages because traders, who generally possessed more working capital reserves than producers, were ready to purchase new produce very quickly. In the case of the small scale producer who worked on commission there was no apparent need for working capital for marketing although the overall marketing costs of the trader would be represented by a reduction in the commission which the producer received. E.K.Fisk has suggested that the amount of working capital tied up in stocks in all stages of marketing is not less than the value of six months' output,¹ but it is thought that in Indonesia where small scale production costs are so high, if cloth is produced at all on the handlooms it is because there is an urgent need for it at that high cost, and that it will be speedily marketed.

These three factors, raw materials, wages and marketing, account for almost all working capital requirements. Rent and electricity are small costs in comparison and advance payments are not usually required.

4. Total requirements:

Until 1963 there had been no quantitative studies made in Indonesia concerning the total working capital requirements of textile enterprises, and it is doubtful whether calculations made in that year provide a true picture of the amounts involved as a proportion of fixed capital. Inflation makes any estimates which included initial capital cost very difficult, while the low capital utilisation rates of less than 20

¹, Ibid.

per cent invalidated current working capital requirements as a reliable measure. In this situation it is desirable to compare calculations made for textile enterprises in other countries with those made in Indonesia, and make qualifying observations on both sets of results in the light of the Indonesian experience.

The Industrial Technical Centre Foundation made estimates for fixed and working capital costs in the three sections, spinning, weaving, and finishing, of an integrated factory in Djakarta. The ratio of working capital to fixed capital was 1 : 9.1 for the spinning section, 1 : 0.8 for the weaving section, and 1 : 0.41 for the finishing section.¹

There are several limitations of these figures which necessitate a modification of their range. First, the two kinds of capital cost are evaluated at the same point in time and do not allow for the devaluation of fixed cost through inflation. Moreover, the rate of exchange for capital imports was fixed at Rp.315 per U.S. dollar. This was one of several import rates and there is no reason to believe it represented a free market rate or a rate which corresponded to the cost of imported raw materials (which would influence the amount of working capital.) Although this is not likely to affect the order of magnitude of the ratios it could alter the absolute differences. Second, the period

1. The data in the report by the Industrial Technical Centre Foundation on the integrated factory P.T.Djunti is given here (p.40)

Department	Fixed capital (Rp. mill)	Working capital (Rp. mill)
spinning	143	16
weaving	161	194
finishing	116	280

during which working capital is locked up might be longer than the Foundation imagined. The project whose profitability it was estimating was intended to be a well-run integrated factory which would receive the best treatment from the State banking system and the Department of People's Industry which any factory was likely to obtain. For other enterprises the working capital might have to be more. Third, in practice, the finishing establishments require the least working capital of all because they work on a commission basis and often receive advance payments for their work.¹ The large ratio of working capital to fixed capital recorded here is due to the enormous purchases of grey cloth as the basic raw material. But in Indonesia today this is not likely to be bought by the finisher.

If the large ratio for finishing is ignored the weaving section appears to be exceptionally burdened by requirements of working capital. But because of the dubious nature of definitions of fixed capital in Indonesia it might be more appropriate to relate working capital to total annual costs.

Again using the calculation of the Centre Foundation working capital as a percentage of total annual costs was 2.4 per cent for spinning, 20 per cent for weaving, and 21 per cent for finishing.² The low figure for spinning is due to the smaller share of total costs and to labour passing to raw materials. It is impossible to say how accurate this estimate is, but in Indonesia where payments for raw cotton supplies are much more effectively controlled than in the case of yarn supplies,

1. Interview with manufacturer in Bandung, 27.4.65.

2. P.T.Djunti. op.cit. pp.24-33.

there is no reason to believe this low percentage is an exaggeration. The spinning factories which were usually erected either by wealthy weavers or by the government began production in a strong financial position and were able to benefit from cheap bank credit.

The ratio for finishing is totally misleading, because out of a total annual production cost of Rp.1,352,760,000 for this section of the project, grey cloth assumed Rp.1,035,000,000 (or 76 per cent) and this is not usually regarded by Indonesian finishers as a cost.

There is some comparative information on working capital costs in weaving enterprises in other countries. In a report of investment prospects in the textile industry in the Philippines, the Philippines National Bank¹ estimated that for a capital investment of 8.4 million pesos in a weaving establishment, working capital requirements would approximate two million pesos, or almost 25 per cent of fixed capital. This figure, like that of 80 per cent for the project P.T.Djunti, was for a newly erected weaving establishment with the latest production technique, and without further detailed information no comments can be made on the divergence. But A.K.Sen has calculated a higher percentage for a weaving establishment which uses automatic power looms, and percentages of over 100 per cent for the cottage power loom industry in India. These data are presented in Table 25.

1. Investment Prospects in Selected Industries. Philippines National Bank.

TABLE 25.

ESTIMATES OF FIXED CAPITAL AND WORKING CAPITAL FOR
FIVE WEAVING TECHNIQUES IN INDIA.

<u>Technique</u>	<u>Working capital (Rp)</u>	<u>Fixed capital (Rp)</u>
Fly-shuttle handloom	413	50
'Banaras' semi-automatic handloom	1,350	200
Cottage power loom	1,913	1,500
Factory non-automatic power loom	4,875	4,000
Automatic power loom	4,547	10,000

Source:- A.K.Sen. Choice of Techniques. p.112

The fly-shuttle handloom, which might represent the ATBM in Indonesia, has working capital requirements of more than eight times the cost of the loom while the most mechanised loom has requirements of less than half the fixed capital cost. There is no ratio which resembles the weaving ratio of P.T. Djunti, although if fixed capital can be assumed to be underestimated or working capital overestimated in the Indonesian case, it might be similar to the cottage power loom and factory non-automatic power loom ratios.

Sen assumes a time-lag of three months between expenditure and receipts.¹ In Indonesia the time lag is very likely greater because of the cumbersome importing and distribution regulations. If imported raw materials take as much as 70 per cent of total production costs, and this amount can be locked up for as long as six months in the importing and distribution process, it is reasonable to assume a time lag of three months as a bare minimum in Indonesia. This suggests that both Sen and the Centre Foundation have underestimated the burden of working capital in weaving but that Sen's figure is closer. It should be rem-

1. A.K. Sen. Choice of Techniques. p.10

embered that the Centre Foundation was making calculations for an unusual establishment in Indonesia and its fixed capital costs might have been determined quite arbitrarily.

The higher share of total costs taken by raw materials in the cottage and small scale industry would raise the ratio for small producers, although the occasional credit assistance of the cooperatives or the waiving of advance payments when official yarn allocations were made, would tend to lower the figure again.

It might be concluded that in the case of Indonesia the range of working capital to fixed capital ratios is at a higher level and is wider than in India because of greater time-lags. Finally, mention must be made of the influence of erratic supplies of raw materials. In recent years supplies have arrived two or three times a year and payment has been made in corresponding lump sums. Therefore, although Indonesian textile manufacturers might not need as much working capital as their Indian counterparts all the time, there are periods when the working capital requirements rise to several times their normal level.

The burden of the cost of working capital does not necessarily correspond with the actual capital requirements. G. Fleming¹ observed in a comparative study of textile manufacturing costs over a number of countries that interest charges were more important in underdeveloped countries because of poorly developed credit institutions and political instability. What he failed to point out was that the underdeveloped nature of the credit market itself leads to different interest rates within one country.

1. G. Fleming. op.cit. p. 79

The smaller weaver with his fixed credit and trading relationships with private moneylenders has an incomplete knowledge of the (rather elusive) free money market.¹ His dependence on his moneylender for services other than the supply of credit makes him unable or unwilling to attempt to gain access to cheaper credit. Banking facilities are mostly located in the towns and it might require a real effort to make an approach to a banker. Moreover, the small producer's comparatively low degree of credit-worthiness makes him a bad customer for the banks,² and his final choice of creditor usually lies between one private lender and another.³

The liquidity of the recent entrant to the industry was usually strained by heavy investment of liquid resources in capital equipment while his low managerial ability limited his capacity to remove the debt incurred by working capital requirements.

L.D.Stifel⁴ noticed a very similar situation amongst small scale weavers in the Philippines where the strain on liquid resources caused by capital expansion reduced the producer's ability to secure additional credit and he was forced to resort to high interest loans. Hence the initial low credit-worthiness of the small scale entrepreneur means that

1. The free money market is not illegal, but it is made up of many individuals and does not have the characteristics usually attributed to a 'perfect' market. During severe inflation the boundaries of the free money market became indefinable as money was borrowed from friends and relatives at near 'free market' rates of interest.

2. See Appendix A.

3. The situation in Indonesia was bad enough for H.K.Charlesworth to describe the supply of credit to small indigenous business as usurious. (A Banking System in Transition, p.176). He commented: 'There exists a great need for several private industrial banks whose functions are to service the needs of the small Indonesian businessmen with investment credit'.

4. L.D.Stifel. op.cit.,p.101

he cannot obtain as generous credit terms as others and this in turn makes it more difficult for him to increase his credit-worthiness.¹

An example of the effective interest rates paid by the small scale weaver was supplied by the manufacturer of a large factory in Madjalaja.² A trader financed a weaver to produce 30 metres of cloth at a total cost of Rp.35,000 and appropriated the cloth for sale at Rp.75,000. The producer received a commission of Rp.3,000 while the trader made a profit of 100 per cent in less than one month, amounting to 13 times the value of the commission. The large profit was due to the sudden arrival of officially priced yarn allocations when there was a shortage of cloth which provided an exceptionally high profit. Nevertheless, the point is made that the small scale weaver was unable to gain access to other sources of credit to benefit himself.³

The larger enterprises by reason of their sounder financial position required a smaller proportion of total working capital requirements in the form of loans and were more easily accepted as bank customers.

The cost of borrowing varies from year to year according to the general economic climate. Loans are usually contracted from several sources but in recent years banks have reduced their lending activity. This

1. This difficulty was found to be present amongst small scale businesses in the U.S. where credit institutions are highly developed. (Meeting the Special Problems of Small Businesses. Committee for Economic Development. p.32)

2. Interview with manufacturer in Madjalaja. 19.5.65.

3. The question might reasonably be asked 'why did the producer not sell his allocation on the black market?' Usually this was done with the connivance of the trader but without the funds to purchase the allocation the producer was completely in the hands of the trader/lender who could virtually dictate the credit terms.

occurred at the same time that inflation was increasing and a risk element was being introduced into free market interest rates. In 1964 state bank rate was 1 per cent to 1.5 per cent per month, while the free market rate was 10 per cent to 13 per cent.¹ Bank credit was limited at this time and the low interest rate was usually supplemented by a private commission to the bank manager. In this way the cheaper, but limited, credit was rationed out. Nevertheless, the final cost of bank credit was still substantially lower than free market credit.

If free market rates are so much higher than bank rates and large weavers have some liquid reserves, the question arises 'should the cost of working capital to these large producers be the opportunity cost of using working capital for production instead of lending?' Once again, reference must be made to the imperfect state of the credit market. It is doubtful whether such a producer would be able to obtain the highest free market lending rate for his funds. His knowledge of the market would be imperfect and he would probably be obliged to use an intermediary with far greater knowledge and experience. The risk premium, demanded in an inflationary situation, would have to be shared between them and the real profit to the producer would be greatly diminished. The possibility of lending reserves was never mentioned during interviews with manufacturers, who regarded the choice of decision as lying between producing and holding reserves in the form of gold.

1. Interviews at Bank Karya Pembangunan and Bank Negara Indonesia, Bandung. 24.11.64.

Final costs and trends.

Lack of data and unusual economic circumstances preclude the possibility of combining these factors in estimations of final cost variations. However, we can use the calculations made by A.K.Sen, who combined mechanisation, capital costs, variable costs, and working capital costs to reach measures of profitability of different weaving techniques in India, and comment on them in relation to the Indonesian textile industry.

Sen's calculations covered the five different weaving techniques described in Table 24. He was able to show that although the value added per loom (the degree of mechanisation) rose in the order of loom given, the wages bill could mean that the order of the rate of surplus was different. He ignored capital considerations at first but applied five different wage rates on each production technique giving rise to five different potential surpluses and rates of surplus. The rate of surplus was obtained by dividing the potential surplus by the capital cost involved. This is the same as a measure of profitability of one unit of capital investment. The other steps of the calculation are shown in Table 26.

The semi-automatic handloom appears as the most profitable investment with the lowest wage rate while the factory non-automatic power loom is the most profitable with the highest wage rate. The automatic power loom becomes more profitable than the less technically advanced methods when wages are high. But these calculations take no account of differences in managerial resources and benefits from scale of operation. If it is assumed that the table comprises purely technical costs and advantages the results can be modified in the light of the analysis of the earlier part of this chapter.

TABLE 26.

POTENTIAL SURPLUS AND RATE OF SURPLUS FOR FIVE WEAVING
TECHNIQUES IN INDIA.

Technique	Capital cost per loom Rs.	Value added per loom per year Rs.	Wages bill per loom Rs.	Potential surplus per loom per year Rs.	Rate of surplus (per cent)
I	50	450	300	150	300
			600	neg.	neg.
			900	"	"
			1200	"	"
			1500	"	"
II	200	1500	300	1200	600
			600	900	450
			900	600	300
			1200	300	150
			1500	0	0
III	1500	2250	300	1950	130
			600	1650	110
			900	1350	90
			1200	1050	70
			1500	750	50
IV	4000	6000	300	5700	143
			600	5400	135
			900	5100	128
			1200	4800	120
			1500	4500	113
V	10000	6000	38	5962	60
			75	5925	59
			113	5887	59
			150	5850	58
			188	5812	

Source:- A.K.Sen. Choice of Techniques. p.107

Managerial costs:

One of the most important causes of variations in cost structures was the quality of management. In Indonesia where the Chinese and more experienced Indonesian weavers tended to invest in the more mechanised

equipment their greater administrative ability would have helped give the more advanced techniques a higher profit rate. However, if the ATM corresponds closer to Technique IV and the ATBM to Technique II the table does not explain why these allegedly more astute entrepreneurs choose the less profitable technique.

Capital costs:

If capital costs are financed by cheap credit¹ and severe inflation their importance diminishes and the final rate of surplus increases until finally, when initial investment has no relevance to cost estimates, the rate of surplus loses its meaning. The profitability of the enterprise would then be measured by potential surplus in which case the most highly mechanised method would be the most profitable method. It might even be true that, while repayments had to be made on locally made looms, the more highly mechanised looms purchased overseas cost nothing since part of the foreign exchange allocation was sold on the blackmarket to finance the investment.

Therefore, in Indonesia the more mechanised and larger scale enterprises would be relatively more profitable than is indicated in Table 26. However, until capital cost can be completely disregarded in both cases, or partially ignored in the more highly mechanised process there would be no difference in the ranking of rates of surplus because smaller percentages of depreciation make no difference.

1. See Appendix A.

equipment their greater adm

...

...

...

...

...

...

...

...

...

...

...

Wages:

As the rising cost of yarn, through a shortage of supply, lowered the value added per loom, the cottage and small scale weavers were pushed out of business because they could not accept a lower income. Sen showed how vulnerable the cottage industry was to a rise in wages or to a fall in value added. A 33 per cent reduction in value added would put the small producer out of business. It is also true in Indonesia that cottagers were already on very low incomes before the cost of yarn began rising because of shortages and the expansion of the more efficient firms. The decline in real factory wages of women and young men provided the large firms with a further advantage over self-employed weaver. Hence a comparison of equal wage rates amongst the techniques might not be realistic. It might be more relevant to compare the wages of Rs. 1200 per loom of the first three techniques (presumably small scale) with Rs. 600 and Rs. 75 per loom of the last two techniques, respectively. The most profitable technique then is the second with 150 per cent rate of surplus followed by the fourth with 135 per cent. If, however, it is not realistic to suppose factories can purchase the labour of young boys and women at a lower price than the acceptable returns to effort of a self-employed weaver, reasons for the choice of Technique IV must lie with capital and credit costs.

Different raw materials costs:

The final cost of yarn depends greatly on whether the weaver processed only his allocation or whether the weaver purchased extra yarn on the free market. This uncertain cost of production makes Sen's calculations of limited value in analysing the Indonesian textile industry. Chapter VI demonstrates how the difference between official

and free market price might be regarded as an indication of the range of profitabilities if it were assumed that the official price was just too expensive for production to take place in the small firms. If, on the other hand, small weavers sold yarn which might have been processed at profit because returns from sales were greater than returns from production, the range of profitabilities from processing would not be represented by the differences between official and free market prices.

Allowance for working capital:

But another factor which is important to the rate of surplus is the working capital requirements of the firm. Table 25 of this chapter showed how working capital as a percentage of fixed capital was 326 per cent for the first technique and fell to 45 per cent for the fifth technique. A.K. Sen found that when working capital was included in total capital requirements, there was a change in the order of profitability of the techniques. He used a new formula for the rate of profitability:

$$p = \frac{A - R}{K + nR}$$

where A = value of annual output,

R = annual recurring costs,

K = fixed capital,

and n = ratio of the time working capital was locked up to one year.

Table 27 shows the new rates of surplus when profit is divided by the sum of working capital and fixed capital, when there is no time lag and when there is a three months' time lag ($n = 1/4$). The first section of the table repeats Sen's selective wage rates and bills. He has selected different wage rates for the five techniques presumably on the assumption that factory wages are higher because of higher physical productivity. However, for the analysis of the Indonesian weaving industry it would have been preferable to consider declining wage rates. This was done in the second half of the table when the small scale wage rate was assumed

to be Rs. 5 per day and the large scale, mechanised wage rate was taken to be Rs.3 per day. After modifying the original calculations (column II) for wage differences under inflation and the burden of working capital (column VI) the magnitude and order of magnitude of profit rates are radically changed.

The data show that Technique IV which is roughly comparable with the ATM loom in large enterprises performs consistently better than others in all cases except when there is no time lag and when wages are higher in factories than in cottages. All techniques are affected by working capital considerations but the automatic power loom (Technique V) is much less affected than the others. The small scale handweaving establishments are very susceptible to change although they can be shown to be highly profitable with a low wage rate and no working capital considerations.

TABLE 27.

RATES OF SURPLUS FOR FIVE WEAVING TECHNIQUES USING TWO ALTERNATIVE TIME LAGS FOR WORKING CAPITAL AND FOR TWO ALTERNATIVE WAGE SCALES.

Technique	Rate of Surplus			Rate of Surplus		
	Daily wage rate Rs.	No lag (n=0) %	Three month's lag (n= $\frac{1}{4}$) %	Daily wage rate Rs.	No lag (n=0) %	Three month's lag (n= $\frac{1}{4}$) %
	I	II	III	IV	V	VI
I	1	300	32	5	neg.	neg.
II	3	300	39	5	0	neg.
III	3	90	40	5	50	21
IV	5	113	51	3	128	58
V	5	58	40	3	59	41

Source:- A.K.Sen. Choice of Techniques. pp.107, 110-112.

Final differences in profitability would further be accentuated in the Indonesian case by the fact that the time lag is very likely more than three months because of the cumbersome nature of the importing and distributing process. It has already been noted that working capital for raw materials has been known to be locked up in this process for six months. If there are to be very long time lags the most modern equipment will be preferred.

Nor do these calculations make allowance for variable costs of working capital through different degrees of debt and different interest rates. Inflation has aggravated the discrepancy in the cost of borrowed working capital to the disadvantage of the small and less mechanised weaver because it has reduced his credit-worthiness. This would tend to widen further the range of profitability of weaving enterprises.

To these cost influences must be added varying qualities of administration at the plant level and in marketing.

Conclusion.

This chapter studied diverse cost structures on the assumption that the largest factories were the most efficient, although it was recognised that there existed a number of exceptions, and the main sources of differences examined were divided between fixed and variable costs.

Managerial ability was found to be largely a question of racial origin of the owner-manager and was expressed in attitudes towards commerce in general and re-investment of profits in particular, as well

as financial and marketing arrangements. The quality of management in the past led to the size of the firm at the present time and both current size and quality of management are the main determinants of present financial and marketing advantages. An underdeveloped country has more complex and numerous marketing channels, so that those Indonesians with marketing knowledge can achieve advantages not normally expected in an industrial country. Standardization of quality is also important because of competition from imports, and this factor must be included in marketing knowledge and experience. The cartels of Japan did not exist in Indonesia, and efforts at cooperative activity were only partially successful. The large enterprise sometimes had the financial resources to retail its own produce and thus eliminate the profits of the several middlemen in a cumbersome distribution process, and if it also possessed the initial funds it could stock its produce long enough to benefit from the speculative movements caused by irregular supplies of raw materials. Risk costs did not have to be spread amongst several intermediaries. Experience in Japan suggests that if the small scale weavers had been able to pool their resources and set up their own marketing organisation the discrepancy in final costs between large and small textile manufacturers would be greatly diminished.

New capital investments and the repayment thereof were not a serious burden on costs because inflation rapidly diminished the real value of the debt and there was the possibility in some cases where machinery was imported that no repayments were necessary because part of the foreign exchange allocation at the official rate was transferred into Rupiahs on the free market in order to repay the bank. The difficulty of

capital investment cannot be regarded as the cost but as the acquisition of credit and foreign exchange allocations. In this way inflation and several exchange rates benefited the most efficient and credit-worthy entrepreneurs. Depreciation was ignored by all firms because of underutilisation of present capacity and the belief that the government would offer substantial financial assistance when the time came for renewal or repair of machinery. Those entrepreneurs who invested in the most efficient method of production benefited most from inflationary influences on the repayment of capital investment.

Thus one of the advantages of the cottage industry in having a low capital-to-output ratio was lost in the Indonesian weaving industry.

The variations of costs due to raw materials depended on shares of yarn purchased on the free market. The higher priced free market yarn is demonstrated in Chapter VI to be due to low and extremely irregular supplies of raw materials.

Wages provided the large manufacturer with another advantage during inflation because the cost of hired labour, mostly women and young men, lagged increasingly behind the cost of living. This meant that the advantage of labour-intensive processes in small enterprises was lost in the Indonesian weaving industry.

If weaving is regarded by cottagers as merely a supplementary source of income, which would imply part-time work or the use of female relatives, these wage differences might not exist. Disadvantages in costs would then lie in credit and marketing facilities, and in the absence of depreciation charges.

It was thought that labour productivity fell to some extent as a result of workers having to seek extra employment but that this fall was not as great as the decline in real wages.

In as much as large factories used power equipment, where small ones did not, inflation placed the former at a cost advantage because the cost of state electricity, like the cost of most government services, lagged

far behind the rise in prices in general. Spinning and finishing factories which had their own private generators often had to turn to the free market for solar fuel and this raised power costs very much.

Inflation increased the costs of working capital and it was not difficult to show that the financially weaker firm at the beginning of inflation became absolutely and relatively weaker after a period of inflation.

With the help of A.K. Sen's calculations of the relative profitabilities of five weaving techniques in India it was demonstrated that through the effect of inflation on wages and interest rates, as well as through the burden of erratic and infrequent supplies of raw materials on capital resources, the magnitude and order of relative profitabilities could be radically altered. In every case of a chief factor of production, inflation cast a greater burden on the small scale handweaving enterprises than on the larger modern plants.

Thus with cheap capital, the capital to output ratio was not as important, as a disincentive, to the individual manufacturer as is usually thought, while the trends in operating costs, such as wages, power and credit costs, have been to the advantage of the large scale firm. Finally, the standardisation of quality of output provided manufacturers with mechanised looms with a more favourable market.

The cartelisation of weavers in Japan provided obvious advantages of working capital and marketing to Japanese small scale entrepreneurs. In the absence of inflation and with effective cartels or producer cooperatives the Indonesian small scale industry could improve its

position and might even be able to continue for some years. But without these two conditions it would seem that small scale, unmechanised weaving is a costly liability. Moreover, as inflation proceeds unchecked and the efficacy of government support for small weavers declines the range of costs per unit of production is likely to increase.

CHAPTER V

THE SUPPLY AND DISTRIBUTION OF RAW MATERIALS

Nearly all textile raw materials are imported and their supplies are important not only because they determine current capacity utilisation rates but because they act as an incentive to further expansion of the industry. If these imports had been maintained at a constant high level their importance would not have justified a separate chapter for the importing and distribution process. It was because they were permitted to undergo enormous fluctuations causing weaving capacity utilisation rates to vary between 16 and 57 per cent¹ that it was found necessary to explain the determination of imports of raw materials; these include import planning, credit policy, the state of the economy and changes in the emphasis of government intervention. There is an inevitable overlapping between Chapters V and VII. This chapter deals with all the determinants of the supply and distribution of raw materials, including protection and in particular the method of rationing through the allocation system, while Chapter VII deals with the effect of protection on the profitability of the industry. The amount of overlapping has been minimized without sacrificing clarity.

The internal market for yarn developed characteristics such as very high prices and speculative hoarding, the latter largely due to intervention of the government in providing low priced yarn allocations. Chapter VI explains, by using microeconomic theory, how these high prices and the speculation in stocks were reached. This chapter describes government

1. See Table 29.

policy on the distribution of raw materials and the process by which that system of distribution broke down and led to the free market in yarn.

There are two reasons why spare parts are not as important to this thesis as cotton and yarn. First, in recent years the small amounts of foreign exchange available to the textile industry were devoted to purchasing cotton and yarn in order to utilise those machines still in running order or which could be repaired in local metal workshops. Second, spare parts are usually specific to one type of machine and cannot be easily bought and sold. Therefore, the disruption to the distribution of spare parts, caused by unequal production cost structures, was not as great as the disturbance to the distribution of raw materials. Like raw materials, spare parts were obtained at different times through private orders and government allocations, and the difficulties that were encountered in acquiring supplies of them are adequately covered in this study of raw materials; because of this no special reference to them will be made. The subject of this chapter is difficult to document and analyse, and no special service will be rendered by introducing spare parts as another manufacturing requirement warranting investigation.

The chapter will be divided between the supply of raw materials (mainly yarn) and their distribution. Each section will show to what extent government policy failed and what were the effects of that failure.

It will be useful to first describe the size and fluctuations of supplies of raw materials as a source of reference ^{for} to the analysis of this chapter. Such data will assist in indicating the impact of adverse influences on supply as well as the strength of incentives to circumvent regulations on its distribution.

CHART I

IMPORTS OF RAW COTTON AND YARNS: 1952 to 1963.

(WEIGHT-METRIC TONS)

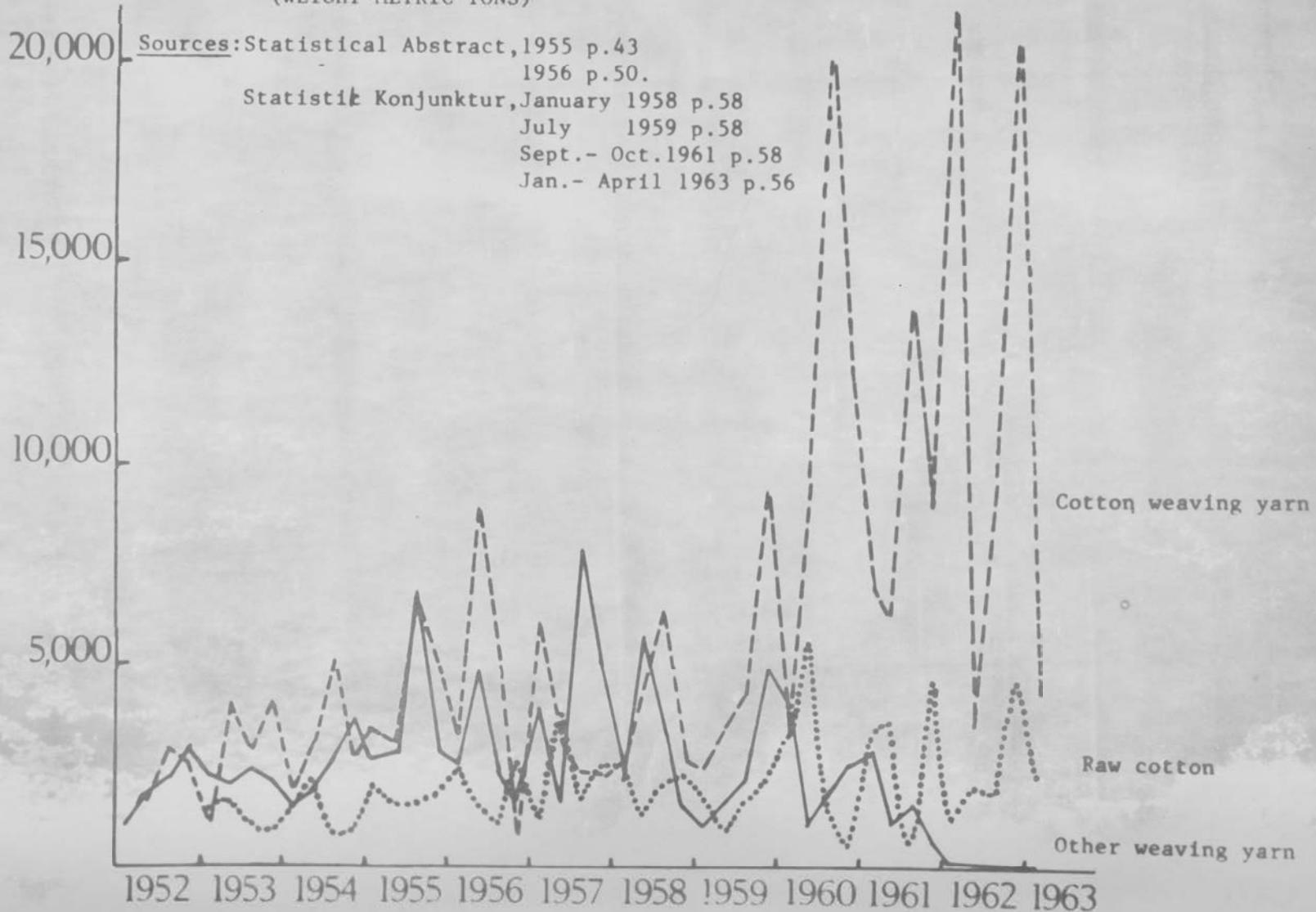
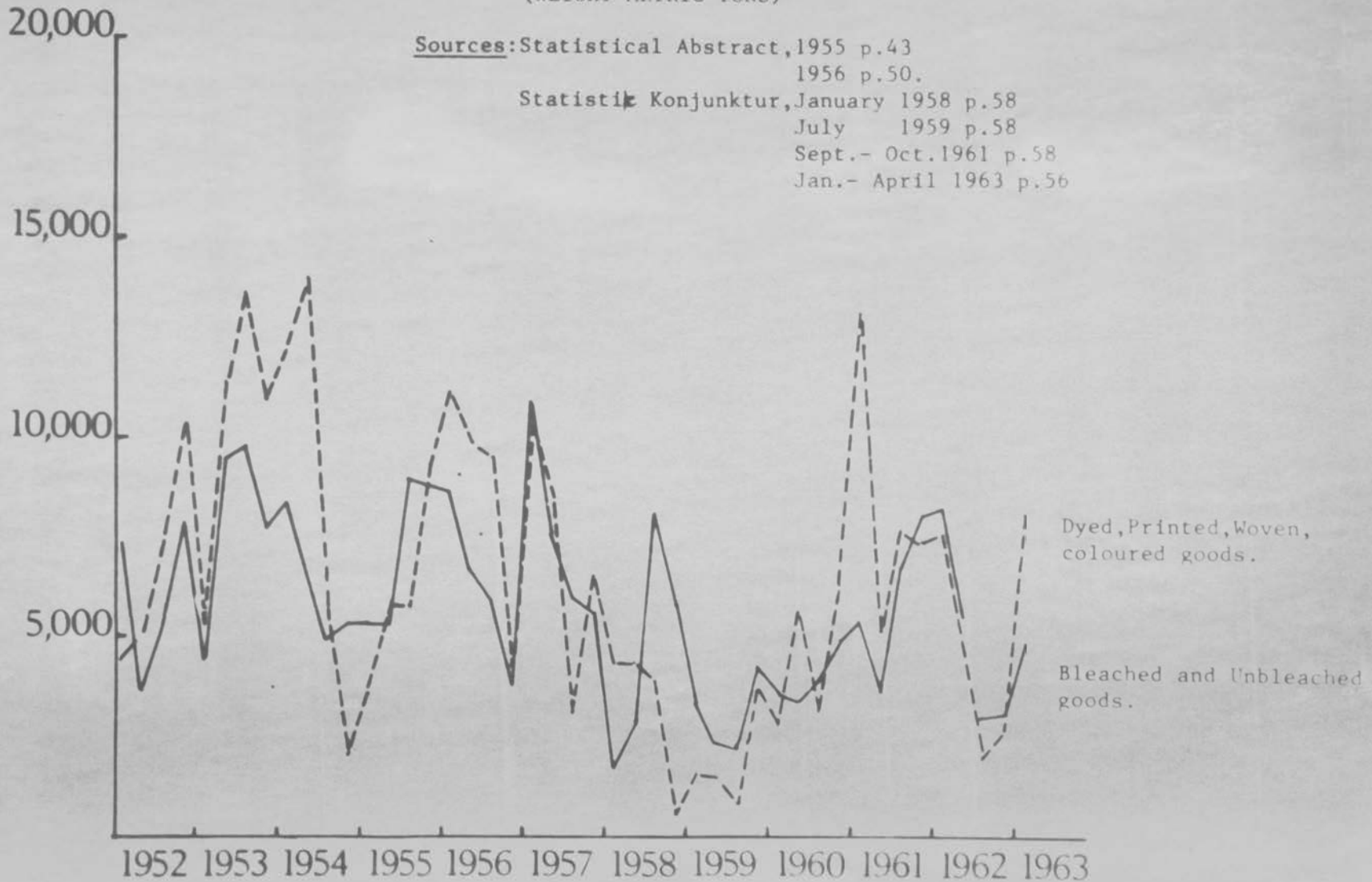


CHART II

IMPORTS OF COTTON PIECE GOODS: 1952 to 1963.

(WEIGHT-METRIC TONS)

Sources: Statistical Abstract, 1955 p.43
1956 p.50.
Statistik Konjunktur, January 1958 p.58
July 1959 p.58
Sept.- Oct. 1961 p.58
Jan.- April 1963 p.56



Data on supplies of raw materials.

Table 28 presents data for full capacity requirements of the spinning, weaving and knitting industries, while Table 29 contains a record of annual supplies of raw cotton and yarn from both imports and domestic production. Charts I and II illustrate quarterly changes in these imports as well as in imports of finished cotton piece goods. A comparison of yarn and cloth imports provides some indication of the importance placed by the government on the supply of raw materials.

From Table 28 it can be seen that the raw material requirements of the modern spinning industry and the handweaving industry trebled over the whole period while the powerloom weaving capacity input only doubled. This meant that raw cotton requirements increased proportionately more than total yarn requirements. There was a very sudden rise in yarn requirements in 1957 and 1958 which was accompanied by critical shortages of supplies. This occurred as a result of the strong imports of the preceding years which provided incentives for further investment but which depleted foreign exchange reserves so much that the high level of imports of raw materials could not be sustained.¹

1. The high level of imports of textile materials in 1955 and 1956 was accompanied by heavy importing of many other goods which contributed to the later balance of payments difficulties.

TABLE 28

REQUIREMENTS FOR RAW MATERIALS FOR THE SPINNING AND WEAVING

INDUSTRIES: 1950 - 1964

SPINNING		WEAVING			
(tons of raw cotton)		(tons of yarn)			
		ATBM	ATM ₁	ATM ₂	TOTAL
1950	N.A.	25,920	9,470	13,644	49,034
1951	N.A.	25,595	10,014	14,424	50,033
1952	6,117	24,859	10,135	14,606	49,601
1953	6,455	24,389	10,870	15,658	50,916
1954	9,488	26,797	10,439	15,038	52,274
1955	9,488	28,388	10,376	15,307	54,072
1956	11,598	30,577	9,598	13,844	54,008
1957	11,598	41,588	12,800	18,437	72,826
1958	11,753	76,535	13,826	19,906	76,535
1959	11,869	N.A.	N.A.	N.A.	N.A.
1960	11,905	54,000	14,129	20,366	88,495
1961	N.A.	N.A.	N.A.	N.A.	N.A.
1962	15,613	80,606	16,958	24,456	122,021
1964 (Nov)	21,471	N.A.	N.A.	N.A.	N.A.

Source:- The capacity inputs are based on equipment recorded in Table 13 and using the following conversion factors:

(i) spinning: the number of spindles is taken from Table 15 and the ratio of spindles to input is from Pembangunan Industri Rakjat p.11, Department of People's Industry, Djakarta, April 1962. Three shifts, 260 days a year is assumed to be full capacity.

(ii) weaving: the ATBM uses 1.5 kg., the ATM₁ 3.5 kg., and the ATM₂ 5.0 kg. per shift. (Evie Koo, The Textile Industry, Now and the Future, p.63). One shift a day is assumed for the ATBM, and two shifts for the ATMs, and 240 days a year for all looms.

(iii) Knitting: there is no information on the input capacity of the knitting machines, but Table 13 provides a capacity (240 days) of 4,250 tons in 1959. This represents about 6.5% of total weaving requirements.

TABLE 29

SUPPLIES OF RAW MATERIALS 1950 - 1962.

RAW COTTON (tons)				YARNS (tons)				
Dom- estic Prod- uction	Imports	Total	ratio of supplies to require- ments	Dom- estic Prod- uction	Imports	Total	ratio of supplies to require- ments	
1950	1,363	2,860	4,223	-	2,450	15,317	17,767	36
1951	738	4,042	4,742	-	2,943	5,812	8,755	16
1952	300	4,071	4,371	71	3,709	8,228	11,937	22
1953	223	5,078	5,301	82	4,567	12,959	17,526	34
1954	304	5,684	5,988	63	4,902	14,374	19,276	37
1955	173	7,116	7,289	77	5,531	17,957	23,488	40
1956	150	7,841	7,991	69	6,144	20,465	26,609	45
1957	158	9,327	9,485	82	7,246	10,554	17,800	22
1958	N.A.	8,124	8,124*	69	7,898	16,868	24,766	30
1959	N.A.	6,493	6,493*	55	5,826	20,486	26,312	-
1960	50	11,117	11,167	94	6,000	49,342	55,342	57
1961	104	12,157	12,260	-	8,114	50,263	58,377	-
1962	57	10,591	10,648	68	7,134	29,542	36,676	22

Sources:-

Raw cotton production, 1950-57, Panglaykim. Some Facts and Figures of Textile Production in the Country, p.26.

Yarn production, 1950-54, Ibid, p.27.

Raw cotton production 1960-64, from P.P.Serat, Department of Agriculture, Djakarta, November 1964. (these figures are actually for 1959-60 to 1962-63).

Imports 1960-62, Statistik Konjunktur, January-April, 1963, pp.56-7.

Imports 1963. Business News. 5.7.65.

Yarn production 1961-62. Usaha Pembangunan, Department of People's Industry 1964, p.2.

Yarn production 1955-60. Sadli, Mulia, Kadarijah, Zain and Sulti.

Masalah Pertekstilan Dewasi Ini. p.15.

Raw cotton and Yarn production. 1950-59. Statistik Konjunktur 1956. pp.50-1; 1961. pp.58-9.

* This figure assumes there was no domestic production.

Unfortunately information on stocks could not be obtained and it is doubted whether it even exists. The figures for utilisation rates were calculated on the assumption that no stocks were held, or if they were held, they remained at a constant level. Stocks are known to have accumulated in the periods of heavy importing of 1951 and 1959-60.¹ But if utilisation rates were calculated for longer periods, say two years, the effect of this kind of error might be reduced.

The high rates of utilisation in the spinning industry could have been due to the definition of capacity of 260 working days a year.² There is a tendency in Indonesia for the spinning and finishing factories to be open on some days when other factories close because they have capacities less than those of the weaving and knitting sections.

Nevertheless, a comparison of spinning and weaving utilisation rates shows an extraordinary disparity between levels of activity within one industry. Moreover, the fluctuations in these rates were much greater for weaving than for spinning. If knitting requirements were included the utilisation rates for weaving would be lower.³

Information on supplies after 1962 are not comprehensive, and the available data come from several sources. Domestic production of cotton declined in the last few years and was reduced to an insignificant

-
1. See Chapter VII, 'Protection and the Influence of Inflation'.
 2. The Department of People's Industry uses 300 working days a year but this is thought to be unrealistic.
 3. In 1959 the knitting industry could absorb 4,259 tons of yarn (See Table 13). In 1962 this was probably about twice as much, or about 8 per cent of weaving capacity requirements.

share of total supplies of cotton in 1962. As might be expected under the import replacement plan for spinning the domestic production of yarn rose faster than imports of yarn. The former approximately trebled over the twelve-year period while the latter increased a little more than 100 per cent.¹

The low figure for 1951 marks a period of keen competition from cloth imports and the overstocking of imports, resulting from a miscalculation of demand.² Figures for the period 1957-58 show a severe fall in utilisation due to the harsh import regulations of June 1957 when all import costs were greatly increased and raw materials were not provided with strong tariff protection.³ In the 1960s the depressed state of the whole textile industry was due to a general foreign exchange shortage.

Domestic production of cotton was 400 tons in 1963.⁴ Agreements signed with the U.S. under P.L.480 between 1959 and 1960 provided for \$ U.S.23 million of raw cotton for 'direct use' and \$3.4 million of yarn to be shipped to Indonesia after it had been processed from raw cotton by a third country.⁵ This amounted to 5,143 tons of yarn and about 36,000 tons of raw cotton which was more than enough to account for the recorded imports of cotton in 1959 to 1961 inclusive, without any other supplies being imported. The consignment of yarn, on the other hand, represented only about 4 per cent of total yarn imports for the same

-
1. Yarn imports experienced large fluctuations and it is difficult to estimate a long term trend for them.
 2. Report of the Java Bank 1951-52. p.190
 3. Interview at Department of People's Industry, Djakarta, November 1964.
 4. Unpublished data, Djakarta, May 1965.
 5. U.S. Embassy, Djakarta. 9.11.64.

period. It is possible that since these figures came from U.S. sources part of the raw cotton which was designed to go for direct use in Indonesia was sent to a third country for processing. Total P.L. 480 cotton and yarn amounted to approximately 27 per cent of total imports of cotton and yarn between 1960 and 1962 inclusive.

Another agreement under P.L. 480, signed in 1962 provided for \$16.5 million of raw cotton to be processed in a third country and sent on to Indonesia, and \$19.8 million of raw cotton for direct use.¹ This consignment was in four parts, and the last never arrived because of the government's policy of Confrontation towards Malaysia. At the most, only \$11.6 million of the \$19.8 million of direct use cotton arrived but it is not known how much of the yarn from third countries arrived.² Therefore, although about 46,000 tons of cotton and yarn were due to be sent, possibly not much more than 25,000 tons were received. Total cotton and yarn imports in 1962 were of the order of 40,000 tons, so that even if 1963 imports were as much as the 1962 figure, P.L. 480 supplies were approximately 31 per cent of total supplies. It is thought that 1963 imports were a great deal less ~~than~~ ^{and} the share of P.L. 480 supplies therefore much higher. One report states that 71,700 bales (or 15,370 tons) of yarn were received in 1963.³ This is less than half the 1962 level of imports.

1. Ibid,

2. Between March and December 1962 \$U.S.5.7 million of raw cotton arrived in Indonesia, and between April and December 1963 another \$5.9 million arrived. There were no further shipments of direct use cotton.

3. Business News. Djakarta. 25.2.65.

As the foreign exchange situation deteriorated the country came to rely heavily on P.L. 480 raw materials. When they stopped in 1964 the textile industry virtually stopped also.

In 1964 2,250 tons of yarn arrived from China on credit.¹ It is believed a small amount arrived from third countries under the P.L. 480 agreement signed in 1962. Domestic output was 7,000 tons of yarn.² Therefore, it can be concluded that total yarn supplies in 1964 were not much more than 10,000 tons, representing less than 10 per cent of weaving capacity requirements.

The very high utilisation rate for 1960 was in response to the preceding disastrous years when the shortage of textiles produced an enormous rise in textile prices.³ The general level of activity in the weaving industry is a reflection of the efficiency of the government's protection policy which is discussed in Chapter VII. It is worth bearing in mind that large quantities of cloth were being imported while this underutilisation was being tolerated.

Planning of imported raw materials.

Pre 1959:

Before 1959 the planning of textile raw materials was sporadic and influenced by the immediate past experience of the industry and the strength of its lobby. The years when there appeared to be planning within the period 1950 to 1959 were years when the state of the balance of

-
1. Commercial Advisory Foundation of Indonesia, Djakarta. Circulation 45/HM/64.
 2. Unpublished data, Djakarta, May 1965.
 3. There was an 82 per cent rise in Djakarta textile prices between 1957 and 1958. This was much greater than for other goods.

payments required the imposition of quantitative restrictions and at such times the government was obliged to demonstrate its support for the textile industry in specific terms. It is true that when quantitative restrictions were imposed the textile industry usually, though not always, received favoured treatment, but at other times it was expected to be able to compete with other imports, including finished textiles, assisted only by tariffs. If it failed to do so direct intervention was not automatic. Moreover, it was obvious on several occasions that within the government administration the left hand did not know what the right hand was doing. Encouragement to domestic manufacturers would be given by greater tariff protection while at the same time this protection was being undermined by inflation whose influence might have been prevented by quotas. At other times there was uncertainty as changes in Cabinet led to a reversal of the privileges formerly extended to the industry.

The availability of supplies of raw materials was the result of a trial and error policy which caused great uncertainty and lack of confidence amongst textile manufacturers. However, the resulting fluctuations in imports of raw materials were short run and the data in Table 29 show a steady annual increase between 1951 and 1956. Therefore, in spite of the fact that during this period there was no obvious single instrument of planning for raw materials which could be said to characterise government support for the industry the supply of yarn rose steadily, although capacity utilisation rates could not be said to do the same.

The steady increase might be considered as evidence that, on balance, import policy was favourable to the textile industry and, therefore, that some semblance of planning was constantly in the background. However, at the same time, foreign exchange earnings and imports of finished textiles fluctuated greatly, and, when in 1953 and late 1955 cloth imports enjoyed a large increase, yarn imports reflected only their moderate long run trend upwards. Therefore, while the industry enjoyed progress until 1956 it was not permitted to enjoy bonus exchange earnings or to presume too much on the profitable trade in finished textiles imports.

There is no reason to believe that the government deliberately intended this to happen. What is of interest here is to demonstrate how the type of intervention in supplies of raw materials to the industry which the government chose led to this situation.

1. Progress 1951-56:

Chapter II described the difficulties facing the industry in 1950 and the outcome of the monetary purge and rise in import prices. One of the consequences of the liberalisation of the quantitative restrictions of that year was that in the prevailing domestic inflationary situation there was a shift from production to competitive imports. Added to this was the unfortunate miscalculation of market demands which resulted in an overstocking of imports, particularly of finished textiles, because the backlog of demand from the war years had been satisfied sooner than expected. Traders released their stocks in an attempt to restore their liquidity and the fall in textile prices meant that weavers could not

produce except at a loss. This was the reason for the sharp fall in imports of yarn (shown in Table 29) which was the base from which later supplies improved.

In August 1952 surcharges were imposed on all textile imports except raw cotton, yarn, and the simpler forms of textiles,¹ but a credit restriction policy in that year acted to reduce all imports, and raw material imports were unable to take advantage of the tariff protection.

A revision of surcharges in January 1953 reduced the tariff advantage which raw materials enjoyed over finished textiles imports but the effect of this was partly eliminated by a reduction in all imports in the first quarter of 1953. When the foreign exchange shortage became acute yarn and cotton imports were guaranteed by quotas in May 1954 while imports of finished cloth fell sharply. Chart I shows the rise in yarn imports in the second half of 1954 and Chart II shows the enormous fall in cloth imports. The Department of Industry was granted an allocation of foreign exchange which it divided between raw materials and finished textiles. There is no reason to believe the textile industry suffered more discrimination at this time than at any other time. In fact, the position appeared very favourable to the textile industry. It was, therefore, most unfortunate that the government chose that period in which to devise a scheme for controlling imports of all textile materials. In 1954 the Jajasan Perbekalan Bahan-2 Perindustrian (J.P.P.- Foundation for Supplies of Raw Materials)² was established with the responsibility

-
1. W.M.Corden and J.A.C.Mackie. Malayan Economic Review. Vol.VII. No.1. April 1962. p.47
 2. Report of Bank Indonesia 1954-55. p.103

of fixing quantities and qualities of textile materials. The Benteng importers and officers of the J.P.P. were Indonesians of little experience and there were many complaints from weavers of wrong quality yarns. When the Foundation was first established import quotas prevailed and the general shortage of raw materials justified some kind of controlling agency, but the morale of its officers was such that the Foundation was soon indulging in illegal manipulations of stocks in its care and aggravating a situation it was designed to prevent.

In 1955 in spite of much larger imports there was speculative hoarding in yarn and the textile industry was reported to be functioning at only 50 per cent of capacity.¹ When it was seen that there was little reason for continuing this complex system of control, part of the importing of textiles was freed while yarn imports remained controlled. This provided cloth imports with an advantage over yarn imports at a time when the balance of payments would have favoured good supplies of all commodities, and the situation was only rectified in September 1955 when the activities of the J.P.P. in the field of textiles were terminated.

A month after the new Cabinet took office in August 1955 quotas were abolished² and yarn imports were dependent for protection on surcharges whose efficacy had been eroded by several years of inflation

-
1. J.P.Meek. (The Government and Economic Development in Indonesia, 1950-54. p.267) has suggested that this was due to inflation. But inflation accompanied by a reduction in quotas would have led to anticipations of cheaper cloth imports in the future and the utilisation of stocks of yarn in the present. It is more likely that speculation was the aftermath of previous greater shortages and the fear that scarcity would return in the next year or so. Certainly the irregular import policy up to that date was sufficient to provoke such expectations.
 2. Report of Bank Indonesia 1955-56. p.113

(although there was a small reshuffling of surcharges in September). The result of this sudden release of overseas competition was the sharp fall in imports of yarn while imports of finished textiles proceeded to rise.¹ There followed a short-lived period of prosperity for the textile industry between the first and fourth quarters of 1956 when supplies of raw materials were assisted by special credit measures. In November 1955 prepayments were rescheduled for industrial raw materials by allowing the alternative to importers of a 75 per cent prepayment without the burden of the surcharge, or a 50 per cent prepayment plus a 50 per cent surcharge.² Charts I and II illustrate the gain made by raw materials and the decline in cloth imports. When Bank Indonesia reduced its credit facilities for importers' prepayments in July 1956³ national importers of capital goods and raw materials were given favoured treatment. Surcharges could be paid by them when shipping documents had arrived at a bank in Indonesia instead of at the time of making the application for an import licence. In the conditions of limited working capital prevailing at the time, this was of great importance particularly since inflation had weakened the competitive position of the industry since the last devaluation.

Credit policy was the main reason for the strong position of raw material imports in 1955-56. A reclassification of surcharges in September 1956 reduced duties in general and left raw cotton⁴ and yarn⁵

1. See Charts I and II

2. Report of Bank Indonesia 1955-56. p.151

3. H.O.Schmitt. Monetary Policy in the Political Economy of Indonesia. Chapter 4. p.5. 1958

4. Ibid. Chapter 4. p.11

5. Report of Bank Indonesia 1956-57.p.120

duty free, but the level of tariff protection to the textile industry was less. By the third quarter of the year the warehouses were full of yarn because of financial difficulties encountered in their clearance. The record rate of capital utilisation of 45 per cent in 1956 was due to the high level of imports in the first half of the year.

2. Protecting the economy before the textile industry, 1957-58:

In 1957 the problems of the economy as a whole required full attention and the issue of support to domestic industry was considered less important. In June the Bukti Ekspor (B.E.) Inducement Certificate¹ was introduced for all imports. The reclassification of surcharges² was not sufficient to offset the inevitable large increases in import costs. Moreover, the current inflation had the effect of diminishing the benefit of tariff protection. Imports of yarn declined after mid 1957 but rose again in early 1958 largely because of the extra credit facilities made available to essential imports to counter the effect of the B.E. Certificate. But these two years taken together were disastrous for a large part of the weaving industry and helped to introduce, in 1959, the system of direct planning of raw materials.

Departmental planning, 1959-64:

The experience of 1957 and the erratic supplies of raw materials since 1950 had a profound effect on government attitudes towards the textile industry.

1. W.M.Corden and J.A.C.Mackie. op.cit. p.51

2. Ibid. p.45

When the Dutch importing houses, the Big Ten, were taken over in April 1957 this provided an opportunity for increasing the amount of direct government planning. Newly established limited companies, P.T.-2 Negara¹ assumed the functions of the Dutch companies until the Perusahaan-2 Dagang Negara (P.D.N. - State Trading Enterprises) were instituted in their place.² Seven of the nine Enterprises which were formed immediately undertook most of the importing of cotton, yarns, and textiles amongst other imports.³ In April 1959 they were given the sole right to import raw cotton, yarns, and textiles.

The shortage of foreign exchange compelled the government to introduce a system of exchange rationing and it became the responsibility of the Department of Trade to receive requests for foreign exchange from all departments, including itself, and to allocate foreign exchange according to its own discretion.⁴

The total amount to be allocated amongst the departments was decided by Bank Indonesia and the Cabinet by an uncertain procedure. Since the foreign exchange shortage had caused a rise in the exchange rate the government feared that unless part of its dollar earnings was set aside for raw materials at a low exchange rate the textile industry would become a high cost industry relative to those industries not requiring imports of raw materials. Thus the allocation of foreign exchange was made at a favourable rate.

1. J.Panglaykim. State Trading Corporations in Indonesia, First Year's Performance. p.6

2. J.Panglaykim. Ekonomi dan Keuangan Indonesia. Vol.XVI.No.2.1963.

3. The seven State Trading Enterprises were Aneka, Tri, Budi, Sedjati, Djaja and Marga.

4. Interview at the Department of People's Industry, Djakarta. 10.1.65.

In 1961 the allocating authority was transferred to the Minister Coordinator for Development¹ who relied on Trade Department officials for guidance.

Each department made a list of import requirements for the industries which came under its control.² Since the clothing production programme was under the jurisdiction of the Department of People's Industry the control and level of the activity of the textile industry was the responsibility of that department. Records of the licenced capacity of each manufacturer and, therefore, the full capacity input requirements of the total industry, were known by the Department. The request was then passed on to the exchange allocating authority and returned after a reduction had been made in the final account. The only power which the Department of People's Industry could have used to strengthen its case was to write a covering letter stressing the importance of individual industries.³

-
1. This Minister Coordinator had under his jurisdiction the Departments of Banking, Labour, National Research, People's Industry, Infrastructure, Manpower, Basic Industry and Mining, Development, Veteran and Demobilisation.
 2. The size of the application was based on two criteria; per capita requirements of cloth (a Cabinet decision) and domestic capacity. Although these estimates might have been quite different from each other they were always made as the preliminary figures for the final calculation. (Interview at the Department of People's Industry, Djakarta. 10.1.65).
 3. The application was made in October of the year preceding that of the projected imports and the allocation was normally granted in March-August of the relevant year. Because of the lengthy procedure of being granted an official allocation of foreign exchange the Department usually awarded about 75 per cent of the contracts to the P.D.Ns. months before the final exchange allocation was made. In 1964 when its application was halved there was some embarrassment when it appeared that orders already negotiated had to be reduced. (Interview at Department of People's Industry, Djakarta. 8.3.65).

During the period when the Department of Trade was determining imports (which in effect was until October 1964) the textile industry received a serious setback. The Department of Trade entered as a direct competitor with the Department of People's Industry by being responsible for the importing of consumer goods, notably finished textiles. When Cabinet decided cloth supply per head of population it did not specify how this was to be divided between imports and domestic production. The Department of Trade's own allocation of foreign exchange for importing textiles aroused bitter feeling within People's Industry which pointed out that while the domestic industry was short of raw materials the Department of Trade was provided with a mandate to estimate market demand on a quarterly basis: their own textile goods imports were not planned ahead in the detail required for raw materials. The Directorate of Imports (within Trade) reviewed the textile market quarterly and calculated by how much domestic production had failed to meet demand. On the basis of this deficiency it utilised the foreign exchange in its care for finished goods imports.

The only possible justification for the importing of such large amounts of finished textiles was the need to strengthen the financial position of the P.D.Ns. These Enterprises had always suffered from liquidity problems and they required quick and large profits. They were compelled to handle all kinds of exports and imports, some of which produced very small, if any, profits. It was very much a matter of 'what is lost on the swings must be made up on the roundabouts'. Imports, particularly finished cloth imports, offered very large profits.¹

1. Interview at the Department of People's Industry, Djakarta. 14.3.65.

The directors argued that if they were to continue to function smoothly as a government instrument, they had to be given an occasional bonus to help them financially.

Because of the increasing scarcity of foreign exchange and the influence of the Department of Trade's role in importing, the textile industry was unable to take full advantage of the exchange allocation system and the unfavourable exchange rate.¹

Chart I shows the decline in the level of activity after 1961 and Table 29 indicates the rate of utilisation of weaving capacity was 22 per cent in spite of the availability of foreign exchange for cloth imports. The total amount of foreign exchange offered all government departments in 1964 was only \$U.S.250 millions.² The application from People's Industry was halved. In September 1964 an allocation of \$55.22 millions for textile raw materials was made to People's Industry³ (for the year 1964) representing about 30 per cent of capacity requirements.

Another factor which caused uncertainty in the textile industry and which increased its competitive ability was that in the 1960s yarn was purchased on credit offered by India and Pakistan on condition that

-
1. In August 1959 allocations of yarn made on the basis of current supplies were 35 kg. per month per shift for the ATBM, 90 kg. for the ATM (width 1), and 135 kg. for the ATM (width 2). (Staff Working Paper at the Department of People's Industry, December 1964). This was enough for 23 working days a month for the ATBM, 26 working days for the ATM (width 1), and 27 working days for the ATM (width 2), one shift per working day. In 1960 and 1961 it was planned that the domestic industry should produce 60 per cent of total cloth supplies (or six metres per capita) and 40 per cent would be imported. (Departmental memorandum- People's Industry - by Hirawan, pp.19 and 21. 1964). Both programmes were about 80 per cent achieved, according to this report.
 2. Interview at the Department of People's Industry, Djakarta, 3.6.64.
 3. Departmental memorandum (People's Industry), 6.9.64. This decision was later overruled by KOTOE (see later in this chapter).

their own yarn was bought. Lack of supervision of these contracts caused large delays before India and Pakistan could organise the export of yarn and frequently it was of poor or inappropriate quality. Many weavers found they could not use their yarn allocations on their own machinery. The quality of the cloth was dependent on the quality of the yarn. If credit had not been tied to purchases from creditor countries some of these difficulties might have been avoided.

Private indenting continued through to 1964. In 1962 S.I.V.A. Inducement Certificates¹, which amounted to nearly free market price dollars, could be used to import anything. There was a period of several months after May 1963 when imports of all textiles materials were free from allocations. The effect was a rise in cloth imports and a fall in yarn imports. The government then allowed a special 'replacement' exchange rate for yarn imports² which promptly increased. In fact, stocks of yarn were built up in mid 1963, some of which were still in existence in late 1964.³ But because of the large imports of finished textiles this period was of limited benefit to the textile industry.

Private indenting after 1959 was not of importance to the industry as a whole.

In 1962 it was a smaller proportion of total supplies although it might well have been more important in absolute terms than in 1964; but it would have made a significant difference in output to the most efficient firms only.

-
1. On March 5, 1963 the 'Surat Izin Valuta Asing' Inducement Certificate was introduced.
 2. Interview at the Central Bureau of Statistics, Djakarta, 4.5.65.
 3. Interview at the Department of People's Industry, Djakarta, 8.3.65.

In 1964 the S.P.P. (Inducement Certificate) dollar was used for private indenting of the P.D.Ns., but as this was virtually the same as importing on blackmarket dollars it was very expensive. Officers at the Department of People's Industry believed that about 20 per cent of total yarn supplies in 1964 were purchased on S.P.P. dollars. This represents about 1 per cent to 1.5 per cent of capacity requirements.

Distribution of all supplies.

The distribution of raw materials shows how and to what extent the free market in official allocations developed. There was never effective control over this system, and together with private indenting of imports it meant that manufacturers were faced with a predominantly free market supply of yarn.

Official allocations:

Before 1959 there were two occasions on which official allocations of raw materials for the textile industry were made on a selective basis in an effort to protect the smaller manufacturer from the competition of the larger, more efficient, manufacturer in the weaving section.

At the beginning of 1955 the government offered the small scale and part of the medium scale weaving industry yarn allocations through the agency of the J.P.P.¹, but these were stopped in September of that year. A second attempt at selective intervention was made in 1957

1. Soehirman. Problems of the Yarn Market in Indonesia. p.28

when the government offered KOPTEKSI , the small weavers' cooperative, yarn at a controlled price for distribution amongst small weavers on the understanding that the cloth would be returned through the cooperative to the government at a predetermined price.¹

This policy of selective support came to an end in 1959 as a result of two important events.

First, in December 1957 Dutch enterprises were taken over by the government. This did not have an immediate effect on the supply of raw materials because most of the relevant goods were imported by national importers and, moreover, the Dutch importing houses were managed along their established lines of business by Indonesian personnel. Imports were affected in the short run only in so far as Dutch enterprises had purchased goods from Benteng importers and assisted them financially with advance payments. But the government saw a chance to overcome the inefficiency of the import trade which had arisen through inexperienced and 'briefcase' importers² by re-organising the big importing houses and the J.P.P. with new firms. In April 1958 the newly formed Perusahaan-2 Dagang Negara, the P.D.Ns., undertook to import much of the supply of textile materials. About 95 per cent of all imports passed through these organisations. In April 1959 the P.D.Ns. were given sole rights of imports of all textile materials. It was hoped that a more straightforward and better supervised distribution system would result.

1. Kadarijah. Development of the Indonesian Textile Industry. p.28

2. This was the term given to Benteng importers who obtained import licences on behalf of other businessmen, usually Chinese.

Second, the depression in the textile industry in 1957 and 1958 left a strong impression on the government. The weaving industry as a whole had operated at 22 per cent to 30 per cent of capacity¹ and there had been a large number of closures amongst the weaker firms. It was a situation which the government determined should not be repeated. In 1958 plans were drawn up to organise yarn supplies to all weaving enterprises by a system executed by the Department of People's Industry. In order to explain how the allocations system failed it is necessary to digress into a description of the roles of the several agencies which had a share in the cumbersome distribution procedure.

1. The role of the J.P.P.:

In 1955 and 1958 the J.P.P. was held responsible for allocating yarn to small weavers and for holding yarn stocks in order to stabilise the free market price. In the latter period it was decided to direct 40 per cent of yarn imports through the Foundation for distribution through the cooperatives, SOTEKSI and KOTEKSI, to their weaker members.² This arrangement was provoked by the closing down of many of the smaller weavers in previous years. The cloth which was produced from these allocations was also to be distributed by the J.P.P. The other 60 per cent of yarn supplies was to be distributed freely amongst enterprises of all sizes.

1. See Table 29

2. Soehirman. op.cit. p.31

2. The role of the Department of People's Industry:

Before 1958 the Department of People's Industry undertook to provide yarn to smaller firms during periods when official allocations were made and when the J.P.P. was not operating.

After April 1958 the Department placed orders for raw materials with importing houses on the basis of the final allocation of foreign exchange it received for supplying all firms.¹

The amount of yarn per machine was determined by the Department but the actual quantity offered each factory was fixed by the textile cooperatives on the basis of capacity licences registered with the Department. Any enterprise which did not have a licence did not receive an allocation.²

3. The role of the Price Control Office:

There has been official price control of all imports of raw cotton, yarn and finished textiles, including those finally allocated

1. The distribution of orders between the P.D.Ns. depended on the extent of each Enterprise's activities in the past (under another name) and on personal contacts in the Department.
2. The Department divided supplies of raw cotton between the spinning factories according to their capacities and included their produce in total supplies of yarn under its jurisdiction. But in the case of weavers and knitters the Department did not calculate the amount awarded to each factory. It merely instructed the cooperatives on how much yarn was to be allocated to each type of loom or knitting machine and then distributed the yarn supplies amongst the cooperatives in proportion to the total requirements of each cooperative in that region. The actual calculations per manufacturing establishment were made by the cooperatives. No recognition was given to the size or level of efficiency of the factory. However, the state-owned weaving and knitting factories were known to receive a slightly larger allocation per machine and it is thought that this was also true of state spinning factories.

by semi-government organisations, since 1951.¹ Raw cotton, yarn and cloth which were produced in Indonesia and which were channelled through these organisations were priced as if they had been imported. Although the prices of private imports and official allocations of yarn were fixed by the price controlling authority in identical manner, control over the former was never effective and it was this state of affairs which led to the official distribution of yarn by the allocation system.

The price of imports was fixed at landed cost plus a percentage mark-up which was supposed to raise the price to between 70 per cent and 100 per cent of the free market price. From 1951 to May 1963 this mark-up stood at 25 per cent of landed cost. In May 1963 prices were freed but soon afterwards the government offered a special rate of exchange to yarn importers which was intended to help replace dwindling stocks. In November 1963 the governing body of the P.D.Ns. returned the price to landed cost plus 25 per cent,² because this still represented between 70 per cent and 100 per cent of the free market price. But in January 1964 it believed that the free market price allowed a mark-up of 95 per cent. There was a great deal of unfavourable reaction to this from the textile cooperatives and as a result the price was reduced to landed cost plus 45 per cent in April 1964.³

-
1. From 1951 to 1957 price control was the responsibility of the Ministry of Economics which was succeeded by a sub-department of the Department of Trade, known as the Price Control Office. In May 1963 the governing body of the P.D.Ns. appears to have assumed authority over prices of imports with the Price Control Office assisting it with advice. In October 1964 KOTOE (see later in this chapter) was charged with the duty of price determination of textile raw materials.
 2. This was the same as for imports of finished textiles.
 3. Interview at Price Control Office, Djakarta. 4.12.64.

4. The role of the P.D.Ns.:

The influence of the P.D.Ns. in the distribution of raw materials rested with their control over supplies until manufacturers had paid for them. Advance payments amounting to about 70 per cent of the value of the imports were made at the time when the cooperatives and the QPSs indented the P.D.Ns. on behalf of their members. The practices of the P.D.Ns. in relation to advance payments required, allocations withheld, and so on, varied from area to area. Each regional branch was permitted some autonomy but in practice assumed as much autonomy as it chose.

5. The role of the cooperatives and the O.P.Ss.:

It was the function of the cooperatives to collect all advance payments from manufacturers and pass them on to the importer at the time the order was placed overseas. If the cooperative had funds of its own or was able to extract from the large manufacturers, in the form of advance payments, a higher proportion of the full cost of yarn than was required by the importer, it could assist the small weaver by waiving the advance payment requirement demanded by the P.D.N. Before 1959, when only the financially weaker enterprises received allocations, their cooperatives were usually able to obtain credit

from the banks or to persuade the importer to offer credit.¹

The raw materials were then distributed through the locally organised cooperatives which were under instructions from the Department of People's Industry to inform enterprises of their raw materials allocations and to circulate the lists of allocations per machine so that manufacturers could check whether they had received their rightful allocation. It was the responsibility of the cooperatives to calculate the quantity of yarn received by each of their factory members.

In 1960 the cooperative system was reorganised in order to increase their functions and responsibility.² All the small scale weavers were placed under the control of KOTEKSI while the larger

-
1. The cooperative movement in the textile industry before 1960 was very different in structure and was centred on the small and less efficient establishments. In 1947 the Gabungan Perusahaan Tenun Indonesia (Gaperti - Association of Weaving Enterprises of Indonesia) was started to assist the smaller enterprises (although all manufacturers were permitted to join). In 1956 this Association was abandoned and its members joined the Kooperasi Tekstil Indonesia (KOTEKSI - Textile Cooperative of Indonesia). KOTEKSI consisted almost entirely of handweavers. At the same time the Sentral Organisasi Tekstil Indonesia (SOTEKSI - Central Textile Organisation of Indonesia) was established to cater primarily for the needs of power loom weavers. It was organised by private individuals and did not have the degree of government control associated with KOTEKSI. Both organisations offered credit facilities and arranged indents with importers on request.
 2. Organisasi Perusahaan Sedjenis (OPS - Organisation of Homogenous Enterprises), were set up in each industry and brought under a governing body, called the Gabungan Perusahaan Sedjenis (GPS - Association of Homogenous Enterprises), in that particular industry. In the textile industry there are six OPSs under the care of the GPS-Tekstil: covering batik production, handweaving, power weaving, knitting, textile chemicals (finishing), and clothes-making; all in private and public sectors. The purpose of this reorganisation was to replace the cooperative movement by associations of homogenous enterprises in order to isolate technical problems in the industry.

firms were organised in various associations of private enterprises which assumed many of the traditional functions of the cooperatives. These associations, Organisasi Perusahaan Sedjenis (O.P.S.) were not formally regarded as cooperatives in as much as they were not under the control of the Department of Cooperatives (as was KOPTEKSI). They did, however, make reports to the government department responsible for their industry, collected payments from factories, gave credit to their members when they could, and indented the P.D.Ns. for allocations. In some cases the cooperatives and the O.P.Ss. undertook responsibility for transporting the imported raw materials to local warehouses. Through these new functions it was hoped that cooperatives and O.P.Ss. would feel obliged to serve industry more conscientiously, but at the same time they provided the cooperatives and O.P.Ss. with greater power over manufacturers. These re-organised cooperatives assumed control over the distribution of allocations which comprised the vast bulk of all yarn supplies.

6. Corruption of the channels of distribution:

It is interesting to note that in as much as sales of allocations to the free market contributed to determination of the free market price of yarn, the regulation laying down that official prices should be between 70 per cent and 100 per cent of the free market price is an official recognition of that illegal market. It also

reflects a desire on the part of the government to make fixed prices reflect free market trends.¹ Nevertheless, the difference between official and free market prices and the infrequency and irregularity of supplies were sufficient to encourage manipulation of official supplies of yarn.

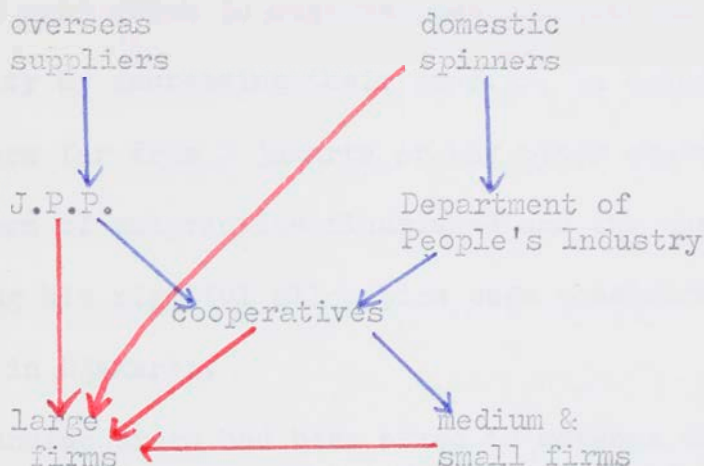
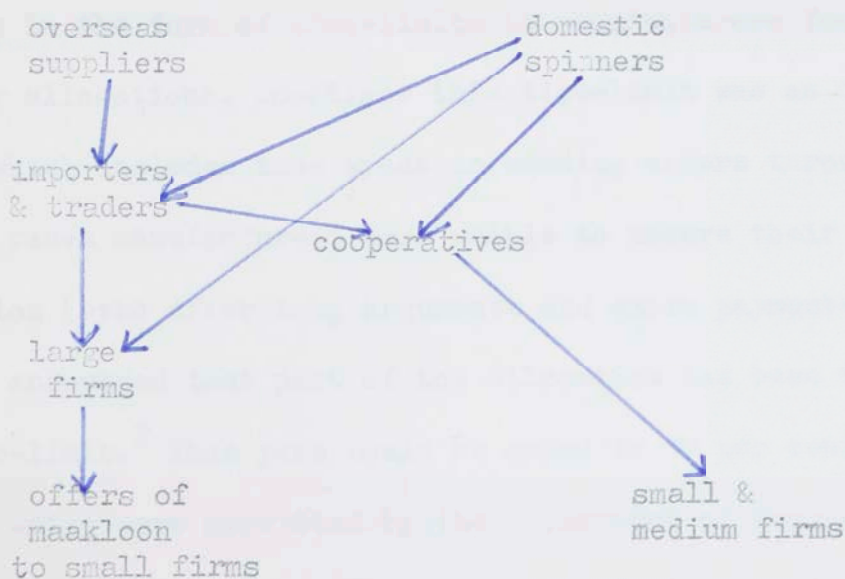
In 1955 and 1958 officers of the J.P.P. found it profitable to manipulate supplies of raw materials under the control of the Foundation and to sell them to the free market. In September 1955 the official allocations through the J.P.P. were stopped in an attempt to eliminate the blackmarket in yarn which had arisen. When, in 1958, the J.P.P. re-emerged as the distributor of yarn, supplies were low and the allocations made by the J.P.P. to the small manufacturers were very small. Once again manipulations of supplies developed and this scheme of distribution was no more successful than the first attempt in 1955.

-
1. However, there was never effective price control because of an inadequate controlling apparatus and the official price was closer to the free market price than the regulation would suggest. Price estimates of landed cost plus the mark-up were returned to the Price Control Office but the cost on the invoices was not usually the actual cost to the importer. During periods of large imports prices were relatively low and there was less need for price control. But as raw materials became scarcer and inflation increased the costs of distribution, price control became even less effective when it was needed most by manufacturers. There have been prosecutions but none has been successful. The officers at the Price Control Office have become sympathetic to the problems of traders facing rapidly rising import and export costs. Because of the extent of inflation and the problem of replacement of stocks these officers argued that a profit of 30 per cent to 40 per cent on top of the official price should be regarded as 'normal' profit, in 1964. They showed no willingness to prosecute malpractices in invoicing because they believed importers were undergoing sufficient stresses.

Chart III shows the difference between controlled and free distribution of yarn before 1959. In the first diagram which refers to the period 1954-55 when the J.P.P. exerted strong influence, domestic spinners were obliged to sell their produce to the Department of People's Industry which also undertook to allocate imported yarn. At the same time some yarn could be imported freely by large manufacturers. The red lines indicate illegal sales of yarn during periods of control. The second diagram presents flows of raw materials under free market forces without the intervention of the J.P.P.

After 1958 there were four separate agencies responsible for the distribution and pricing of these low-priced rations of raw materials. In the case of raw cotton, control was maintained to a high degree because of the small number of large and modernised spinning mills in existence; but in the case of yarn, the authority of the agencies concerned was progressively undermined from inside because of the increasing temptations to officers of the agencies to manipulate supplies and funds placed in their trust. The temptations existed because of the deficiency of yarn supplies in relation to weaving capacity and the ability of some weavers to process higher cost yarn at a profit. The situation deteriorated because of the growing scarcity of supplies and because of the effects of inflation on the smaller recipients of yarn allocations.¹

1. See Chapter IV, 'Costs and Variations in Costs' for a full description of this effect.

CHART IIICONTROLLED AND FREE DISTRIBUTION OF YARN BEFORE 1958DIAGRAM A ControlledDIAGRAM B Free

The P.D.Ns. also suffered genuine problems of working capital. They were responsible for exporting primary produce as well and this involved the payment of advances to domestic traders. They could ill-afford to supply the working capital of textile manufacturers as well and were quick to observe possibilities of overcoming this difficulty by increasing their profits. In branches of the P.D.Ns. which were far from Djakarta or any other centre of some authority every form of malpractice flourished and the chances of a weaver receiving his rightful allocation were considerably lower than if he were in Djakarta.

Manufacturers had been asked to advance to the P.D.Ns. 70 per cent of the cost of the allocation at the time the order was placed overseas. When the yarn arrived the P.D.Ns. attempted to recover the remaining 30 per cent of the cost as quickly as possible. To do this they applied pressure in the form of time-limits to manufacturers for the collection of their allocations. Sometimes this time-limit was as short as two weeks¹ which included time spent in sending orders through the mail. In many cases manufacturers were unable to secure their rightful allocation (even after long arguments and extra payments) and the P.D.Ns. announced that part of the allocation had been forfeited through the time-limit.² This yarn would be added to 10 per cent of yarn imports which were permitted by the Department of People's Industry to be sold by the P.D.Ns. on the free market to assist in their working capital

-
1. Interview at the Department of People's Industry, Djakarta. 8.3.65.
 2. It is not clear whether they were legally entitled to enforce these time-limits, but nobody appears to have questioned it.

difficulties.¹ Sometimes these two sources of free market yarn could amount to 25 per cent of total imports. The infrequency and size of these overseas purchases caused big differences between fixed official and post-allocation free market prices because of speculative fluctuations in the latter; this was further encouragement to increase the proportion of imports released on the free market.

Allocations designated for the small scale section of the industry, in particular, provided the P.D.Ns. with opportunities of reimbursement of losses, through inflation, on exports and some imports. The advance payments made by the manufacturers were often held in the importing process for as long as four months. Often the smaller enterprises could not afford to do this and they were granted credit by their cooperative or by the P.D.N. in exchange for part of their allocation. Once this practice was established it left the way open for the P.D.Ns. to decide how much yarn was equivalent to the necessary advance payments; always referring back to their weak working capital position when challenged. The small manufacturer who had difficulty raising funds might otherwise have to forego his allocation. On rare occasions they were prepared to waive prepayment requirements of the financially weaker firms but this was dependent on the current liquidity position of the P.D.Ns.

Another kind of malpractice in the distribution of yarn was a result of the regulation that the P.D.Ns. were to distribute the cloth produced from yarn allocations. In November 1959 it was decided that 100 per cent

1. Interview at the Department of People's Industry, Djakarta. 8.3.65.

of this produce would be returned to the P.D.Ns. for distribution amongst consumers.¹ But this was never achieved for the usual financial reasons and the regulation was suspended in June 1960. The system was re-introduced in October 1962 when 60 per cent of the production was to be returned to the P.D.Ns. In March 1963 this was again suspended. In the whole period since November 1960 the P.D.Ns. had tried to persuade producers to channel their output through their organisations by offering them incentives,² and in spite of the absence of any regulation enforcing this, 20 per cent of domestic cloth was distributed by the P.D.Ns. in October 1961 and 40 per cent in March 1962.

During the period when these regulations were supposedly in force the P.D.Ns. were prepared to ignore them in exchange for part of the yarn allocation. A manufacturer might find it profitable to sell his cloth produce on the free market instead of to the P.D.Ns. at government fixed prices, and to do this he would surrender part of his yarn allocation to the P.D.Ns.

It was intended that the distribution system would be safeguarded by compelling the cooperatives and the O.P.Ss. to circulate lists of authorized allocations amongst manufacturers. However, in practice the circulation of these lists did not guarantee manufacturers their allocations because the O.P.Ss. sometimes maintained there was not enough yarn to meet the 'per machine' allocations and only 75 per cent of the proper allocation would be finally offered the manufacturer.

1. Interview at the Department of People's Industry, Djakarta, 20.3.65.

2. Panglaykim. op.cit. p.40

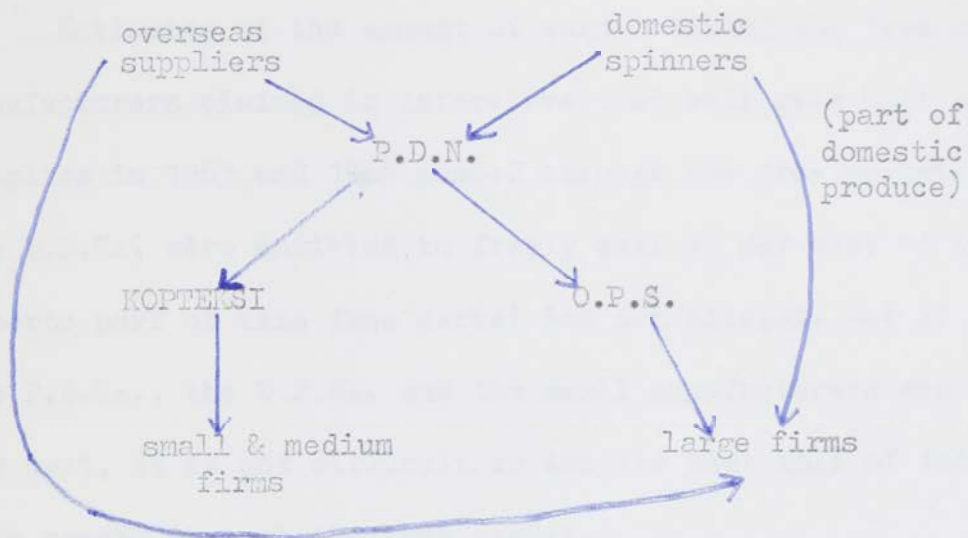
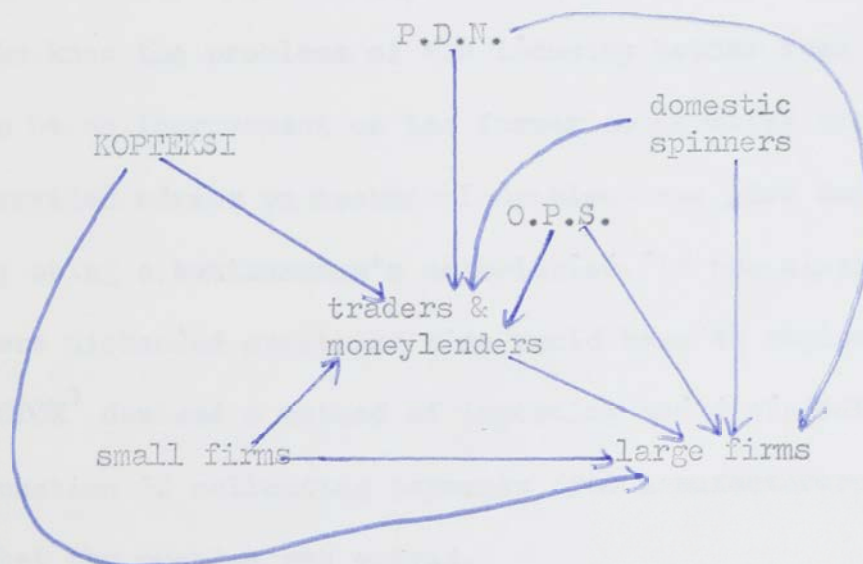
Advanced payments were made on this reduced amount and, through the procedure of the time-limit or by some other method, further supplies were withheld by the P.D.Ns. Thus in some cases a manufacturer with enough money to purchase as much yarn as was offered him at the official price was offered only about half (70 per cent of 75 per cent) of his rightful allocation.¹

Eventually even the lists from the Department were not circulated by the O.P.Ss. Some manufacturers complained directly to the Department and the latter questioned the O.P.Ss. on their method of distribution of yarns.² They replied that because of their poor liquidity position they were forced to retain part of the yarn to sell at a large profit on the free market; otherwise they could not continue their function of offering credit to the weaker firms. This argument apparently satisfied the Department and manufacturers no longer attempted to appeal against the abuse of the allocation system.

Chart IV shows the differences between legal and illegal channels of raw materials distribution.

Through legal channels the P.D.N. directs private indents to the large firms. But these indents are illegally supplemented by the ~~illegal~~ sales of allocations from the P.D.Ns. direct to the large manufacturers. All the free market yarn finally converges on the large

-
1. Complaints were lodged with the O.P.Ss. but it was argued that this was the fault of the P.D.Ns. It has become clear from KOTOE Reports in February 1965 that the O.P.Ss. and P.D. Ns. were working closely to defraud manufacturers.
 2. KOTOE (Kommando Tertinggi Operasi Ekonomi) Clothing Team's Report, February 1965.

CHART IVLEGAL AND ILLEGAL DISTRIBUTION OF YARN AFTER 1958Diagram ALegal channelsDiagram BIllegal channels

firms. The differences between this diagram and Chart III (before 1959) is the strong and direct relationship between the importer and the cooperative in the post 1958 system. The Department of People's Industry appeared to follow a passive role in the distribution of yarn.

Estimates of the amount of yarn reaching the free market vary. Some manufacturers claimed in interviews that well over half of the total supplies in 1963 and 1964 passed through the free market. In as much as the P.D.Ns. were entitled to freely sell 10 per cent of their raw materials imports part of this free market was not illegal. But if illegal sales by the P.D.Ns., the O.P.Ss. and the small manufacturers are added to this 10 per cent, it is not difficult to imagine that half of total allocations of yarn passed through the free market.

In spite of the malpractice of the O.P.Ss. there was an attempt to defend these organisation on the grounds that they had informed personnel who knew the problems of the industry better than others. They were said to be an improvement on the former cooperative system, because they provided advice on technical problems and gave cohesion to the industry by being a businessmen's association. It was clear that if the O.P.Ss. were disbanded something else would have to replace them. It was not until KOTOE¹ devised a method of importing and distributing which took the function of collecting payments from manufacturers away from the O.P.Ss. that the problem was solved.

1. See later in this chapter for further detail about KOTOE.

Free distribution:

Cotton and yarn could always be imported privately on demand from cooperatives and private manufacturers but after 1958 the universal allocations scheme greatly diminished these orders. Because of the Benteng programme the first stage of distribution was in the hands of indigenous traders. But other persons were still able to use their influence in the importing business through their superior finance, and the distribution of yarn could be continued without interruption. The goods were usually transported from the port of entry by the manufacturer or cooperative but on rare occasions the importing firm undertook this. The quantities purchased depended on domestic costs and the degree of effective protection against imported finished textiles. Imports ordered on indent passed straight from the importer to the manufacturer or to his cooperative; only the passage of official allocations is shown in Chart IV. In the case of the manufacturer, the entire consignment reached him because it was on his personal order, and finance was therefore arranged on a private basis. He did not have to cajole the importer into handing him his imports as he was often forced to do under the allocation system.

The effect of government intervention in distribution:

The characteristics of supply which the allocations system produced were the maintenance of small inefficient weavers, which would otherwise have been eliminated, greater opportunities for speculation in stocks, and a more costly distribution system. Although most of the small weavers no longer produced in recent years they were permitted the illusion of being an economic force by receiving yarn allocations which they could sell

on the free market or to their cooperatives. The several stages of distribution in which semi-official, non-consuming agencies had control over supplies provided opportunities for manipulation which might not exist if imports were made freely on indent from manufacturers. The cumbersome procedure of payments and deliveries in the allocations system increased the administrative costs of supply; the Department of People's Industry was involved in planning and estimating the allocations per machine, the officers of the P.D.Ns. were obliged to wait for advance payments from cooperatives or banks before they could make orders and were to inform manufacturers of delivery dates and transport facilities, and the cooperatives functioned as an arm of the Department of People's Industry as well as a bank.

All supplies of yarn were finally allocated to weavers, roughly according to their levels of efficiency and marginal costs, through the operation of the free market. But the final free market price was probably higher than if there were no initial allocations system because of the activities of intermediaries who were placed by the government in powerful oligopolistic positions.

The extent of the corruption of the allocations system by government and cooperative agencies was determined by their financial predicaments, the deterioration in supervision and morale, and the deficiency in supply.

The first two are the result of lack of experience and the financial and demoralising effects of inflation. The last is the subject of Chapter VI. It is worth noting that while the difference between fixed and free market prices affected the degree of corruption, corruption in turn

influenced the final free market price of yarn.

Reorganisation of planning and distribution by Kommando Tertinggi

Operasi Ekonomi (KOTOE- Supreme Command of Economic Operations).

In the second half of 1964 the economy appeared to be deteriorating rapidly. Imports of essentials were becoming scarce and their prices rising correspondingly. The textile industry was only partly functioning and foreign exchange reserves were almost completely depleted. The distribution procedure of raw materials which still existed was rumoured to be wholly in the hands of professional speculators.

Against this background KOTOE was formed, together with Supreme Commands in other fields, to improve the organisation of the country as a necessary step to expand the 'Crush Malaysia' campaign. The Command was established by Presidential Decree No.25 of 1964, dated 28th. July 1964.¹ On 28th. September KOTOE announced that it was to set up a special team to investigate the distribution of textile raw materials with particular reference to speculation and manipulation of yarn.

On 19th. October KOTOE announced that a consignment of 70,153 bales of yarn from the Republic of China would arrive by January 1965 and that all former methods of allocation and distribution would be valid no longer. Decisions concerning allocation and distribution would be made by KOTOE.² This meant that the powers of the Department of People's Industry and the O.P.Ss. were just as great as KOTOE cared to delegate to them.

1. Regulation No.30/WPB-KOTOE/1964. 28.9.64.

2. Regulation No.39/WPB-KOTOE/1964. 19.10.64.

New methods of payment by factories had been discussed in the Department of Trade and People's Industry for several months past and finally it was decided that Bank Indonesia would offer short-term credit to the two Niagas (the new State Trading Enterprises) which had assumed the business of the former P.D.Ns.¹ In this way the financial intermediary role of the O.P.Ss. would be eliminated and the necessary credit would be obtained from the banking system by the importing houses instead of by the manufacturers seeking funds wherever they could. Manufacturers were given instructions to pay for the yarn on delivery by depositing money into the account of the Niaga in the local branch of Bank Indonesia. Only those factories passed by KOTOE's inspection team could indent the Niagas for yarn and then only on the basis of long-term contracts for annual allocations fixed by KOTOE.

The Command set out to undertake a formidable programme. The suspension of all former methods of allocation and distribution did not disrupt supplies since there were no supplies to be allocated between July 1964 and February 1965. Nevertheless, KOTOE aimed at inspecting all weaving and knitting establishments, issue new capacity licences, and fix each factory's annual allocation before the February allocations. They began inspections in December and by February 1965 had examined all power equipment and a large number of handlooms in Java. The other islands remained untouched.

Annual allocations (assuming large supplies) were fixed in December 1964.² Each ATM (width 140 cm.) was to receive a maximum of 154 kilograms of yarn per month per shift, each ATM (width 90 cm.) 91 kilo-

1. Regulation No. 43/WPB-KOTOE/ 1964. 9.12.64.

2. Regulation No. 55/WPB-KOTOE/1964. 9.12.64.

grams, and each ATM (width 70 cm.) 82 kilograms. If capacity input is between 3.5 and 5.0 kilograms per shift this allows for between 23 and 28 shifts a month, or a little over one shift a day. The handlooms were to receive a maximum of 27 kilograms a month which is about 18 shifts a month. It is clear from these figures that KOTOE was not expecting enough foreign exchange for two shifts a day on the power machines. It also intended to continue supporting the handweaving section although it was known that the Command was divided on this policy. At the time of formulation of these allocations the only yarn on order was about 20,000 tons (or 70,000 bales) which represented less than 20 per cent of capacity requirements.¹

In February 1965 the price of this yarn was set up at Rp.350,950 per bale (20/s).²

KOTOE was also responsible for allocating foreign exchange between Departments. It allocated \$83.5 million to the Department of People's Industry for textile raw materials, of which \$71.3 million was to be for yarn imports.³ This was almost half of capacity requirements and represented a little less than the annual allocations already fixed by KOTOE. Modest as this was none of it had materialised by April 1965. At the same time that this decision was announced it was agreed that no foreign exchange would be set aside for finished textile imports.

A press campaign was mounted in January 1965 against corrupt elements in the Department of People's Industry, the O.P.Ss. and the P.D.Ns. Seven of the eleven directors of KOPTEKSI were imprisoned on

-
1. This consignment finally arrived in March and April 1965.
 2. Regulation No. 04/WPB-KOTOE/1965. 2.2.65.
 3. Interview at the Department of People's Industry, Djakarta. 15.3.65.

evidence supplied by KOTOE. The Department of People's Industry maintained, in defence, that it was unable to function properly in the field of inspection because its staff was overworked and underpaid.¹ The P.D.Ns. replied to charges of blackmarketeering by stating that they could only continue the export trade, which was so vital to the country, if they acquired increases in working capital from the profits of selling some of their imports on the free market.

In February 1965 KOTOE issued two reports on its activities. In the first report the KOTOE team responsible for investigating factories listed the methods used to acquire extra allocations² and the malpractices of the O.P.Ss.³ The second report gave estimates of the error of capacity licences investigated.

The KOTOE team offered some benefit to the textile industry. The burden of payments for imports was eased by Bank Indonesia providing credit to the importers while the removal of financial matters from the hands of the O.P.Ss. assured the producers of straightforward payments. By exposing malpractices in the distribution of yarn, KOTOE restored some

-
1. KOTOE Special Team for Clothing Production, First Report. There were 50,000 industrial establishments in the Bandung area for which there were only 150 technically competent investigators in the branch of People's Industry.
 2. These methods included more than one licence for the same equipment, outdated licences in use, licences not corresponding with actual capacity, and licences for obsolete equipment.
 3. The malpractice of the O.P.Ss. centred on holding manufacturers' advance payments for too long, demanding payment for a second transaction before the first was executed and providing factories with too short a time limit to collect allocations.

confidence amongst manufacturers. Although the team itself was known to be corrupt and to harbour strong anti-Chinese feeling, manufacturers refused to testify against KOTOE when asked to do so by a team of touring Parliamentarians in March 1965 because KOTOE had given greater assurance to the industry than had any other organisation. One Chinese manufacturer who stated he knew KOTOE officials could be easily bought, maintained that the changes the team had introduced were worth any trouble they had caused.

Conclusion.

The supply of raw cotton to the spinning industry was sufficient for a high degree of capacity utilisation and its distribution and pricing were quite effectively controlled. But the supply of yarn to the weaving and knitting industries was totally inadequate and capacity utilisation rates for weaving were within the range of 30 to 40 per cent for most of the period reviewed. There was, however, a long run increase in supply but because of very large fluctuations it was difficult to assess whether this kept up with expansion of capacity.

The main causes of these poor supplies were overseas competition, complex and inefficient importing procedures, and import restrictions. The uncertain protection policy led to speculation of these limited supplies.

Before 1959 there was no direct planning of raw materials supply for the textile industry and the government intervened only to the extent of providing tariff protection and credit support when it considered prevailing conditions warranted it. Until 1957 this policy caused many of the smaller firms to close down although few of the large weavers complained of government policy in this period. But in 1957 when drastic measures were

taken to protect the balance of payments yarn imports fell so much that the utilisation rate for the whole industry fell to about 22 per cent.

The reorganisation of trading institutions in 1958 and 1959 following the take over of Dutch importing houses provided the government with the opportunity of controlling the composition of all textile materials imports and of guaranteeing a large supply of yarn. However, the system of foreign exchange allocation chosen did not afford protection to the domestic industry because the Department of Trade which was responsible for allocating foreign exchange among government departments was also in charge of deciding the orders for the highly profitable cloth imports. The personal relationship between the Minister of Trade and the directors of the State Trading Enterprises as well as the latter's working capital problems led to a situation where the Department of People's Industry was unable to acquire sufficient foreign exchange for the textile industry while ^{at the same time} sizeable amounts of finished cloth were being imported.

It was intended that raw materials allocations could be distributed through the State Trading Enterprises at prices lower than the free market price in order to assist the weaker enterprises. However, through the manipulation of supplies of yarn by officers of both kinds of agencies together with allocations sold by small weavers, as much as one half of total supplies was diverted to the free market. The vast bulk of yarn imports finally reached those efficient manufacturers who would have obtained the yarn imports if the distribution system had been by auction. But the institutional system of semi-government and cooperative bodies

directed by inexperienced and demoralised officials, which dominated the distribution system is most likely to have increased the final cost of yarn to the manufacturer and increased the opportunities for manipulation and hoarding. The determination of the amount of yarn which was diverted from official channels to the free market is the subject of Chapter VI.

The cumbersome procedure through which manufacturers had to pass in order to acquire their yarn allocations was costly, uncertain and worrying, and contributed to undermining the morale of the manufacturers. The purpose of the procedure was to provide low cost raw materials to the industry. It would appear that tariff protection would have been simpler to execute, have a greater chance of being effective and would have provided the manufacturer with less uncertainty. However, as Chapter VII demonstrates, even this system is severely limited in an inflationary situation.

CHAPTER VI

DEVELOPMENT OF A SPECULATIVE FREE MARKET IN YARN

Introduction.

The purpose of this chapter:

An examination of the free market for yarn will show how the weaving industry operated when faced with a shortage of raw materials. Since so much of the production of the large factories came to be based on free market yarn in spite of the allocation system, an analysis of the free market is relevant to an understanding of the final cost and profitability of textile production in general. Chapter IV examined trends in production costs between the efficient and inefficient sections of the weaving industry. This chapter discusses how both uncertainty of supplies and inflation altered yarn costs and relative production levels amongst weaving enterprises.

The blackmarket and the free market:

Conversations with Indonesian textile manufacturers during interviews were dominated by the problem of cost and supplies of yarn, and the word 'blackmarket' appeared to punctuate each point made concerning the predicament of weavers who tried to keep producing for as long as possible. However, in some cases it was clear that it was the market for freely imported yarn that was being referred to. Because of the confusion of different descriptions it is necessary at the beginning of this chapter to define the nature of the market to be discussed.

At different times there have been three sources of yarn: official allocations from the government, official allocations offered for sale

by the small weavers, and private imports. The first source was priced by the government at a low value¹. Purchases of yarn from small weavers and private imports of yarn, which were regarded by large manufacturers as close substitutes, were determined by the free market. But of these two sources the sale of allocations was illegal and, therefore, constituted in principle a 'blackmarket'. Hence that section of the free market which was supplied by sales of allocations might be termed 'black' in so far as this practice was illegal. We can include in these sales the supplies of yarn manipulated by State Trading Enterprises and the O.P.Ss. as described in Chapter V. Hence the 'blackness' of the market was determined not by the type of operator involved, but by the source of the yarn. The periods when such terminology was particularly relevant were 1954-55, 1957, and after 1959 (with the exception of a short period following the measures of May 1963).

Small weavers might sell their allocations to State Trading Enterprises or to Cooperative officials, to their moneylenders, or direct to large manufacturers (who might be their customary financiers). Sometimes this yarn would be passed on by a chain of operators before it reached the final user.

In the case of private imports a manufacturer could indent importers (the State Trading Enterprises) according to what he thought he could process profitably. Sometimes traders were the actual indentors and they

1. Allocation prices were not entirely independent of market forces because they were set at between 70 and 100 per cent of the free market price. However, where the free market price was continually changing from day to day, the infrequent allocations were each distributed at one price. The official pricing system demonstrated the interdependence of free and official prices. The free market price was, of course, in turn influenced by the size and price of official allocations.

distributed the yarn in the same way as they handled allocations which they had purchased. The supply of freely imported yarn facing the industry can be assumed to be very elastic since Indonesian purchases would have a negligible effect on the international price of yarn. But if there is a limit on import licences for this commodity the supply will become completely inelastic at that limit. Because import regulations changed so frequently and could be manipulated through corruption if demand was strong enough, no closely defined supply of freely imported yarn could be termed typical of Indonesia. Here we assume the usual upward sloping supply curve which ^{could} mean that as larger orders are made the problems of handling customs and foreign exchange bureau officials become more expensive.

Thus the large manufacturers could either order direct from overseas through an importer and receive yarn direct from the docks, or he could purchase his raw materials from the free market. If he did the latter, he did not always know whether he was purchasing yarn which had once been an allocation or yarn which had been privately imported. The mixing of these two sources of yarn helps to explain why the government was unable to eliminate the 'blackmarket', and eventually ignored it.

The sale of allocations always carried a risk of prosecution, however, small, and this was often a cause of an actual cost distinction between the two sources of yarn. Furthermore, it was usually the case that yarn allocations circulated amongst more traders and moneylenders (sometimes being sold back to a trader) than private imports which went almost direct to the large manufacturer. Together with the risk of prosecution, this caused two prices to be quoted for 'free' yarn. Yarn sold through

traders was usually more expensive to the manufacturer than yarn obtained by importing on direct indent.¹ However, this was not always so. If yarn allocations were large but private importing ~~was~~ a cumbersome and frustrating procedure, during which a great deal of working capital might be appropriated for a long time, the free market price of yarn from allocations might be less than that demanded by importers. Furthermore, if the free market rate of the dollar suddenly increased (usually before Christmas) the traders' price quotes might lag behind the rise in price of private imports on free market dollars. Therefore, the price of illegal free market yarn might be higher or lower than the price of legal free market yarn.²

Apart from differences in origin of free market yarn, there were other causes of differences in free market quoted prices.

First, distances between centres of the textile industry gave rise to several separate markets throughout the country. Even within the regions of Java there were distinct yarn markets because of separate ports of entry and very poor transport facilities. To some extent this was overcome by transporting yarn from well stocked warehouses in one area to manufacturers without raw materials in another, but the costs of trans-

-
1. The free market price of yarn sold from allocations was very high in October 1964 when strong measures against hoarders were announced by KOTOE; and the free market disappeared overnight. At the same time only the most efficient of manufacturers could process privately imported yarn.
 2. Nor is it always relevant to use these two prices. The large manufacturer might be the financier of a small weaver or he might be on close personal terms with officials of the O.P.S. or State Trading Enterprise. In either of these cases he could obtain yarn at a price well below that quoted by a trader.

porting the yarn as well as losses through theft and damage limited this practice to those instances when regional differences in price were substantial.

Second, the credit market (as described in Appendix A) included numerous different arrangements between debtor and creditor depending on the credit-worthiness of the former. The highly personalised credit and information services available to manufacturers meant, in effect, that there could exist as many different prices as there were pairs of buyers and sellers in each area. The small weaver was amongst the least financially secure entrepreneurs and his lack of knowledge of the business world placed him in a position where he was likely to accept any agreement his creditor proposed. The isolation of villages and the racial differences between creditors and debtors, which made the former a closely knit fraternity, contributed to increasing the degree of imperfection in the credit market. Therefore, the supply curve of this kind of yarn was subject to the terms of the creditor as well as to the allocation price and the cloth price. This was usually aggravated by the poor entrepreneurial ability of the small weaver which precluded a rational examination of the profitability of processing allocation yarn.

In spite of these qualifications, in the areas in which the textile industry was concentrated a narrow range of free market prices prevailed and deviations from this had to be made by personal bargaining. The data on free market yarn prices quoted in Table 23 were obtained from unpublished material gathered by officers of the Central Bureau of Statistics in Djakarta. Every week an average price of 20 establishments in Djakarta which stocked yarn was made on the basis of an informal enquiry. Although

free imports were permitted in 1964, stocking (or hoarding) was forbidden, and price quotations were offered the Bureau on a confidential and, therefore, unverifiable basis.

Because of the nebulous nature of the market in which yarn was freely sold and the mixing of legal and illegal sales, only the term 'free market' is used in the analysis of this chapter. Moreover, in order to simplify the analysis of the free market differences in prices within the free market will be ignored.

Speculation:

All trading and processing of raw materials are based on expectations of profits and in as much as these expectations can never be perfectly guaranteed all economic transactions include a speculative element. Therefore, any discussion of speculation should centre on the degree and nature of speculation rather than on the question of its existence.

In the case of Indonesia there is no known reference to speculation in textiles before the war. But after the war the word recurs frequently in Bank Indonesia reports and in articles on the economy. Two periods when mention was made of unusual speculative activity were 1950 and 1955 when, in spite of large imports of yarn, the textile industry was functioning at a very low rate of capacity utilisation. In both years there was strong evidence of the existence of two sources of demand for yarn; one for processing and one for speculation. During interviews undertaken in 1964 and 1965 it was impossible to avoid a mention of speculative activities and it often required an effort to prevent the interview being dominated by a discussion of speculation.

Certainly there was cause for mixed expectations in the textile industry after the war. Price indexes shown in Table 12 indicated that the extent of monetary inflation provided sufficient grounds for a need to retain purchasing power in commodities.

A flight from money into yarn assumes that weavers will be prepared to pay high prices in future for the yarn and this implies some confidence in effective protection policy for weavers. The data in Table 12 also showed that fluctuations in food and textile prices bore little relation to each other, and since the latter commodity is almost entirely imported in one form or another, it is reasonable to conclude that the incidence of protection influenced this difference. Chapter V provided data on the variable quantities of imports of textile raw materials which did not change in equal proportion to total textile materials or to total imports. The uncertainty of import quotas and the effects of inflation on tariff protection were strong reasons for speculation in the import trade. Moreover, the erratic nature of the allocation system, when it was in force, compelled all manufacturers to become speculators. While there might have been occasions when it was preferable to move out of money into gold or some other commodity, there were certainly occasions when yarn appeared a profitable commodity to hold against inflation.¹ Data on prices and output, together with numerous complaints of speculation during the 1950s and 1960s constitute solid grounds for believing that speculation flourished, with varying intensity, in the market for textile raw materials.

1. In November 1955 credit facilities were made much easier for yarn imports than for cloth imports during a period of credit restriction, and in 1963 the very low replacement price offered by the government to yarn importers occurred during a period of general economic liberalisation which the more astute businessmen saw could not last long.

However, the market for yarn cannot be studied effectively without reference to the market for cloth. Prices and speculation in yarn and cloth markets are closely interrelated, and an imbalance in one market brings about an imbalance in the other. For this reason it is simpler to build a model of the free market in yarn commencing with the assumption that the price of yarn is independent of the price of cloth. Apart from domestic cloth production, imports of textiles were made by government departments and by firms on a strictly commercial basis. The supply of the latter can be described in the same way as freely imported yarn.

The analysis of the free market during uncertainty will be divided between (i) irregular supplies, and (ii) inflation.

Method of analysis:

In the following analysis it is assumed that large scale factories demand free market yarn and small, and sometimes medium, scale enterprises supply it. Each group actually includes a range of efficiency levels amongst the units, but the weavers on either side of the market discussed here are taken as typical examples. Latitude for this variation is given by concluding that a change in market conditions will encourage more (or less) of the units to act in a specified manner.¹

The difficulty of any method of studying the market is that the yarn price both determines and is determined by the action of small weavers. This is because of the nature of costs involved in the process-

1. This means that there might be some medium scale weavers who have had experience of being both a buyer and a seller in the market at different times.

ing of small weavers' allocations. Normally we assume the producing firm faces fixed costs in a competitive factor market and that its supply schedule depends on how it combines those factors most effectively. The price it is offered for the product determines its output, but not its factor costs: there are far too many other user firms bidding for the same factors. But in the case of the small scale weaver, faced with the two alternatives of production and blackmarketeering, there is an opportunity cost of production equal to the blackmarket price of yarn. When a large number of small weavers act together, by offering varying quantities of yarn they can thereby affect their own costs of production and hence their actual supply schedule; although it is believed unlikely that they are strong enough to affect prices of other factors which would be used in other industries too. The greater their readiness to sell allocations, the lower will be the free market price (all other things constant), and the lower their opportunity costs of production. Because of this interdependence, as well as that existing between the cloth and yarn markets, and the difficulty of quantifying such responses, it is intended to merely point out the nature and direction of effects resulting from different changes.

A simple marginal revenue product analysis is utilised to illustrate the behaviour of the two kinds of weavers. The single variable factor is yarn while all other factors, including labour, are regarded as held constant. The limitation of this approach lies in the assumption that quantity of yarn only is allowed to vary, whereas it might be expected that labour in the large factories, at least, would fluctuate with intake

of raw materials. But this assumption is not wholly unrealistic if it is believed that changes in output are likely to occur over a small range, that weavers anticipate this, and are reluctant to dismiss workers already trained and requiring a lump sum payment on dismissal. Moreover, until October 1964, large weavers were compelled by law to retain workers, and these employment commitments prevented the dismissal of redundant workers. If entrepreneurs decreased the number of workers employed by not renewing jobs left vacant by death or migration, this would have involved a slow change in scale of operations and need not affect the conclusions of the analysis greatly. In the case of the small establishments where family labour is used, it might be a simple matter to hold a certain amount of labour in readiness: this could be drawn from a pool of disguised unemployment within the family circle. Whether or not it is continually used in direct application, such as cleaning the looms every day, will not affect the marginal physical product of yarn.

Marginal productivity analysis used over a period of several months including no violent economic fluctuations would seem a suitable analytical framework from which to draw conclusions.

More serious criticisms lie in the assumptions made about business motivations of small and large weavers (not necessarily aiming at profit maximisation) and the constancy of the burden of unspecified total fixed costs (which may alter in relation to yarn costs during inflation.) Modifications to the marginal analysis will be made where it is thought that business motivations and the incidence of fixed costs warrant them. Furthermore, it is assumed here that if all costs are not covered by

returns in the short run, entrepreneurs might choose to continue production because they anticipate short run losses to be less than the expense of closing down and opening again at a later date. Therefore, when an entrepreneur is producing, it is taken for granted that he has covered all his production costs or that part of them which provides the most satisfactory short run position.

Thus in the diagrams below quantities and, initially, values of capital equipment, managerial skill, labour, land, transportation, and auxiliary materials are assumed fixed. The only input which is allowed to vary in quantity is yarn.

The marginal physical product schedules of yarn for both small and large weavers will very likely include a wide range of yarn input within which marginal product is approximately constant. The other fixed factors, including labour, are unlikely to contribute much to variability in output of cloth from a given amount of yarn. With yarn being so scarce and precious to the weaver, wastage which is unavoidable might be expected to be constant over a wide range of output. At activity levels approaching physical capacity of existing fixed factors, yarn input will suffer a decline in marginal product as the raw material is hastily processed by these limited factors. Finally, the fixed factors can absorb no more yarn and marginal physical product falls to zero. Yarn is not purchased beyond this limiting quantity.

The marginal revenue product, schedules for which are shown in Charts V, VI, and VII, is the marginal physical product multiplied by the price of cloth which is assumed to remain constant over the whole range of output. This assumption becomes a problem in the analysis when all firms are

expected to be changing levels of activity together. If all firms expand together, the industry's supply curve would shift outwards and the price of the commodity would fall; and with it the marginal revenue product curve. The effects of this assumption will be less if it is believed that only small changes in output are relevant. Nevertheless, the impact of the whole industry changing its level of activity will be pointed out where it is thought to be important.

There will, however, be differences in the overall shape and position of the marginal revenue product schedules for small and large scale weavers. To begin with the capacity of the former is less: marginal product will fall to zero at levels of yarn input much lower than in the case of large weavers. Second, there will be a greater loss of yarn, as a percentage of cloth output, amongst the small, less mechanised looms, due to breakages: the schedule will be positioned a little lower than that of the larger weaver. Third, the quality of the mechanised, standardised process will be higher and will fetch a higher cloth price. Instead of comparing revenue schedules at different commodity prices it would be simpler to assume that the cloth prices facing all weavers are the same but that the quality differences are taken into account by the lower average and marginal physical product schedules of the smaller enterprises.

Supply and demand in the free market without speculation.

Freely imported yarn supplies:

If there were no allocations, the free market price of yarn would be determined by the marginal revenue product schedules of all weavers and a given supply of imported yarn.

Because of the apparent scarcity of yarn in Indonesia it is thought that this value represented levels of output in the range in which marginal revenue product schedules of the large weavers approximated the horizontal. At this position the price of yarn would be too high for small weavers to process profitably. This is shown at output oq in Chart V, Diagram (II.). The marginal return on yarn input is op and this is the price paid for yarn.

Bearing in mind their frequent breakages and lower product quality, the small weavers could never hope to meet this return by their own efforts and would therefore not purchase yarn imports on the free market.

Some of the medium sized enterprises might be able to purchase a little yarn if the quantity used by their more efficient competitors was so great that the latter were suffering a fall in their marginal revenue product.

Therefore, the greater the amount of yarn available to all weavers in the free market, the greater the chance that some of the less efficient weavers could match the marginal returns of the large weavers.

Allocations:

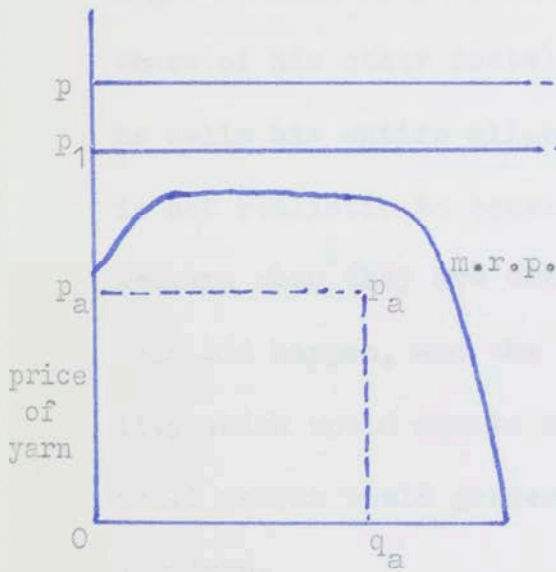
To begin with it is assumed that low priced allocations of yarn are distributed only to the less efficient weavers, and that these weavers must take all or nothing of the allocations. The allocations do not affect the supply of privately imported yarn. The supply of officially allocated yarn is depicted as $p_a p_a q_a$ in Chart V, Diagram (I). If small weavers aim to maximise total returns on their allocation purchases they will compare the free market price of yarn (their opportunity cost) with the return on manufacturing cloth.

CHART V

MARGINAL REVENUE PRODUCT ANALYSIS WITH ALLOCATIONS TO THE SMALL SCALE
WEAVER ONLY.

DIAGRAM (I)

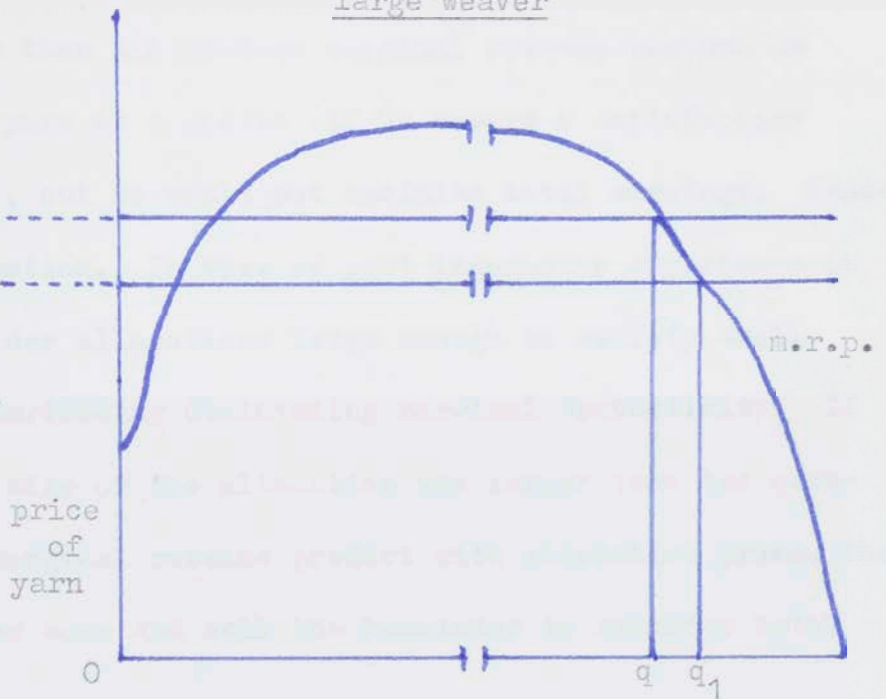
small weaver



quantity of yarn

DIAGRAM (II)

large weaver



quantity of yarn

Each small enterprise has no chance of affecting the free market price by its own actions: the opportunity cost schedule is a horizontal line fixed at the level of the free market price, op . As already stated, with a shortage of yarn supplies, the small manufacturer cannot exceed the free market price by his marginal return to processing. It is true that if the official price were lower than his maximum marginal revenue product he might be able to process yarn at a profit (if he covers a satisfactory share of his other costs), but he would not maximise total earnings. Hence he sells his entire allocation. In view of past Indonesian experience it is not realistic to consider allocations large enough to satisfy small weavers when they are experiencing diminishing marginal productivity. If this did happen, and the size of the allocation was larger than the quantity which would equate marginal revenue product with allocation price, the small weaver would process some and sell the remainder to maximise total earnings.

But if all small weavers were to act in this way simultaneously, the small scale industry as a whole could influence the free market price. The effect on the large manufacturer is that his supply of yarn has increased, and he purchases qq' more at the new prevailing price (op') equal to his new marginal revenue product. No account has yet been taken of changes in the price of cloth. The small weaver's opportunity cost has fallen from op to op' as a result of other similarly placed weavers acting as he does, and he might find it profitable to process his allocation if he is one of the more efficient units in the small scale industry.

The adjustment of the free market to accommodate the sale of official allocations might mean some medium sized weavers find it profitable to process part of all of their allocations (if they receive any); or even purchase some free market yarn.

If, however, the granting of allocations is at the expense of some of the available free market yarn, the quantity of yarn available is unaltered. This might be the case where quotas of imported yarn, already in force, were diverted from private importers to government distributors. There would be no change in the level of total output of all producing weavers. Profits will have been shifted from importers and traders to small scale weavers.

There were times when the government extended its allocation system to large manufacturers also. The analysis of the marginal revenue product shows that this ought to be unnecessary given the operations of the free market. Nevertheless, in the extraordinary but not impossible situation, of a hopelessly ineffective protection policy, allocations might prevent the large scale weaving industry from dying also, by adding to its profits on the first units of output.

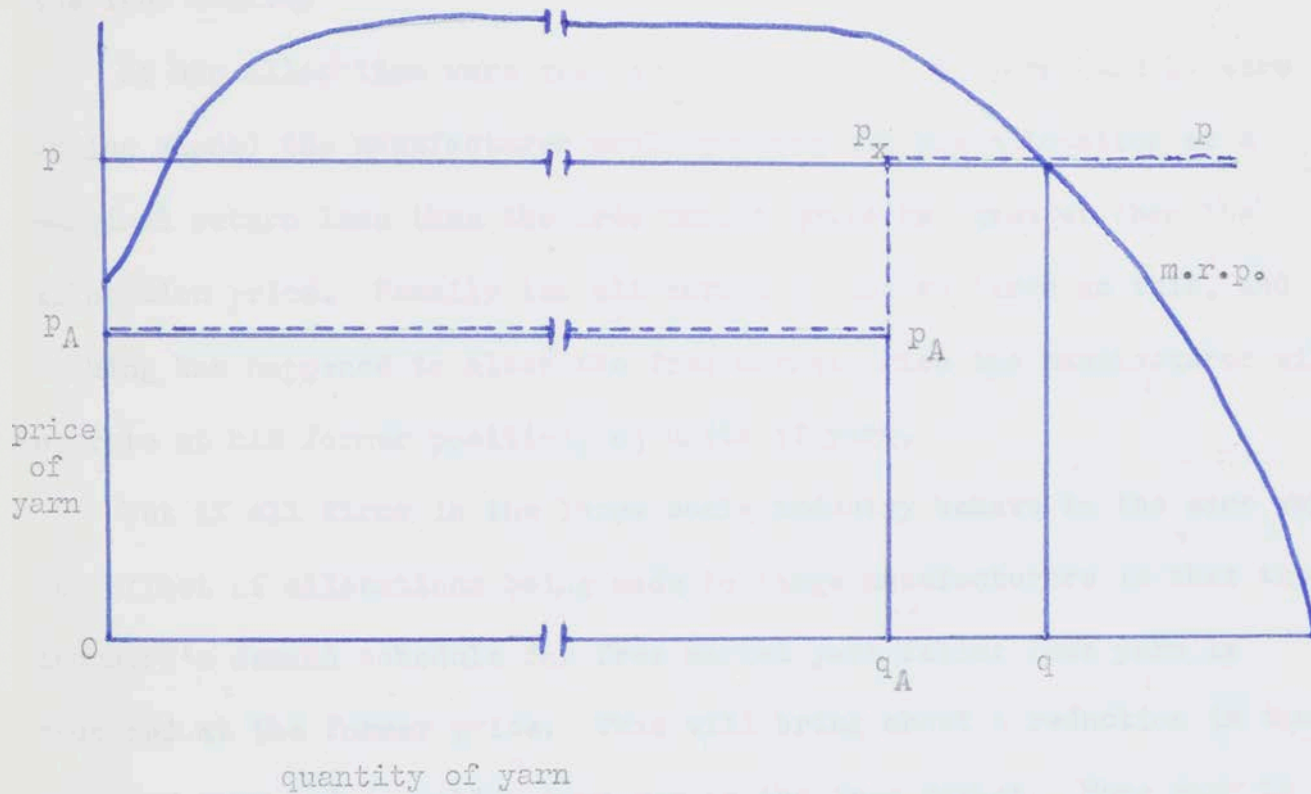
Here, however, it is assumed that allocations are given, for certain political reasons,¹ to a large scale industry capable of making some additional purchases on the free market.

In this case the supply schedule of yarn facing the large manufacturer is discontinuous, and is shown in Chart VI as $p_A p_A p_X p$. It begins at the official price and continues as a horizontal schedule until the allocation, oq_A , is exhausted. For further supplies of yarn, this manufacturer must resort to the free market with its higher, but to the individual firm, fixed price, op . So long as his marginal revenue

1. This was thought to be the case in 1959 when general economic policy was designed to bring out the strongest elements in the economy.

CHART VI

MARGINAL REVENUE PRODUCT ANALYSIS OF THE LARGE SCALE WEAVER
WITH ALLOCATIONS.



product schedule remains the same, and his allocation is not so large as to satisfy all his demand for yarn, then according to the profit maximization criterion, the manufacturer will continue to operate at the same level of output and pay the same free market price while enjoying bigger profits on the first units of output. He will purchase q_A units from the free market.

If his allocation were greater than oq units of yarn (and he were acting alone) the manufacturer would process all his allocation at a marginal return less than the free market price but greater than the allocation price. Usually the allocation is not as large as this, and if nothing has happened to alter the free market price the manufacturer will operate at his former position, oq units of yarn.

But if all firms in the large scale industry behave in the same way, the effect of allocations being made to large manufacturers is that the industry's demand schedule for free market yarn falls: less yarn is required at the former price. This will bring about a reduction in the price of yarn and a smaller turnover in the free market. More yarn is retained and processed by the less efficient sector as a whole because its opportunity costs have fallen. Each large enterprise processes more yarn in total but this includes a smaller amount from the free market than before. The more efficient of the small and medium sized enterprises now find it more profitable to process their allocations. The fall in the market price will be slightly diminished by a small reduction in private imports since these are represented by an upward sloping supply curve.

The final pattern of production between large and medium sized firms

will depend on the size of allocations and on whether the allocations displaced private imports of yarn.

There are, however, two major qualifications to make concerning this analysis before it is appropriate to move on to the effects of uncertainty of supplies and inflation.

The cloth market:

First, the influence of allocations on the cloth market must be studied because any resulting change in the price of cloth alters the revenue product schedules of all weavers. Again we consider the two situations where allocations are made in addition to quotas or to freely imported supplies and where allocations displace part of the quotas for yarn.

If allocations were made in addition to freely imported yarn the granting of allocations increases the total supply of yarn available. A part of the original final supply of yarn remains the same. But the initial addition of cheap yarn, later sold by small weavers, raises the supply schedule. At the same time the demand schedule of large weavers, who have received their own allocations, falls. Thus the free market price is lowered and large weavers increase their total output. Because of the lower yarn price some less efficient weavers will be encouraged to process their allocations.

But the greater domestic output causes a fall in the price of cloth (unless demand rises correspondingly). The new price involves a downward shift in all marginal revenue schedules. If large weavers are initially operating at high levels of output where the marginal produc-

tivity is declining sharply, they will not require so great a reduction of output to raise marginal product sufficiently to compensate for the fall in commodity price. Less efficient weavers will suffer most because they are more likely to be operating where their marginal physical product is at a maximum : where it is very elastic. The large weavers would still be producing at least as much as before the allocations were granted, but the small scale section of the industry would suffer a reduction in total earnings as a result of cloth price adjustments.

If allocations displace part of freely imported yarn there will be no change in the total amount of landed yarn. If small weavers only are granted cheap yarn they will join the import licence-holders and sell in the free market until the return on processing is equal to their opportunity costs (or the marginal return of the large manufacturer). All that has happened is a redistribution of income amongst factor 'owners' : total domestic output of cloth is unchanged and we can expect the price of cloth to be unaltered. If large weavers were given allocations too, but total landed imports remained the same, there is not likely to be a change in price for similar reasons.

In all situations involving a shift of activity from small to large manufacturers there might be a slight reduction in the price of cloth due to a higher proportion of yarn being processed in the more efficient enterprises. However, this assumes the free market begins to operate in the present period, and is, therefore, hypothetical. If the cloth price fall did occur all revenue product curves would fall but the final distribution of yarn depends on the different rates of diminishing productivity. There is also present an upward sloping supply schedule for freely imported

cloth. This will lessen the magnitude of price changes in the cloth market by withdrawing supplies when there is a downward pressure on prices and supplementing supplies when there is an upward pressure.

Market imperfections and business motives other than profit maximization:

Second, by choosing marginal analysis as a means of explaining how equilibrium is reached in the market we have assumed that all kinds of producers are motivated by the profit maximization criterion. It should be clear from earlier chapters that there are likely to be other factors which are considered more important as determinants of market prices, and that the equating of marginal revenue product and marginal cost might be quite inappropriate. It is useful, however, to use marginal productivity analysis as a background to the question: 'why does the weaver not produce at this output?' By specifying market imperfections and describing various highly plausible alternative business motivations, it is possible to explain in which direction the weaver will deviate from his theoretical, marginal optimum. We can also decide, given all these market 'imperfections', whether the large weavers are likely to have larger or smaller levels of output than their marginal optimum would indicate.

As we have seen from earlier chapters the small scale weaver suffers chronic indebtedness and low credit-worthiness. When the allocations are granted he is likely to be faced with the problem of finding cash for three to six months' supply of his raw material. His bargaining position is much lower than that of the large weaver, ~~not only~~ because his credit-worthiness forces him into a credit market which has greater imperfections

than the banking system to which the large weaver can usually resort. In the private money market there might be effective oligopoly amongst money-lenders, sometimes supported by collusion.¹ The practice of having traditional money-lenders to whom the weaver might be permanently in debt, increases the effective monopolistic influence. It is a highly plausible hypothesis to state that the poorer the entrepreneur's credit-worthiness the greater the monopolistic power in his credit market. The arrival of a huge allocations of raw material in this kind of situation usually means the creditor can dictate any terms he likes which leaves the small weaver with a very small net income. Where the creditor knows the small weaver can resort to selling his allocation on the free market, the determination of interest rates is an exercise in dividing up the profits of a licence-holder: there is no marginal cost of production to use as a guide. He will behave in a way as described by the marginal analysis here but with very high arbitrary interest rates included in the effective allocation price.

Against this influence, there might exist a fear that by not processing any of his allocation he will forfeit his right to future allocations. In this situation he will attempt to equate, if he can, his marginal cost of yarn with his marginal revenue product to maximise his production profits,

1. It was a common complaint of the Indonesians that Chinese money-lenders agreed on interest rates to levy on Indonesian, and that these were much higher than they would attempt to get from fellow Chinese in similar positions.

even though this would not maximise his potential income. Or he might endeavour to maximise output making normal profits only. There might have been a period when this was important, but with the near total absence of effective authority of the Department of People's Industry by 1964, such a fear was not noticeable during field work.

Thus for those small weavers whose marginal revenue product schedules never rise above their opportunity costs we can conclude they supply the whole of their allocations to the free market very readily.

There may be some medium scale weavers whose total returns from processing are greater than from sales to the free market, who still prefer to sell their allocations. Their reasons might be the value of the extra effort involved in processing, or the possibility of alternative employment, which is an additional opportunity cost of processing the yarn. This latter fact would also encourage many small weavers to sell their allocations automatically.

Therefore, the net effect of other influences on the inefficient weaver might well be to increase the supply of free market yarn beyond that suggested in the marginal analysis outlined; and thereby shift production activity to the large enterprises even further.

The large scale weaver would probably have a stronger incentive to produce at an output greater than that represented on the marginal productivity curve by maximum profit (or minimum short run losses). This entrepreneur is in business for good: he does not expect to exist only so long as the government is content to provide subsidies of one kind or another. The largeness of his enterprise as well as his own individually determined level of

managerial skill make the large scale weaving industry, of which he is one unit, imperfectly competitive. His actions today, even under the stress of a scarcity of raw materials, will determine the power of his position in future. If he has reason to believe the strain of economic instability is greater on initially weaker enterprises, he may forego the exploitation of short run profits to increase his reputation and goodwill in the market, so that at a later date when the economy returns to some semblance of normality he can confidently expect a higher share of total sales of cloth. Furthermore, his overt ability to survive well in periods of hardship might be considered an important factor in his bargaining for the government and armed forces contracts which can do so much to stabilise production. Finally, an attempt to provide as much cloth for the domestic market by making only normal profits might also contribute to a 'softening' of government policy to the large, ⁿally Chinese, weavers, such that they are always granted allocations when the indigenous, small weavers receive them. For all these reasons it is likely that the large weaver would operate at levels of output greater than ~~that~~ those suggested by the equating of marginal revenue product of yarn and marginal cost of yarn, so long as he was still covering his other costs or was prepared to accept some short run losses. This means that for every price of free market yarn these other influences would increase the quantity of yarn demanded, and there would be an upward shift in the demand schedule.

Hence the kinds of imperfections of the market and the

range of entrepreneurial motivations expected in an underdeveloped country, experiencing dual technology and chronic economic instability, lead to a greater turnover of government allocated raw materials in the blackmarket than marginal analysis would suggest. We can further conclude that this divergence is larger, the greater the polarisation of actual application of technology (because the absence of intermediate grades of profitability increases both supply and demand in the free market), and the greater the economic instability (because this gives rise to long run considerations affecting short run decisions).

Supply and demand in the free market with uncertainty.

For the sake of simplicity, when examining the effects of irregularity in supplies and of inflation, it is assumed that the cause of uncertainty originates in the yarn market and that the cloth market alters in response.

(i) The influence of irregular supplies.

Without the cloth market:

If all that is meant by 'irregular' supplies of yarn is that allocations of a constant size are made at fixed, infrequent intervals of, say, six months apart, the purchasing of yarn from small weavers by traders and moneylenders for sale at a later date to large weavers does not necessarily include an element of uncertainty. The intermediaries in the market, in this case, are acting as financiers and holders of stock, and the payment they demand for these services includes interest and a return for operating the facilities. The interest charged may, of course, be strongly influenced by imperfections in the credit

market while the returns for services rendered might, in the examples of State Trading Enterprises and Cooperatives, incorporate monopolistic profits; but unless there is reason to believe that the certainty of six monthly arrivals is in doubt, there is no more reason to include a speculative element in these transactions than in production and trading in the most stable of economic conditions.¹

If, however, the fixed sized allocations are made, or expected to be made, not only infrequently but at irregular dates, or that allocations will come at regular intervals but be of uncertain size, then traders, moneylenders and large manufacturers must calculate their returns on a speculative basis. In Indonesia where both the timing and the size of allocations have followed erratic patterns, there can be little doubt that speculation is a strong force in the free market.

When an allocation is granted, or thought to be imminent, the free market price might be depressed by a postponement of demand by large manufacturers. The small weaver can benefit from these fluctuations in the market if he recognises the possibility of a future rise in prices, and decides to sell his yarn at a later date. However, his opportunity to exploit this situation of uncertainty depends on his financial ability to hold stocks of yarn until the price has risen. Because of his poor liquidity position and credit-worthiness his chances of benefiting from

1. Nevertheless, so long as there is some period of time between one allocation and the next there will always be mixed expectations of the future, no matter how similar costs, prices and the incidence of protection from overseas competition appear to be with those of the previous period of waiting for an allocation. The longer the period of waiting between one allocation and the next the greater the expectations that some factor in the market will change.

free market price movements are very restricted.¹

The large manufacturer seeks to supplement his official allocations with free market yarn on the basis of expectations of profits. This kind of manufacturer would like to make his purchases after the allocations have been distributed before insufficient supplies in the future increased the prices. If he did this it would lead to a temporary rise in his demand for free market yarn.

Much depends on his financial ability to stock yarn (or his cloth produce) until the price rises some time after the distribution of allocations; he is usually in a better position than the small weaver to attempt this.

However, his liquidity position might be extremely tight after he had just paid for his allocation of yarn. Interest rates can be very high in times of general scarcity of credit and there might be other, more profitable, ventures competing for loans. The final demand of the large manufacturer will depend also on his attitude towards risk.

The moneylender has greater ability to hold stocks of yarn than any class of producer. Moreover, he is usually the most knowledgeable businessman as far as foreign trade and government policy are concerned and, therefore, has an advantage over all manufacturers. If yarn supplies

1. There are usually other factors which will add to this restriction. First, the small weaver usually lacks the knowledge and experience of market analysis and government trade policy to formulate expectations sufficiently to estimate production profitability. Second, his poor credit-worthiness makes him unable to take a speculative proposition to a banker for easier credit terms. Third, the moneylender might raise his interest because of uncertainty of future prices. Finally, if the future price is expected to rise very much after allocations have been sold and processed, it will probably pay others to import yarn or cloth on private indent.

are expected to rise in future he will sell his yarn stocks now and buy from small producers later; and vice versa.

The effect of any speculation in the yarn market after a distribution of allocations is to raise demand. The small weaver, whose supply curve has remained unaltered will sell more of his yarn allocations at the higher price offered. Hence speculation has had the result of removing more raw materials from the small scale industry by presenting it with higher opportunity costs of processing. Total income from taking up the allocations would increase.

More yarn is now available to the large manufacturer. It is reasonable to expect that speculators' profits will be maximised when their stocks have been cleared before they rot.¹ If they charge a very high price, large weavers might find it more profitable to purchase from importers. Therefore, we can conclude output of large weavers will ultimately increase and there will be a shift of activity from the small scale industry towards the large scale industry.

Marginal productivity analysis can demonstrate whether total large scale profits increase or decrease with speculation. Again, it is assumed that total costs are covered or that the entrepreneur is prepared to accept some short run losses at all levels of output considered relevant here, and that all other factors are held fixed in anticipation of the arrival of yarn supplies.

1. The length of time before yarn deteriorates very much varies from place to place. Stocks which were estimated to be two to three years old in 1964 were partly rotted in Bandung. In the coastal towns the depreciation would probably be a good deal higher.

In Chart VII below, p_1AD represents the supply of yarn to the individual large weaver when the large scale industry has acted as a whole to purchase yarn for immediate use. There is no speculation over future price ~~use~~ rises. It is assumed that this supply lasts for three months. Then, when supplies of allocations have been depleted and private imports are used, the free market supply schedule rises to p_2EF . This supply lasts for another three months.

Now it is assumed that there has been speculation over future scarcities and price rises, and that this speculation has the effect of facilitating one prevailing price of yarn for all six months: the market supply has been stabilised at pBC .

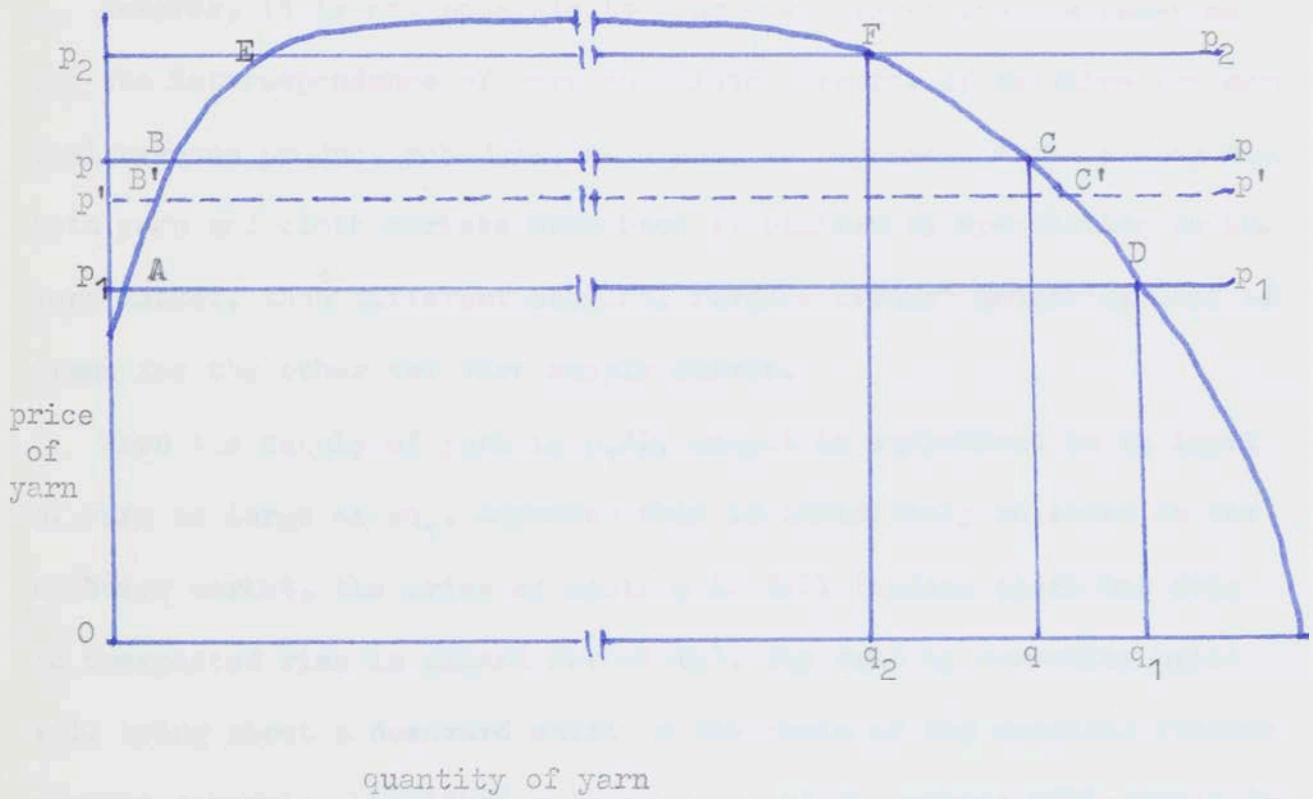
If there is no speculation the large weaver will enjoy $ABCD$ more profit in the first three months but $BEFC$ less profit in the second three months. From the diagram it can be seen that profits would be greater without speculation (even if total large scale output were increased a little).

But if the diagram were drawn with the speculative supply $p'B'C'$ at a lower level it is not at all clear whether profits would be more or less with speculation. In this case the large weaver would earn only $AB'C'D$ more profits in the first three months and earn as much as $B'EFC'$ less in the second three months. His total profits appear to be less without speculation.

The lower stabilised yarn supply of $p'B'C'$ could be a result of economies gained from purchased yarn allocations by moneylenders instead of by large weavers. It may be that professional speculators buying in

CHART VII

MARGINAL REVENUE PRODUCT ANALYSIS OF THE LARGE SCALE WEAVER WITH
UNCERTAINTY OF SUPPLIES



bulk can induce the small weaver to give up greater increments of his allocation with smaller price increases. Or the small and medium scale weaver's¹ yarn supply schedule itself is very elastic, due to the marginal revenue product curve declining only very slightly: it requires only a slight increase in the free market yarn price (or the weaver's opportunity cost) to bring forth a large increase in amount offered.

With the cloth market:

However, it is not possible to conclude this analysis without mentioning the interdependence of yarn and cloth markets. If we allow the marginal revenue product schedule, as drawn, to represent cloth prices when both yarn and cloth markets have been stabilised by speculation in the yarn market, then different marginal revenue product schedules must be drawn for the other two yarn supply curves.

When the supply of yarn is p_1AD , output is equivalent to an input of yarn as large as oq_1 . Assuming this is immediately released on the consumer market, the price of cloth will fall (unless there has been an unexpected rise in demand for cloth). The fall in commodity price will bring about a downward shift in the whole of the marginal revenue product schedule. Equilibrium in yarn and cloth markets will result in a cloth output equivalent to a little less than Oq_1 units of yarn input, and reduced total profits.¹ Similarly, a rise in yarn price to op_2 will reduce cloth ~~and~~ output and cause a rise in the cloth price and an upward shift² in the marginal revenue product schedule. Equilibrium will emerge

1. The supply of yarn will probably fall slightly also as a result of a fall in demand from large manufacturers.

at an input a little larger than oq_2 and total profit will be greater.¹

It is possible that the price increase when output falls will be greater than the price decrease when output rises. If this is true it offers the large weaver greater benefits than the stabilised supply of yarn at $p'B'C'$.

Two factors work to favour the large manufacturer in a situation of erratic yarn supplies but no speculative activity which might stabilise the supplies. First, if consumer demand for cloth is inelastic above a stabilised price but elastic below it, then as the price falls, much more will be purchased, but as the price rises, consumers are reluctant to cut back consumption. This is quite likely with a popular, essential commodity such as cloth. Second, the flatter curvature of the marginal revenue product schedule at higher yarn prices means that an increase in commodity price permits a larger increase in output, factor prices constant, than if the curve was declining rapidly.

Private imports of both yarn and cloth will have the effect of dampening price fluctuations. Because the supply curve for private imports will be upward sloping and rising faster at higher prices, the fluctuations of cloth prices at the lower level will be more effectively dampened than at the higher level. This would give the same effect as a demand curve inelastic above a stabilised price and elastic below it.

1. The supply price of yarn might increase slightly in response to greater demand.

(ii) The influence of inflation.

The impact of a rise in domestic costs is twofold: there is likely to be a difference in the proportional rises in production costs of small and large scale weaving enterprises, and the whole industry will suffer from greater overseas competition unless there are compensating changes in effective exchange rates for yarn and cloth. Both these effects will give rise to speculative activity because a change in relative profitabilities will lead to changes in demand and supply in the yarn market, while relatively cheaper imports of cloth in the future will lead to postponement of ^{some} cloth purchases and cancellation of some yarn purchases.

It is preferable to consider the two effects of inflation in isolation because one is concerned with changes within the weaving industry and the other with shifts in the position of the industry as a whole. Therefore, to analyse the changes in composition of production activity within the domestic industry we ignore imports of cloth and assume that consumer demand for cloth in money terms rises roughly in proportion to costs of production in general: that is, the total amount of cloth produced and sold by the domestic industry remains about the same as before.

Without cloth imports:¹

1. Inflation and relative fixed costs:

The analysis in Chapter IV described how inflation had the effect of increasing the profitability of large enterprises relative to that of small enterprises through altering initial capital costs, depreciation, interest changes, power costs, and wages.

The small weaver's¹ only cost of production, apart from yarn costs and interest charges, is the cost of his own labour. As food prices rise these maintenance charges rise too and he must increase his money returns from processing in order to retain his standard of living. It is normally a very low standard and cannot fall much lower. He produces the lowest quality cloth and his creditor does not leave him with much surplus. The official price of his allocation will probably have risen and his living expenses will certainly have risen. Since he has no liquid funds he must have credit before he can sell. If the price of his cloth output or the returns to selling his allocation on the free market rose in the same proportion, his credit-worthiness, however low, should at least remain constant and his interest burden should not increase. But his moneylender is also facing problems from uncertain price changes because he is lending money during a period when his capital might depreciate faster than expected. In order to hedge against this eventuality the creditor adds a risk premium to the expected rate of inflation.

1. This can be regarded as the same situation as cloth imports made on a floating exchange rate, and that rate varies approximately with indexes of factor prices. If the exchange rate rises less than fixed factor prices, this will have the same effect as a reduction in the competitive position of the whole industry. On the other hand, if the rate rises faster than an index of large scale fixed factor costs but slower than an index of small scale fixed costs, this additional source of cloth to the market will improve the competitive position of the large weaver only.

In general, if the burden of inflation is greater on the small weaver, his profitability of production relative to the large weaver's will fall and this will encourage him to sell more of his allocations.

2. Inflation and the need for extra employment:

As inflation reduces the real income the small weaver can gain from selling his allocation, increasing pressure is on him to augment his income by taking extra employment. This source of additional income was always available to the enterprising small weaver who sold his allocation and had time to occupy himself elsewhere. To the extent that some weavers did this without the presence of inflation the income foregone by choosing to process yarn allocations instead ought to be counted as another opportunity cost of being an active weaver. The effect of this would be further encouragement to sell allocations, and hence a rise in the supply of free market yarn.

But it is thought that the small weavers began to search for extra employment in the agricultural and service industries when inflation reduced their real incomes from the allocation system.

If this were practiced only by small weavers who automatically sold all their yarn allocation it would not affect the supply of free market yarn. But if it had a demonstration effect on weavers who tried to process their yarn allocations then the result would be a rise in the supply to the free market.

Special mention was made in Chapter IV of the greatly weakened position of medium scale enterprises during a period of inflation. This would contribute to shifting the supply schedule outwards.

3. Inflation and changes in the cost of fixed factors of large scale production:

If the price of cloth were to rise by 15 per cent, then the marginal revenue product schedule, and hence the demand schedule for yarn, will also rise by 15 per cent.

The supply of yarn to the free market has some elasticity so that the price eventually paid for yarn will rise ^{by} something less than 15 per cent and sales will be greater. The large weaver will increase the level of production and his total money returns in excess of yarn costs will be greater than previously. However, until more is known about the effects of general inflation on his other fixed costs it is not possible to conclude that the profitability of production has increased for the large weaver. Chapter IV demonstrated that, in fact, in Indonesia factor costs such as repayments on capital loans, apparent depreciation allowances, wages and fuel costs lagged behind the general price index. Therefore, it is reasonable to conclude that in this special situation the large weaver increased his profit (or decreased his short run losses) in real terms during inflation.

4. The net effect of cost increases:

Marginal revenue product analysis shows that the greater the difference in the burden of inflation on all other costs of production, except yarn, between small scale and large scale activity, the greater the relative monetary gains of the large scale producers during a period of inflation.

In a technologically dualistic economy inflation can accelerate the demise of the cottage and small scale sector. However, if it ~~is~~ can be shown that inflation operates more strongly on the short run fixed costs of large scale producers then inflation can be an advantage to small scale activity. Bearing in mind the special advantages of a weakened trade union movement, subsidized state electricity, and virtually free fixed capital costs to the Indonesian large scale weaving industry, it would be unwise to draw general conclusions from this analysis.

5. Market imperfections and business motives other than profit maximisation:

As was explained earlier the weavers might not be concerned with maximising profits. They might choose to increase output until they were receiving only normal profits. In inflation this is more relevant to the position of the large scale producer. If he benefits from inflation, through the demise of the small scale industry and greatly undervalued fixed costs, such that ~~the~~ his net profit increases he will expand his operations and demand more yarn from the free market. This kind of approach to production will raise the yarn price a little in relation to the cloth price and give greater incentive to small weavers to leave production, if some are still active producers.

If inflation continued large net profits would encourage producers to increase their short run fixed factors. If excess physical capacity already existed, the first factor which would be increased would be labour. But if the price of cloth fell relative to the cost of fixed factors, the large producer's short run profits would be decreased (or his losses increased) and he would reduce some of his fixed factors in the long run.

Speculation enters the yarn market on the basis of expectations of future changes in the profitability of producing. If it is believed that inflation will provide greater profits to the large, efficient weavers there will be a speculative demand for the current allocations of small weavers. The strength of this kind of speculation, which can be practised by both large weavers and traders, depends on the confidence with which anticipations of greater profit are held. As in the case of irregular supplies of yarn this speculative activity would add to normal demand for yarn in the free market and might have some effect on the decisions of small weavers whether or not to stay in production.

During inflation traders will be seeking goods as a store of purchasing power. If there are other goods which are more profitable for this purpose than yarn the speculative demand for yarn might not be great even though profits of the large scale weaving industry are expected to rise. If the range of other goods which serve as better stores of purchasing power is large it is possible the large weaver himself will prefer them to yarn.

However, the determination of the final effect of inflation on the profits of a section of the textile industry depends not only on what inflation does to the distribution of factor incomes but also on its influence on the incidence of protection to the domestic industry.

With cloth imports:

Inflation increases the cost of domestically produced cloth relative to the price of imported cloth unless there is a compensating change in exchange rate or tariffs. It is true that imported yarn will become relatively less expensive than goods in general, and the other fixed costs of large weavers will probably also lag behind a general price index, but without complete substitutability among factors of production, at best this can only delay the closure of the efficient factories while their former profits are being reduced. Ultimately, unless redress is made the competition from increasingly cheaper imports of cloth forces the domestic industry to close down.

The total size of small scale weavers' allocations can help the still active manufacturers by reducing the cost of yarn still further. But because of the reduced profit margin resulting from competition the demand schedule for yarn of the whole large scale industry will fall. At some stage the small scale and probably the medium scale industries will have given up all hope of competing and moved to alternative sources of employment. Their allocations would be automatically placed on the free market. With a fall in demand and an increase in supply the yarn price in the market will fall but its lower limit is set by the allocation price itself. The large weaver cannot obtain yarn below this price. Eventually, only a change in the landed price of cloth can save the industry.

Devaluation of the domestic currency suddenly alters the situation. Foreign competition is effectively reduced and the domestic industry can make profits once again. But this event does not occur automatically and in the case of Indonesia, Chapter VII shows how the government permitted inflation to continue for a couple of years without any rectification of effective exchange rates. Nor did periodic devaluation always entirely redress the balance. Inflation is a continuous process whereas devaluation involves large discrete changes in the competitive position. The longer devaluation is postponed the greater it must be when it comes if it is to provide sufficient profits to overcome past losses. It appears that in the Indonesian case effective devaluation and tariff measures did not take this fully into account and the whole textile industry suffered a long run decline in activity.

With the uncertainty of inflation and devaluation speculation is likely to occur. If the cost of factors other than yarn is going to rise faster than the price of cloth in the free market, speculative demand for those factors might occur in the present. But the nature of the other factors of production is not conducive to hoarding. Labour cannot be bought now and used later. Yarn, which can be bought in the future cheaper relative to other factors will not be stocked.

Hence the threat of greater overseas competition in the future is likely to lower any speculative demand for yarn which might arise for other reasons during inflation. Stocks which exist might even be released for fear of rotting before there is a change in the fortunes of the industry. In this way inflation and fixed exchange rates reduce the

total income which small weavers might expect to gain from the sale of allocations; but they might still sell the entire amount because of the other effects of inflation. In this case although the shift of allocations from the small scale sector to the large scale sector will be complete, the total ~~supply~~ output of the large scale sector will be gradually diminished as smaller and smaller quantities of private yarn imports become profitable.

If it were believed that a devaluation must come in the not too distant future, the expectations would be of an increase in the cost of yarn relative to other production costs and a rise in the price of cloth. This might provoke speculative demand for yarn if anticipated profits in this market were large enough to attract the limited working capital of speculators from other speculative ventures. In Indonesia a formal devaluation has occurred about every three years. It would be extremely difficult for most traders and large manufacturers to hold stocks of yarn for a couple of years. It is believed that only if it were thought devaluation was imminent would there be a strong speculative demand for yarn.

Conclusion.

At the beginning of this chapter it was noted that the various sources of yarn to the free market could cause different prices to be quoted because of the need for greater secrecy or because of sudden rises

in the free market cost of foreign exchange. But there were also other imperfections in the yarn market due to geographical distances and high cost transport, or derived from imperfections in the credit market. However, these price differences were limited by the homogeneous nature of the good and all price quotations would be affected in a similar manner by big disturbances in demand or supply conditions. Therefore, in the analysis one free market price was assumed to rule.

Without speculation yarn is shifted through the free market from small to large weaving enterprises. Because the available stock of yarn is in the hands of the most efficient weavers, it is more likely that there will be a slight fall in the wholesale cloth price.

Distinctions between situations, when the allocations are made in addition to free imports and in place of them, are necessary to study the final distribution of yarn. In the former case they can also affect the price of cloth by altering the total supplies of raw materials from all sources.

When allocations are made in addition to existing free imports there will be a fall in the price of cloth. This is likely to affect the small scale weaver more than the large scale weaver because the latter is more likely to be operating where marginal physical product is declining, and hence less of a contraction of output is required to increase marginal physical product enough to overcome the fall in price of cloth.

The presence of an upward sloping supply curve of free yarn imports means that the change in cloth price is modified by adjustments in quantity from another source.

By enabling the small weavers to take up their allocations initially, the free market adds to the supply of yarn facing the efficient manufacturer; unless these official yarn imports would be made anyway and finally auctioned if there was no demand from small weavers. To this extent the full operation of the free market increases the profits of the large scale section of the weaving industry as well as raises their levels of capacity utilisation. In this way the illegal sales of allocations provided the large scale section with incentive to expand capacity while overall rates of utilisation for the industry remained low.

The nature of imperfections in credit arrangements would encourage the ready sale of allocations by small weavers. Thus the immediate situation of the less efficient weaver would suggest that he is more likely to offer his allocation for sale than marginal analysis would indicate, unless in marginal costs were included very high monopolistic interest rates and opportunity costs.

A factor encouraging him to retain his allocation for processing beyond the point where marginal cost equals marginal revenue product would be his fear that he might lose his right to allocations in future. It is believed that with time this fear disappeared and that small weavers were content to automatically sell their entire allocations.

This factor was more noticeable amongst large manufacturers, particularly Chinese ones, who wished to prove to the government that they continued production even in hard times, or who wished to take the opportunity to expand their share of the market. A very strong impression was gained during field work that the large manufacturers endeavoured to remain in production for as long as their total costs of

production and the price of cloth would provide what each manufacturer considered was a tolerable profit position. In the short run this might well have involved losses,

It was not possible to determine whether the profits of the large weaver were greater or less if there were no speculation in a situation of irregular supplies. If the professional trader-speculator can gain economies of scale in purchasing allocations and stocking them for some period of time, or if the elasticity of supply of small weavers' yarn is very high, which is quite likely, the stabilised price of free market yarn as a result of speculation might be low within the range of freely fluctuating prices. Changes in the price of cloth due to fluctuations in levels of domestic production will modify the profits which might be obtained without speculation. If the cloth price increase (from output reductions) is greater than the price decrease (from output rises) the large weaver might find greater benefit from having unstabilised yarn supplies. A market cloth demand curve which is inelastic above a stabilised price but elastic below it would contribute to this, together with the presence of monopolistic competition amongst the large manufacturers. Also, the flatter curvature of the marginal revenue product schedule at higher yarn prices would mean that an increase in the price of cloth allows for a bigger expansion of activity than if marginal revenue product were declining rapidly. Private imports of both yarn and cloth would modify all price changes by adding to supplies when there was an upward pressure on prices and withdrawing supplies when there was a downward tendency. Since this supply schedule is likely to rise faster as quantities increase, it

would have the effect of dampening fluctuations of cloth prices more at the lower level than at the higher level.

The greater cost burden of inflation on the small weaver means that a greater shift of production activity to the large scale sector would take place in such a situation.

The special impact which inflation had on the fixed costs, such as capital depreciation and repayments, fuel expenditure, and wages, of the large weaver suggested that this manufacturer was able to increase his real total returns by domestic inflation.

In so far as the large manufacturer's motivation leads him to expand output until he is obtaining normal profits only or acceptable losses, his extra demand for yarn will tend to raise its price.

Speculation in allocation yarn based on anticipated greater profits in the large scale industry will raise the price of yarn from this source and might affect the decisions of some of the weaker producers. If there are some who have remained in production the higher opportunity costs will encourage them to sell.

Hence speculation caused by inflation will also increase the share of total output of cloth undertaken by the large producers.

Domestic inflation reduces the competitive ability of the industry as a whole unless there are compensating adjustments made to the basic exchange rate or to the effective tariff level, or both. This means that any speculative demand which already exists for newly arrived allocations will be reduced.

The net effect of inflation is unclear because it depends on landed prices of competitive goods as well as the slow changing prices of several fixed factors of large scale production. But it is believed that the state of foreign competition and the erratic protection policy resulted in very little speculative demand for yarn allocations because of inflation. The speculation which did occur was dominated by the irregularity of government imported yarn distributed at deliberately low prices.

CHAPTER VII.

PROTECTION AND THE INFLUENCE OF INFLATION.

In Chapters III and V it was seen that a shortage of foreign exchange did not constitute a sufficient explanation of the serious underutilisation of the weaving industry because very large quantities of finished textiles imports were permitted at the same time. But the ratio of the quantity of yarn imports to cloth imports did not remain fixed and it was apparent in the analysis of planning supplies of raw materials in Chapter V that the incidence of protection to the domestic industry was altering all the time. Part of the explanation of this rests with the many changes in trade regulations which caused sudden and discrete shifts in the composition of imports, but the continuously changing incidence of protection was due to the influence of inflation on the effectiveness of tariffs. Two other forms of protection invoked by the government, the 'marrying' system and import prepayments, could also be affected by rises in domestic costs.

This chapter is concerned with assessing the impact of inflation on tariff protection in the Indonesian textile industry and with describing the other measures taken by the government to mitigate this impact.

Measures of protection and the effect of inflation on them.

Tariffs (or surcharges):

Tariffs on imports are levied as a fixed number of Rupiahs per U.S. dollar spent on purchases from overseas, and the amount placed on a particular commodity measures the level of tariff protection awarded the domestic industry producing that commodity at a given time. So long as the dollar price of the import remained unchanged the surcharge in Rupiahs was fixed.

There have always been tariffs on imported commodities but they were very small until, in August 1952, new, much higher duties called surcharges were introduced. These surcharges became the main instrument of protection by radically altering effective import rates for different commodities.

The data in Table 30 present the order of magnitude of, and the many changes in, import surcharges with notes on the position of yarn and textiles.¹

1. One of the limitations of the use of this table is that textile imports varied in quality. The type of cloth which was most directly competitive with domestic production would have been included in the lower categories. For instance, in August 1952 'simpler textiles' were in same category as yarn, but it is not clear what was meant by simpler textiles. It might have been bleached and unbleached cloth which was used as raw materials for the batik industry, or it might have been the lower quality finished cloth. From the import figures for 1952 it would appear that some finished cloth was in this category.

With so many reclassifications and changes it is difficult to compare the Indonesian incidence of tariff protection with the incidence prevailing in other countries, but on the whole they are not very different from the duties in the Philippines introduced through the 1957 Tariff Act. This Act altered the entire tariff system which had existed since 1909. The tariffs are as follows:

<u>Item</u>	<u>1909 Act</u>	<u>1957 Act</u>
Raw cotton	0%	0%
Yarn	15-25%	35%
Woven fabrics	25-30%	10-25%

Other textiles have higher duties. Yarn carries a higher rate than woven fabrics because the spinning industry is more highly developed than the weaving industry. (L.D.Stifel. op,cit. p.61)

TABLE 30.

SURCHARGES ON IMPORTS AS A PER CENT OF VALUE, 1952 to 1960

	August 1952	January 1953	September 1955	September 1956	June 1957	August 1960
Categories:	A 0	A 0	I 50	I 0	I 0	A 0
	B 100	BI 33.3	II 100	II 25	II 20	20
	C 200	BII 100	III 200	III 50	III 50	45
	D pro-	C 200	IV 400	IV 75	IV 100	80
	hibited	D pro-		V 100	V 140	higher
		hibited		VI-IX 150-	VI 175	cate-
				400		gories
						higher
						basic
						rates.

Yarn	Category A	Category A	Free	Category II ⁽ⁱ⁾	Free
Textiles	Simpler textiles only in Category A	Category BI and higher	Categories I and higher	Categories III and higher	Categories II & higher (In August 1959 the surcharge on textiles rose to 25%)

Sources: The categories and surcharges were obtained from W.M.Corden and J.A.C.Mackie. Malayan Economic Review. Vol. VII. No.1, April 1962. pp.45,47,57.

(i) Kadarijah. Ekonomi dan Keuangan Indonesia. February 1958.

In October 1962 import levies on finished textiles were increased further¹ but this had protective effect only if manufacturers wished to purchase yarns by private indent in addition to their official allocations. In March 1963 import duties were increased such that raw cotton and yarns were imported on an effective exchange rate of Rp.315.00 and textiles on Rp.810.00 per U.S. dollar;² which amounted to a tariff protection of about 130 per cent. In July 1963 a special exchange rate was offered yarn importers in order to replace stocks,³ but this was withdrawn a few months later after heavy importing,

Because of the fixed Rupiah charge on imports inflation eroded the incidence of protection by raising costs of domestic production while the final landed price of the imported good was fixed in Rupiah terms. In the case of the textile industry, producers benefited from the fixed import price only in so far as raw materials were imported; but these usually accounted for only 70 per cent of total costs.

Quantitative restrictions:

Quantitative restrictions aim to control the volume of imports in order to guarantee a market for domestic producers. There have been three forms of quantitative restrictions in Indonesia since 1950.

1. Free list:

A week after the Inducement Certificate was introduced in March 1950, a 'free list' of imports was announced which included items for which an unlimited amount of foreign exchange was available:⁴ other commodities

1. A.B.Loebis. Ordonansi dan Peraturan Devisen Terbaru Penjelasannya, p.74
2. Economist Intelligence Unit Report. Indonesia. July 1963. No.45.London.
3. Interview at the Central Bureau of Statistics, January 1965.
4. Report of the Java Bank 1950-51. pp.64 and 115.

were being imported on restricted licences. In July 1950 almost all other goods were added to the list and in November everything was free-listed.

The free list system will remain effective during inflation so long as there is no tendency to corrupt it. But if the price ratio of domestically produced cloth to imported cloth alters very much, the incentives to manipulate invoices or allocations will be very strong, and in a country like Indonesia where the bureaucracy is neither vigilant nor very honest the disparity in profits on the two sources of cloth must be taken into account when assessing the likely efficacy of the free list.

2. Quotas:¹

These were introduced, after the free lists, in August 1953 because of a fall in foreign exchange earnings, and in May 1954 there was a severe reduction in the size of the quotas.² The following year the restrictions were eased and in the crisis of 1957 they were rejected as an important instrument of trade policy in favour of exchange rate and monetary measures.

In 1959 an exchange allocation authority decided the distribution of foreign exchange, appropriated by Cabinet from the reserves of Bank Indonesia, to government departments which were responsible for the level of activity in certain industries. In this way the weaving industry received allocations of officially priced yarn which were tantamount to import

1. Quotas were the chief instrument of protection for the later developing Philippines textile industry in the fifties. Until a rise in tariffs in 1957 they constituted the only form of protection. Although they were called allocations they were quotas of dollars rather than quotas of existing supplies of yarn, and, therefore, belong to the category of quantitative restrictions. (.L.D.Stifel. op.cit. pp.37 and 40).
2. In spite of this quota reduction the international reserves of Bank Indonesia had to be allowed to drop below the statutory 20 per cent. (H.O.Schmitt. Monetary Policy in the Political Economy of Indonesia, 1958. Chapter 3, p.52)

quotas offered to holders of capacity licences.

Inflation acts upon the quota system in much the same way as it does upon the free list system.

3. The 'Marrying' system:

In 1956 the spinning industry was unable to compete against low priced yarn imports. The imposition of a 25 per cent surcharge on yarns in September of that year had failed to solve the problem. In an effort to avoid increasing import costs the government instituted in February 1957 a 'linkage', or 'marrying' system, whereby an import licence holder was required to purchase 20 per cent of his import licence from a domestic spinner. In this way the high priced domestic production was rationed out; but this method of protection was abandoned not long afterwards on the complaints of the weavers that it had caused a 35 per cent rise in yarn prices.¹

This linkage system has the advantage during inflation that, no matter how large domestic cost increases are, the domestic industry is guaranteed some productive activity so long as there are cloth imports. But if prices of textiles should arise as a result of this form of protective measure the total quantity of cloth demanded by consumers will fall. Imports of cloth will fall; but so will cloth production.

Prepayments:

A system of advance payments for imports was designed to reduce the quantity of money in circulation and restrain inflation with a view to conserving foreign exchange resources and protecting the value of the

1. Kadarijah. Masalah Kebidjaksanaan Administrasi Penjaluran Sandang.
p.9

Rupiah. However, due to the difficulties of working capital experienced by importers it emerged as an effective instrument of import discrimination, particularly during periods immediately following a monetary purge or a rise in overall imports rates when limited financial resources were allocated to the most profitable imports.

In August 1952 a regulation requiring a 40 per cent advance payment on the value of intended imports, to be made at the time of the granting of the licence, was introduced.¹ The system allowed special credit consideration to be given to Benteng importers who were responsible for importing yarn and textiles.

In April 1953 the prepayment was raised to 75 per cent and in October it was reduced to 50 per cent.² Credit facilities were extended in September 1955 to provide extra assistance to Benteng importers. These importers were given the choice between a 75 per cent prepayment without the prevailing 50 per cent surcharge or a 50 per cent prepayment with a 50 per cent surcharge.³ At the same time all other importers were subject to a 100 per cent prepayment.

Prepayments are generally not regarded as a measure of protection, and even in Indonesia they were intended as an instrument of credit policy rather than of trade policy. But in a situation when import costs have risen through devaluation or when credit is difficult to acquire, prepayments can be a powerful instrument of effective protection.

1. Report of the Java Bank 1952-53. p.103

2. Panglaykim.op.cit. p.27

3. Report of Bank Indonesia 1955-56. p.151

If import rates are fixed the protective effect of prepayments declines during inflation for two reasons. First, import profits rise as internal prices rise and this assists importers in overcoming problems of working capital and, therefore, credit. Second, as the price of domestically produced goods rises relative to the price of imports the lower profitability of manufacturing will cause part of the limited working capital, once devoted to the trading of raw materials, to be used for importing finished textiles. Importers who handle all kinds of textile materials will change the composition of their products when relative profitabilities on individual goods change.

The efficacy of measures of protection.

In order to examine the mechanisms of protection since 1950 under inflationary conditions the years from 1950 to 1964 will be divided into shorter periods denoted by the share of domestic production in total textile supplies. It might have been preferable to bring together all the years when surcharges were large, or when prepayments were high, and study the effect of this measure separately. Unfortunately, it is very difficult to isolate the influence of each measure since all were used in varying degree in conjunction with the others. It is thought that the simplest way of studying competition is to take a period during which the industry showed (or did not show) signs of competing successfully and observe the prevailing protective influences.

Data on the composition of all textile materials ^{imports}, given in Table 31, indicate a possible division into six periods according to intensity of competition. They are 1950 (a special year for imports), 1951-52 (strong competition from cloth imports), 1953-56 (gradual improvement), 1957-58

TABLE 31.

IMPORTS OF SELECTED TEXTILES RAW MATERIALS AND FINISHED GOODS

1938, 1950-64 (tons).

	RAW COTTON	COTTON YARNS	BLEACHED & UNBLEACHED COTTON PIECE GOODS	DYED, PRINTED WOVEN COLOURED COTTON PIECE GOODS	TEXTILE MATERIALS (CLOTHING & UNDERWEAR)
1938	-	9,100	27,100	24,600	6,500
1950	2,860	15,317	26,159	23,600	2,339
1951	4,042	5,812	26,071	38,647	5,511
1952	4,071	8,228	24,521	23,209	8,882
1953	5,078	12,959	31,471	41,638	4,713
1954	5,684	14,374	24,582	33,884	3,369
1955	7,116	17,957	27,224	25,104	2,125
1956	7,841	20,465	25,198	35,289	5,537
1957	9,327	10,554	28,872	28,655	366
1958	8,124	16,868	18,573	13,202	207
1959	6,493	20,486	12,244	7,714	107
1960	11,117	49,342	14,890	18,314	392
1961	12,157	50,263	27,142	33,437	1,099
1962	10,591	29,542	19,950	17,160	535
1963	N.A.	22,783	N.A.	N.A.	N.A.
1964(i)	4,400	16,745	5,308	9,273	579

Sources:- Report of Bank Indonesia 1954-55, pp.199-201. (1938 figures)
Statistik Konjunktur; 1961, pp.58-9; 1956, pp.50-1;
January- April 1963, pp.56-7.

Figures for 1963, Business News, Djakarta, 5.7.65.

N.B. (i). Figures for first six months (excluding May) of 1964
 from Summary Report: Imports according to type, December
 1963- June 1964.

(strong competition from imports), 1959-61 (increased domestic activity), and the period of economic deterioration, 1962 onwards.

Large imports of all kinds, 1950:

In March 1950 the Inducement Certificate was introduced for all imports.¹ Since all imports were subject to this measure no particular set of imports was at a cost disadvantage. However, goods which were not likely to be bought immediately by the final consumer were considered risky investments by importers because of the possibility that stocks would lose their value if the future rate of the Certificate fell. Imports of raw materials were held to be at a disadvantage for this reason because producers might have to sell their cloth at a lower price than the cost of the yarn which they had purchased earlier. This fear disappeared when the price of the Certificate was fixed not long after its introduction.

A week after the Inducement Certificate increased the cost of imports, a monetary purge reduced the amount of money in circulation by about 50 per cent.² It was hoped that this deflationary measure would lower domestic production costs and thereby benefit industry, but in conjunction with the sudden and large increase in costs of raw materials imports it

1. W.M.Corden and J.A.C.Mackie. op.cit. p.43.

At first it was announced that the rate of the Certificate would be allowed to fluctuate according to supply and demand, but it was soon fixed at 200 per cent of the face value. With a basic exchange rate of Rp.3.8 per U.S. dollar this meant that the effective import rate was Rp.11.4, which constituted a very big increase.

2. Report of the Java Bank 1949-50. p.37

caused a crisis in working capital.¹ Traders who held stocks of imports released these on the market in order to regain liquid resources for further purchasing. The Report of the Java Bank for 1949-50 described this dumping of goods as to the detriment of textile manufacturers because it lowered prices of consumers' goods.²

Soon after the monetary purge a free list of goods³ was drawn up, consisting of raw cottons, yarns and medicines, which was allowed unlimited supplies of foreign exchange.⁴ All controls over the price and distribution were to be abolished. The purpose of this list was to ensure sufficient supplies of essential consumer goods and raw materials; but until credit was extended to importers following the purge this measure could not be fully utilised and exploited. As the government increased credit facilities this measure became more important, and the favourable position in which the textile industry found itself in mid 1950 must be attributed entirely to the free list of imports.

The Report of the Java Bank for 1950-51 suggests that due to the tight foreign exchange position producers were able to make abnormal profits at this time, but the presence of unlimited supplies of foreign ex-

-
1. The Java Bank commented on this period: 'In the first place the monetary measures did not bring about the desired and necessary peace within the economic sector. The foreign exchange Certificate system which was introduced led to liquidity difficulties which were aggravated by the monetary purge that was carried out a short time later'. Report of the Java Bank 1950-51, p.115.
 2. Report of the Java Bank 1949-50, p.37. The lower costs might have alleviated the shortage of working capital in the manufacturing sector but there is no suggestion of this in Bank reports. If stocks held were mainly composed of consumer goods this would not have helped the domestic industry.
 3. Report of the Java Bank, 1950-51, p.116
 4. Other goods were on restricted licences. (Ibid. p.42)

exchange for textiles raw materials does not amount to a 'tight foreign exchange position' unless domestic capacity is very small. In this case the weaving industry was still grossly underutilised in spite of the free list. It would be more accurate to say that the more efficient firms were able to make abnormal profits because the weaker firms were unable to process free list yarn imports at a profit and therefore the total supply of textiles remained low. It was the variability of cost structures within the industry rather than the 'tight foreign exchange position' which caused abnormal profits to be made by some firms. Nevertheless, however temporary were the quantitative restrictions on cloth imports they constituted the only measure of protection offered in 1950.

Later, in May and July 1950, the list was extended, and in November all goods were included and the influence of protection declined.

The deflationary policy would have offered further advantage to the textile industry if the expansion of credit facilities in the months after the monetary purge had been allotted in a discriminatory manner.

Foreign competition and a slump in the industry, 1951-52:

The end of the free list system in November 1950 meant the end of any planning of raw materials imports while the enormous increase in the money supply, from Rp.4,392 million in December 1950 to Rp.5,132 million in December 1951,¹ caused a rise in domestic production costs at a time when the fixed exchange rate held constant the landed price of imports.

1. Report of the Java Bank 1951-52, p.71

The elimination of quantitative restrictions at a time when an adverse trend in the cost ratio of domestic to overseas output warranted further protection was sufficient to cause a depression in the Indonesian industry, but another factor contributed to the decline in production. The profitability of producing was further reduced by labour problems,¹ which were caused by greater trade union militancy and the rising cost of living. The number of disputes and the degree of uncertainty about production increased in the first six months of 1951.

The combined result of these adverse influences was a big increase in finished textiles imports and a 66 per cent reduction in yarn imports.

The total volume of imports of all textiles materials in 1951 would probably have been larger if importers had not overestimated demand in 1950.² After the extension of the free list these imports had risen to such an extent that prices had to fall. Traders who had speculated in stocks unloaded them on to the market because they required cash; this caused a fall in textile prices and more manufacturers were unable to produce without loss.

Unfortunately it is not possible to assess how much of the decline of 66 per cent in yarn imports was due to the three influences: inflation, lack of protection and the dumping of stocks.

The position was partially rectified in February 1952 by a radical change in import policy which included the introduction of heavy duties. First, the basic rate of Rp.3.8 to the U.S. dollar was devalued to Rp.11.4³

1. Labour troubles in the first half of 1951 were serious. (Ibid. p.60)

2. Ibid. p.57

3. W.M.Corden and J.A.C.Mackie. op.cit. p.46

and the Exchange Certificate was abolished except for luxuries.¹ This devaluation amounted to including the price of the former Certificate in the new basic rate. Second, surcharges (or duties) were introduced on imports which were divided into four categories.² Category A, which included raw cotton, yarn, and some simpler textiles, was free of surcharges, Categories B and C were subject to 100 per cent and 200 per cent, respectively. Goods in Category D were prohibited imports. This immediately provided the textile industry with some protection against textiles in categories other than the first; the extent of the change in composition of textiles materials imports is illustrated in Charts I and II which provide quarterly data. Table 31 shows that yarn imports rose from 5,812 tons in 1951 to 8,228 tons in 1952, while finished cotton piece goods fell from 38,647 tons in 1951 to 23,209 tons in 1952.

But inflation undermined the influence of this tariff protection because domestic costs continued to increase in 1952 while the exchange rate remained fixed: Table 12 showed that the index for food prices in Djakarta rose from 168 in 1951 to 177 in 1952 while the index of the price of imported textiles actually fell from 77 to 66. The lower price of textiles must be considered as a continuation of the decline in this price from the high level in 1950 when quantitative restrictions kept supplies at a low level, as well as the result of the fall in world textile prices following the elimination of the backlog of demand from World War II and the end of the Korean War. Second, the unfortunate position in which the

1. J.Panglaykim. op.cit. p.26

2. W.M.Corden and J.A.C.Mackie. op.cit. p.45

industry found itself was aggravated when, in August 1952, prepayments were introduced whereby importers were required to make a 40 per cent advance payment on the value of their intended imports at the time when the import licence was granted. This raised the cost of all imports because of the higher interest rates paid by importers (or their customers) who had to resort to the free money market for loans. Although prepayments were intended to restrain inflation by withdrawing money in circulation this measure was the first indication that availability of credit could be used as a measure of protection if it were so desired. In this case the potential powers of discrimination were not used.

Chart I shows the decline in quarterly data of yarn imports while finished textiles imports continued to increase in the last quarter of 1952. In the absence of quantitative restrictions these trends must be regarded as the result of inflation and the prepayments system, although without further information the share of responsibility cannot be apportioned between them.

Years of prosperity for the industry, 1953-56:

In January 1953 a new set of import regulations reversed the competitive position and the profitability of manufacturing increased.

The surcharge categories were reshuffled such that Category A, which included cotton yarns but excluded textiles, was free of surcharges.¹ Cheap textiles in Category BI carried a 33.3 per cent duty, while Categories BII and C had surcharges of 100 per cent and 200 per cent, respectively. Category D, once again, consisted of prohibited articles. These duties were added to the existing fixed exchange rates.

1. W.M.Corden and J.A.C.Mackie. op.cit. p.47

Charts I and II show the immediate, but temporary, effect of this change. Imports of cotton weaving yarns increased sharply in the second quarter of 1953, apparently after a delay. The reaction of finished textiles was more immediate: these imports were almost halved between the last quarter of 1952 and the first quarter of 1953. But by the middle of 1953 the trends were reversed and in the third quarter of 1953 finished textile imports reached a record level while yarn imports fell sharply.

Once again, with no other obvious strong influence, the decline in the incidence of protection must be attributed to the presence of inflation which was greater in 1953 than in the previous year. The most remarkable aspect is the rapidity of the decline of effective protection in the space of six months. According to Table 31 yarn imports rose about 50 per cent but cloth imports rose almost 80 per cent.

In August 1953 quantitative restrictions were introduced because of declining reserves and in May 1954 there was a sharp reduction in import quotas followed by another cut in September. Without any other changes in trade policy which might influence the composition of imports these quotas must account completely for the large fall in cloth imports, especially since the chronic inflation would otherwise have further encouraged cloth imports. The data in Table 31 reflect government policy on quotas.

In September 1955, a month after a new Cabinet took office, quotas were abolished¹ but surcharges were raised and prepayments were extended. The basic exchange rate was still Rp.11.4 per U.S. dollar, but surcharges

1. Report of Bank Indonesia, 1955-56, p.113

rose to 50, 100, 200 and 400 per cents for the four categories.¹ Raw cotton and yarn were exempt, and most textiles were in the first group.

Without quantitative restrictions the composition of textile materials imports depended on tariff protection. In spite of the slightly higher surcharges, the rise in domestic costs since January 1953 was so large that the new level of tariff afforded little or no protection. Charts I and II show that imports of finished textiles continued to rise while imports of yarn fell sharply in the fourth quarter of 1955. These data provide an excellent illustration of the erosive influence of inflation on tariff protection.

In early 1956 yarn imports rose rapidly and in the second half of that year imports of finished textiles began to decline. The only factor which appears to have been present to bring about this change was the discriminatory policy applied to the liquidity position of importers. In November 1955 prepayments for industrial raw materials were eased by offering importers the alternative of 75 per cent prepayment without a surcharge of 50 per cent, or 50 per cent prepayment with a 50 per cent surcharge,² and in July 1956 this was reinforced by restrictions on credit given to non-Benteng importers.³ Although the surcharge on yarn was only 25 per cent at this time, yarn importers still benefited from being able to choose between paying the surcharge or advancing the cost. In the absence of quotas and increases in tariffs it was this selective credit policy, and only this policy, which saved the textile industry from the near annihilation it appeared to be moving towards at this time.

1. W.M. Corden and J.A.C. Mackie. *op.cit.* p.47

2. *Ibid.* p.51

3. H.O. Schmitt. *op.cit.* Chapter 4, p.5.

But without a large devaluation the continuing inflation successfully outweighed all these measures and heavy importing of cloth continued. The longer the devaluation was postponed the more ground was lost by the domestic industry. A minor rescheduling of surcharges had no effect;¹ nor did the new Inducement Certificate, the B.E., introduced in September 1956 which was necessary for only 10 per cent of total imports.²

Imports of raw cotton continued to increase but this was largely because the spinning mills were few in number, large in size, and owned by competent managements. The Chinese or European owners had efficient channels of supply of raw materials and the expensive machinery could not be permitted to remain idle.

The re-emergence of strong overseas competition, 1957-58:

Prior to the crisis of 1957 the long period of inflation free of devaluation had led to a weakening of the competitive ability of the spinning industry. This was the only period when domestic spinners required special government protection, and it is a sign of their efficiency that they should have succeeded so much better than the weaving industry during a period when competition must have increased considerably. In September 1956 they were granted protection by the imposition of the 25 per cent tariff on yarn imports.³ Soon after this, stocks of yarns of high lengths produced locally were sold out, but yarns of length 20/s could not be sold because the domestic price was still higher than the

1. W.M.Corden and J.A.C.Mackie. *op.cit.* p.51

2. *Ibid.* p.51

3. Kadarijah. Development of the Indonesian Textile Industry, p.35

imported price. As a result, in February 1957, a 'marrying' system was devised whereby 20 per cent of an import licence for yarns had to be used to purchase domestic yarn.¹ Although this was successful from the point of view of the spinners it led to a 35 per cent increase in yarn prices.

Cloth prices did not rise correspondingly and weavers suffered lower profits. This exposed another difficulty of protection. When imports can be made at different stages of the manufacturing process the protection of one section of the industry involves discrimination against another.² In the case cited above the outcome for the weaving industry was very serious.

It was not until devaluation in June 1957 that the heavy importing of 1956 was effectively checked. Because of the serious foreign exchange situation recourse was made to a floating Inducement Certificate, the B.E.,³ in an attempt to equate supply and demand for foreign exchange. In April 1958 the rate of the Certificate was fixed at 332 per cent of its face value (Rp.11.4 per U.S. dollar) which meant that the effective basic rate (before surcharges) had risen by 220 per cent. At the same time credit facilities were reduced. All imports were subject to this Certificate and the immediate result was an enormous rise in all costs, including essentials, and a crisis in working capital. Furthermore, the new set of surcharges for six categories,⁴ provided a slightly smaller percentage tariff prot-

1. Kadarijah. Masalah Kebidjaksanaan Administrasi Penjaluran Sandang, p.9.

2. In Chapter VIII the difficulty of estimating an 'effective tariff' for the Indonesian weaving industry is discussed.

3. Kadarijah. *op.cit.* p.25. The effective import rate, excluding surcharges, fluctuated between Rp.23 and Rp.37.8 per U.S.Dollar. On average, it meant an increase of about 150 per cent on the basic exchange rate of Rp. 11.4 per U.S. Dollar. The basic rate remained at Rp.11.4. The Certificate gave rise to an effective basic rate to which surcharges were added.

4. W.M.Corden and J.A.C.Mackie. *op.cit.* p.45.

ection to importers of raw materials than the former duties although the devaluation increased the absolute size of the tariff.

Charts I and II show the effect of these measures. Yarn imports suffered, both proportionately and absolutely, much more than cloth imports. The two causes were the rescheduled surcharges and the strain on liquidity resulting from both the big increase in the effective import rate and the reduction in credit. It would appear that the government overlooked the cumulative effects of inflationary influences, on internal costs and working capital, on the competitive ability of the domestic textile industry when it introduced its policy of devaluation and deflation.

Strong support for the textile industry, 1959-1961:

The establishment in April 1958 of the P.T.-2 Negara¹ limited companies which were the fore-runners of the State Trading Corporations² (known as the Big Eight), meant that nearly all of raw cotton, yarns and textiles imports were in the hands of government monopolies run by inexperienced Indonesians. The raw material imports were insured by the system of official allocations to the Department of People's Industry for this purpose. The system was provoked by the chronic underutilisation in the domestic industry, and imports in 1959 and 1960 suggested that the government was determined to guarantee the needs of the manufacturer before the profitability of importing or the purchasing power of the consumers. Under-utilisation on a growing scale had existed since 1956 and stocks of raw

1. J. Panglaykim. State Trading Corporations in Indonesia. First Year's Performance. p.6

2. J. Panglaykim. Ekonomi dan Keuangan Indonesia. Vol. 16. No.3. 1959 pp.17-18

materials were thoroughly depleted. The latter partly explains the very large imports of yarn and raw cotton in 1960-62.

The difficulty of assessing protection policy after 1959 rests on the allocation system. It is true that less yarn was imported privately after 1960 and that manufacturers came to rely very heavily on the dollar reserves of the Department of People's Industry. However, that quota itself appears to have been influenced by competitive pressures of the importers on the Department of Trade which was responsible for importing cheap textile fabrics.¹

The influence of devaluation in August 1959 and increases in surcharges must be considered negligible in view of the degree of inflation since June 1957. The B.E., which had been fixed at 332 per cent of Rp.11.4 per U.S. dollar, was abolished and a basic rate of Rp.45.00 was introduced,² while the textile category competitive with duty free yarn faced an increase in surcharge from 20 per cent to 25 per cent.³ Under the system of allocations of foreign exchange to Departments tariffs and exchange rates could have been important determinants of protection in view of the pressures already mentioned. But it is thought that the influence of inflation eliminated these small import cost increases and weakened the bargaining position of the Department of People's Industry.

In August 1960 the strength of foreign competition was increased by a reshuffling of effective import rates. In an effort to curb all imports a 20 per cent flat tariff was added to the surcharges on all raw materials

1. See Chapter V, 'Supply and Distribution of Raw Materials'.
2. W.M.Corden and J.A.C.Mackie. op.cit. p.55
3. Ibid. p.45

and finished textiles;¹ this reduced the ratio of effective import rates of cloth to yarn. The continuing inflation aggravated the situation by changing relative profitabilities of finished goods and raw materials.

Cloth imports rose to a very high peak in the first quarter of 1961. If the allocation system had not been in force the domestic industry most likely would have lost more ground to foreign textiles than it did.

The decline of foreign exchange reserves, 1962 onwards:

The limited foreign exchange supply and the allocation system dominated the pattern of imports during this period.

Another Inducement Certificate, but one which was mainly purchased for luxury imports, was introduced in March 1962,² and in October finished textiles imports had higher duties levied on them. In March 1963 the Certificate was abolished and imports were freed from the allocations system but were subject to higher import duties. Raw cotton and yarns were imported at the rate of Rp.315 per dollar, while competitive textiles were imported on the rate Rp.810.

In July 1963 a special low exchange rate was offered importers of yarn but this was withdrawn after a few months, following heavy importing. In the following year imports were made by the Department of People's Industry on the basis of its foreign exchange allocation on a fixed low rate and by private indent of manufacturers on a near free market exchange rate. But all imports fell markedly as a result of the extreme shortage of foreign exchange and the issue of overseas competition was very much a secondary problem.

1. Ibid. p.57

2. A.B.Loebis. op.cit. p.74

internal

Problems of protection to the industry

There are two issues of protection involving considerations of competition within the industry which make it difficult and misleading to think in terms of one fixed "effective tariff".

The first refers to protecting different stages of the manufacturing process. If spinning is to be protected this will cause high raw material costs in the weaving section and if these costs cannot be passed on to the consumer the profits of the industry will be squeezed. On the other hand, if the weavers are protected against imported cloth, this might have to be at the expense of no tariffs of yarn. The spinners might find it difficult to compete with imports. The experience of 1956 and 1957 showed that without a surcharge on yarn imports, domestic spinners could not produce at a profit. Furthermore, each stage of the process will probably require a different incidence of protection with each development in mechanisation. In the light of the discussion in Chapter IV, if the entire weaving industry were mechanised the differences between tariffs on raw cotton and yarn might not have to be so great.

The second difficulty of protection is the variation in levels of efficiency within each sector of the industry. This problem is almost exclusively confined to the weaving industry. Protection for weavers, sufficient to cover the costs of the small scale unmechanised weavers, would lead to abnormal profits for the efficient, large factories. The government attempted to solve this question by offering fixed priced yarn allocations to small scale enterprises in 1955 and 1958 but this produced a blackmarket because profits from selling the allocation to large firms were sometimes greater than profits from processing it, and at other times

it was regarded as preferable to sell the allocation without even considering production profits. If there had not been a shortage of foreign exchange the issue would be simpler because the large factories could be provided with enough yarn without resorting to the black (or free) market and the small scale enterprises would turn to production if they found it profitable to do so. But on the basis of past experience it would be preferable to channel supplies of yarn limited by the availability of foreign exchange direct to the most efficient factories and adjust protection to weavers in this situation.

Conclusion:

The composition of textile raw materials was constantly undergoing alteration because several different factors were influencing the degree of overseas competition.

The fall in imports of yarn towards the end of 1950, when there were only very small tariffs imposed for revenue raising purposes, revealed the necessity of tariff protection if other forms of protection were not to be used. But when sizeable surcharges were introduced in 1952 to assist the domestic textile industry tariff protection was shown to be ineffective in an inflationary situation. The surcharge of the cloth imports which were close substitutes for the cheap domestic product were usually of the order of magnitude of 25 per cent to 50 per cent. With inflation of as much as 50 per cent a year between 1950 and 1958 the influence of the surcharges was ~~greatly~~ ^{quickly} diminished. Between 1952 and 1957 there was no devaluation but prices doubled. The landed cost of imports was raised by a small rescheduling of surcharges in 1955. By later 1956

raw materials imports had declined to an all-time low while finished cloth imports were still arriving in large quantities.

Quotas were used in 1954 and part of 1955 in order to conserve foreign exchange reserves but it is thought that inflation might have made this method of protection vulnerable because the increasing profits of cloth imports undermined the licencing system.

In these circumstances credit policy emerged as a powerful instrument of protection through its effects on the working capital resources of the importers. The Benteng programme had promoted a class of importers which was heavily reliant on subsidised bank credit, and by manipulating bank credit policy the government was able to reduce the liquidity of the importing sector. In November 1955 when the tariff protection on yarns had been greatly reduced by a long period of inflation, and quotas had been abolished some months previously, the special concessions to importers of raw materials over advance payments must be held largely responsible for the increase in the volume of imports of those goods. The change in the fortunes of the textile industry at that time show that, if effective tariff protection is impossible for one reason or another, selective credit policy can become a very successful substitute.

While it is difficult to isolate the sources of protective benefit to the textile industry it can be concluded that there were long periods when tariff protection was one of the least influential methods of support.

The ability of the large scale section of the weaving industry to survive, as is shown in Chapter VIII, owes much to the failure of some costs of production, such as wages of hired labour, capital repayments, and depreciation to respond to general price increases.

CHAPTER VIII

THE TEXTILE INDUSTRY AFTER FOURTEEN YEARS OF SUPPORT AND PROTECTION.

This chapter will review the state of the industry in 1964-65 by examining the rate of capacity utilisation and the strength of competition from imported textiles. Unfortunately, a detailed analysis of the industry's competitive position is not possible because of the analytical problems posed by arbitrarily fixed multiple exchange rates and quotas, and the presence of inflation. However, a few tentative conclusions will be drawn. Considerations of overall benefit from the industry will be left to Chapter IX.

We will begin by summarising the development of the industry since 1950 followed by a description of the chief characteristics and the size of the industry. Because of the incomplete nature of up to date information some of the data refer to periods earlier than 1964 but in view of the very small amount of private expansion after 1962¹ this is not considered a serious deficiency. Data on public investment were available until the end of 1964.

Statistics on imports and production for recent years are not fully comprehensive and the level of activity in recent years must be inferred from import figures acquired during interviews and from impressions gained on visits to centres of textile production.

1. This information was gained from interviews with manufacturers and with officials of the Department of People's Industry, Djakarta.

Development of capacity and production since 1930.

A summarised description of the progress of the domestic industry and its importance as a source of total supply of textiles in the country since 1930 is provided in Table 32. The first two decades are represented by the years 1930, 1940 and 1951, while the period following is shown by a mid 1955 level and the recent years of uncertainty.

TABLE 32.

<u>THE DEVELOPMENT OF THE MODERN TEXTILE INDUSTRY SINCE 1930</u>					
(Spinning capacity, weaving capacity, weaving production, imports of cloth; 1930, 1940, 1951, 1955, 1960-62)					
	Spinning capacity (tons of yarn)	Weaving capacity (Power equipment)		Actual weaving production (million metres)	Imports of cloth (million metres)
		INPUT	OUTPUT		
		(tons of yarn)	(million metres)		
1930	-	200	0.9	N.A.	450
1940	3,636	32,000	117	128	139.2
1951	5,506*	49,977	274.6	65.1	211.8
1955	8,540	54,200	297.8	134.0	138.1
1960	10,716	87,870	482.8	332.1	100.7
1961	N.A.	N.A.	N.A.	336.6	183.7
1962	14,053	120,793	663.7	214.9	94.6

Sources:-

- (i) Spinning capacity 1940; taken from Chapter II (Capacity and Production - The Expansion to 1942).
 - (ii) Weaving capacity 1930; derived from Table 2.
 - (iii) Spinning and weaving capacity 1951, 1955, 1960-62, taken from Table 13.
 - (iv) Imports of cloth 1930 (actually for 1933) derived from Table 3.
 - (v) Weaving capacity, weaving production, imports of cloth 1940; taken from Table 7.
 - (vi) Weaving production 1951-1955, 1960-1962 taken from the sum of first and third columns of Table 40.36
 - (vii) Imports of cloth 1951, 1955, 1960-62; Table 40.36.
- * The 1952 figure.

N.B. Spinning production is not shown because the spinning industry always functioned at near full capacity. Weaving capacity measures the potential output of ATEMs and ATMs according to the usual capacity definitions of this thesis.

The first column indicates the development of the modern spinning industry which was first established as late as 1935. Yarn production amounted to between 65 and 75 per cent of capacity production for most of the period. Since 1940 weaving and spinning capacity increased at approximately the same rate although there were differences over shorter periods of time. In 1962 the spinning industry was capable of supplying a little more than 10 per cent of the yarn capacity requirements of the weaving industry.

A comparison of the last three columns shows that whereas before the war the weaving industry had little chance of supplying total market requirements, by 1962 it was well able to supplant all imports of cloth. The total supply of cloth in 1961 was 520 million metres but capacity in 1962 was 663.7 million metres. If total supplies of textiles are limited by foreign exchange resources this surplus of capacity over total supplies would suggest that the weaving industry has over-expanded relative to the country's ability to purchase its product. However, it is not certain whether all handweaving capacity should be included in capacity estimates as they could, by some criteria, be judged to be obsolete and superseded by power weaving capacity. The inclusion of handweaving capacity, which comprises approximately 67 per cent of total weaving capacity,¹ would bring the combined capacities of the weaving and knitting industries to over 7 metres per capita which is as high as consumption has ever been since Independence.

1. Calculated from Table 33.

Furthermore, the composition of potential output and its quality might not correspond with consumers' preferences. If the type of cloth which could be produced is not wanted by consumers then some capacity will remain idle. Low quality output will require a much higher level of protection than otherwise.

General characteristics of the industry.

Capital investment since 1950 has not significantly altered the location of centres of textile production and the industry remains more heavily concentrated in Java than does manufacturing as a whole.¹

Spinning capacity is distributed unevenly throughout Java due to the large single units whose location was fixed by the government in the hope that they would assist local indigenous small scale weaving; and it bears little relation to population or weaving capacity distribution.²

The trading centre of Bandung and the surrounding countryside in West Java, only 100 miles from Djakarta, have established a weaving industry capable of producing almost two thirds of Indonesian cloth production. This must be almost entirely attributed to the wealth of the Bandung area, the high proportion of Chinese producers amongst total producers and their specialisation in power equipment. The fact that almost 80 per cent of modern finishing capacity in Indonesia is located in West Java³ is another indication of the foresight of the Chinese because without the modern processes finishing is invariably of poor and uncertain quality.

-
1. Statistical Pocketbook of Indonesia 1963, pp.108-9
 2. Memorandum to Department of People's Industry by I.P.Andren, U.N. Advisor, 2.10.60. plus Progress Reports on State Projects, December 1964.
 3. M.R.Adisendjaja. Madjalah Industri Rakjat. No.6. June 1963. p.36

The distribution of size of enterprise cannot compare well with those of industries in more industrialised countries: economies of scale cannot be great when over 50 per cent of textile manufacturing is in enterprises employing less than 50 workers.¹ Nevertheless, the average size of textile establishment is larger than in most other industries in Indonesia.

Thus the textile industry can be summarised as being heavily concentrated in Java, and in West Java in particular, although the plant capacity of the various stages of the manufacturing process (spinning, weaving, finishing) are not distributed in similar manner. The Chinese who are usually found in control of large establishments using power looms are proportionately more numerous in Bandung than elsewhere so that the weaving industry in West Java is larger and more efficient. The same kind of entrepreneur in Bandung has been foremost in promoting modern finishing processes which contribute to making his cloth of the highest quality in Indonesia.

Capacity.

Raw cotton:

Although it was realised long ago that the methods of cotton growing used during the Japanese Occupation and earlier were quite incapable (as far as costs and quality were concerned) of competing with imports serious efforts at experimenting with new seeds and insecticides were only started in recent years. It is possible that the old methods of cultivation were believed to be sufficient for the small modern spinning cap-

1. Calculated from data in Statistical Pocketbook of Indonesia, 1963.
pp.110-111

acity which still existed, or that investment in factories was considered more positive proof of economic progress.

Before 1959-60 all cotton growing was done by small farmers except for a little experimental production. Small farmers' output declined throughout the fifties and in 1964¹ was negligible. Today cotton is no longer included amongst the crops recorded in Department of Agriculture publications.² The unfavourable (controlled) price of raw cotton and the higher quality of imported cotton are the principal reasons for the decline in small scale cotton production.³ The distribution of price

1. The table in this footnote provides data for the cotton production for the most recent years for which figures are available.

PRODUCTION OF CLEANED COTTON (tons)

1953	223		1956	150
1954	304		1957	158
1955	173		1958	400

Sources:- J.Panglaykim. Some Facts and Figures Concerning Textile Production in the Country. p.28. The figure for 1958 resulted from 1,653 hectares of cultivated soil. (Department of People's Industry Staff Working Paper, 1964).

2. Kapok, with a production of 6,392 tons in 1961-62, is mentioned, on the other hand. (Laporan Tengah Tahunan. January to June 1963. Department of Agriculture, Djakarta. 1963. p.108.)
3. In November 1964 the controlled price of cotton was Rp.795 per kilogram of cleaned cotton. If there were no costs of cleaning the crop this would be the equivalent of Rp.265 of uncleaned cotton. (This was approximately the price of a kilogram of rice in Djakarta at the time). The farmers have no facilities for cleaning the cotton themselves and making it pay. The state-run ginning factories are cheap but the effort of getting the cotton to the factories does not make cotton production worthwhile particularly since productivity is so low. Production in the United Arab Republic is 550 kilos of clean cotton per hectare, in California it is 1,000 kilos, but in Indonesia it is only 200 kilos. (Report to the Planning Bureau, Djakarta, 1964. Clothing Needs in Indonesia). Other crops, are much more profitable for the small farmer in Indonesia. Causes of the low productivity include lack of fertilisers, persistence of plant diseases and administrative problems. Cotton production was made profitable by some farmers by mixing cotton with another crop. But the farmers were not given fertilisers for cotton production itself. They obtained seeds (Cambodia variety) from the Department of Estates which stored the seeds taken from last year's crop. The more enterprising farmers asked for the imported Deltapine seed which was willingly given by the Department. (Interview at P.F.Serat, Djakarta. 12.11.64)

controlled imported cotton of higher quality, and especially of the imports of P.L.480 cotton from the U.S., offered too much competition, while inflation made other crops increasingly more profitable for small farmers.¹

The most successful experiment in growing cotton by new methods has been in Asem Bagus although a unit in Sumbawa showed good results in 1964. Other projects in Sumbawa and at Lombok showed no progress.² However, it is difficult to judge these results on technical grounds only. The failure of the cotton centre at Sumbawa and the station at Lombok has been blamed on the difficulties of shipping tractors, spare parts and fertilisers to these islands.³ These obstacles appear insuperable in a situation of failing inter-island transport when the movement of essential consumer goods must take priority over the organisation of research facilities.

Another major difficulty encountered in research was pest control. Although the use of a sticky substance has solved the problem of retaining insecticide on the plant during the monsoons, insufficient insecticide is produced domestically, and, like the imported seeds, supplies must rely on available foreign exchange.

-
1. A report on cotton growing in 1965 suggested that irrigation could solve the problems of small farmers and that cotton could become an economically feasible crop. However, if irrigation were installed it would most likely be used by farmers for rice production since this is more profitable. (D.M.Simpson. Report on a Programme of Breeding and Cultural Experiments with Cotton in Indonesia. F.A.O. Cotton Breeding Expert. 1956).
 2. Total production which was 167 tons compares very unfavourably with 1,365 tons produced in 1950. (Panglaykim. op.cit. p.28)
 3. Interview at P.P.Serat, Djakarta. 12.11.64.

The chances of successfully producing cotton on a commercial basis are poor in the short run¹ because the supply of insecticides and foreign seeds for experimental purposes is not likely to be very high on the list of import priorities in the present economic crisis.

Spinning;

Table 33 presents information on fixed capital in the textile industry for latest available dates.

By the end of 1964 391,076 spindles should have been installed according to plans², but only 223,000 spindles were ready for operation. This existing capacity was capable of utilising 21,471 tons of raw cotton and producing 19,524 tons of yarn, working three shifts, 260 days a year. This output constitutes over 10 per cent of combined weaving and knitting capacity.

-
1. The government is not planning the immediate large scale expansion of the cotton growing industry. Instead, research is being extended by the establishment of two more research stations, one in Asem Bagus and the other in Nusa Tenggara (Mataram), east of Java. Eighteen new 'cotton centres' are also planned. These centres are small plantations of one to five hectares situated in the centre of traditional cotton growing areas and are designed, like the weaving and finishing centres, to attract, advise and aid potential cotton farmers. It is the long run intention of the government to modernise cotton growing but for reasons of employment and income small farmers will be urged to take up production or return to it if they once produced cotton.
 2. Interdepartmental Report to Minister of People's Industry, Djakarta, 3.12.60. Thirty thousand spindles were added to the spinning mill at Tjilatjap and were ready for production at the end of 1963. (List of Projects for Progress Report 1963. Bureau for the Development of New Projects. Department of People's Industry. 31.12.63. pp.27-9) It has been found to be impossible to decide from the various reports whether the Tjilatjap extension has been included in the figure for spinning capacity in Table 33⁴. There is another 212,588 spindles currently being installed. (Ibid. Report for 1964. 31.12.64. pp.5-25.)

TABLE 13.

FULL CAPACITY INPUT AND OUTPUT OF THE TEXTILE INDUSTRY AT DATES
OF LATEST AVAILABLE INFORMATION

	ANNUAL INPUT				ANNUAL OUTPUT			
1. SPINNING (November 1964) 223,000 spindles working three shifts 260 days a year		21,471 tons raw cotton				19,324 tons yarn		
	USING INPUT DATA OF 'PEMBANGUNAN INDUSTRI RAKJAT'.		USING INPUT DATA OF TEXTILE INSTI- TUTE, BANDUNG.		USING OUTPUT DATA OF 'PEMBANGUNAN INDUSTRI RAKJAT'.		USING OUTPUT DATA OF TEXTILE INSTI- TUTE, BANDUNG.	
	Licensed capacity	Deflated by actual cap- acity on basis of KOTOE survey	Licensed capacity	Deflated by actual cap- acity on basis of KOTOE survey	Licensed capacity	Deflated by actual cap- acity on basis of KOTOE survey	Licensed capacity	Deflated by actual cap- acity on basis of KOTOE survey
2. WEAVING April 1962	79,200 tons yarn	N.A.	80,606 tons yarn	N.A.	431.0 million metres	N.A.	429.8 million metres	N.A.
(a) 223,905 handlooms working 1 shift 240 days a year.								
(b) 22,171 Power looms working 2 shifts 240 days a year (21,111 Powerlooms according to KOTOE survey re- sults). (These data include equipment under implementation at this time & so differ from Table 16)	43,432 tons yarn	43,260 tons yarn	46,102 tons yarn	41,496 tons yarn	216.2 million metres	205.9 million metres	258.4 million metres	235.0 million metres
	124,632 tons yarn		126,708 tons yarn		647.2 million metres		688.2 million metres	
3. KNITTING April 1962								
(a) 5,790 Hand mach- ines working one shift 240 days a year.	15,053 tons yarn	N.A.	N.A.	N.A.	101.0 million metres	N.A.	N.A.	N.A.
(b) 2,275 Power mach- ines working two shifts 240 days a year. (These data include equipment under implementation at this time, and so differ from Table 16).								
4. FINISHING April 1962	144.4 and 216.6 million metres		N.A.					

Sources:- Pembangunan Industri Rakjat, pp.11, 17-27; and report of the Industrial Technical Foundation Centre, P.T.Djunti, 21.12.63.

Notes:-

Spinning factories work three shifts a day because of the inadequacy of their production capacity. They have private power generators. Most of the finishing factories also have their private generators although Pembangunan Industri Rakjat defines full capacity as only two shifts a day for these establishments. The full capacity for three shifts a day in the finishing factories is also given on the assumption that the large, expensive equipment which constitutes a bottleneck in the manufacturing process warrants the effort of installing private power generators to enable three shifts a day.

Power looms and knitting machines work two shifts because of the limitations of government electricity supplies.

Handlooms and hand knitting machines work one shift because of poor light after seven hours of work and rest periods.

All the estimates of input and output in Pembangunan Industri Rakjat are based on 300 working days a year. These figures have been deflated to the amounts corresponding to the more realistic working year of 240 days for weaving and knitting (calculated on the number of holidays and half-holidays) and of 260 days for spinning and finishing (because extra labour can be put on these bottleneck sections).

According to Pembangunan Industri Rakjat some equipment was being currently installed (new factories and expansion of existing ones) in April 1962. As these increments were not very great they were added to the capacities existing in April 1962 to reach a more up-to-date estimate. However, capacity planned by April 1962 was not included.

The conversion coefficients for input and output obtained from the Textile Institute in Bandung are as follows:-

	<u>Input</u>	<u>Output</u>
ATBM	1.5 kg. yarn per shift	8 metres cloth per shift
ATM (1)	3.5	20
ATM (2)	5.0	28

The deflation of recorded capacity by the results of the survey of the KOTOE textile team investigating licences in the Djogjakarta area was based on the data in Table 34. The number of ATBMs was not altered because it was suspected that the results were based on capacity still being used, not on actual capacity of ATBMs. The unexpected result of more ATM(1)s than were registered can be due to the fact that many ATM(1)s were registered as ATM(2)s because the yarn allocations for the latter were greater. There are reasons why the deflation ratios for power looms should not be rigidly applied. The distribution between ATM(1)s and ATM(2)s in the Djogjakarta area might be quite different from that in Indonesia as a whole. The extent of falsification of licences might also be different.

Weaving:

The latest comprehensive information on weaving capacity is for April 1962. Since then there have been reports of projects finally implemented and these can be added to the figure for 1962 but it is not certain that all existing new equipment is included in these reports. On the other hand, if the completion of a project has been reported, this might be an exaggeration on the part of contractors who need to recover funds which have been lost through inflation. Projects refer only to the public sector and there is no record of recent private increments to textile capacity. However, because of the end of the period of easy state bank credit and foreign exchange grants for capital equipment, it is believed little new private capital was installed after 1962.¹

In spite of this, licences for textile equipment continued to increase because under the system of price controlled yarn allocations it was profitable to overstate actual capacity. When the first few enterprises began overstating their licences others followed suit in order to retain their share of yarn allocations. The survey team from KOTOE (Supreme Command of Economic Operations) began inspecting factories containing power looms in West Java in December 1964 and in Central Java in January 1965 with the purpose of obtaining a more accurate assessment of overall capacity and to ensure a just and fair distribution of future yarn allocations. In February 1965 the first report of these investigations appeared.² On the basis

1. This conclusion was reached after discussion with civil servants and manufacturers.

2. Report, Result of the KOTOE Special Survey Team of Yarn Distribution. p.2

of the team's study of 502 textile establishments in the Djogjakarta area in Central Java some inferences can be made about the capacity licences for the whole of Indonesia. Table 34 presents the results of the investigations.

TABLE 34.

LICENCED AND ACTUAL CAPACITY IN 502 TEXTILE ENTERPRISES
IN THE DJOGJAKARTA AREA.

	According to Licences	Actual	Difference
ATM ₁	5,545	7,179	+1,634
ATM ₂	<u>10,659</u>	<u>7,246</u>	<u>-3,414</u>
	16,204	14,425	-1,780
ATBM	13,598	303	-13,296

Source:- Report, Result of the KOTOE Special Survey Team on Yarn Distribution, p.2

The percentage error for the ATM₁ was -23 per cent and for ATM₂ +47 per cent. The explanation for the underestimation of ATM₁ capacity is that many of the ATM₁ looms were recorded on licences as ATM₂ looms because the latter were awarded larger yarn allocations. The enormous corruption of handloom licences is difficult to comprehend. Since handlooms were falling into disuse because of the lack of raw materials it may well be that the survey team counted only those which looked as though they had been recently worked. If this is true, and if the others had fallen into a state of disrepair, the handloom capacity of Table 33 should be reduced by 97.8 per cent to obtain a more accurate picture. This very big difference between licenced and actual handweaving capacity might be taken as a measure of the abandonment of hand-

looms, an event which some members of the KOTOE team hoped to see.

The extent of corruption increased very rapidly after 1961 when the shortage of foreign exchange encouraged some manufacturers to devise methods of obtaining larger allocations of raw materials. Moreover, when corruption was found to be so easy it tended to accelerate. It was the responsibility of officers of the Department of People's Industry to inspect factories and grant licences but it was not feasible to rely on people who were as grossly underpaid as these officers.

From Table 3 it is seen that when the handweaving industry is included potential cloth production (both woven and knitted) is 748 million metres (or 789 million metres if the Bandung Textile Institute coefficients are used). This amounts to 7.0 (or 7.3) metres per head of population per annum. If the handweaving capacity is excluded the figure of 748 million metres is reduced by 431 million metres to 317 million metres, ^{or} 3.0 metres per head of population. The KOTOE investigation results indicate that the capacity of the power loom industry should be reduced by between 5 per cent and 11 per cent (depending on which of the two sets of technical coefficients are used).

There was a very big increase in weaving capacity since the transfer of sovereignty. In 1950 the capacity of the power weaving industry was 65 million metres, or 0.82 metres per head of population.¹ The knitting industry, which had expanded rapidly from its beginning in the early fifties, was still able to produce only less than one metre per capita a year by 1962.

1. Calculated from Table 8.

Finishing:

Even at full capacity the finishing section still constitutes a bottleneck. If three shifts were undertaken, only about 30 per cent of cloth produced by ATBMs, ATMs and knitting machines could be properly finished; or if only 30 per cent of modern weaving and knitting capacity were utilised all cloth production could be finished by modern methods. But the finishing industry can handle 65 per cent of power weaving and knitting equipment. It is because weaving capacity utilisation has been so low in recent years that finishing has not appeared to be a bottleneck. All^{of} the equipment of this section of the industry was installed after 1950.

The public sector:

The share of the public sector in the spinning industry is much greater than in the weaving industry. Of the 223,000 spindles at the end of 1964, 92,740 spindles were owned by the government.¹ But only 1,410 ATM₁s and 1,242 ATM₂s (pr 14 per cent and 10 per cent of total machines, respectively) and 11 power knitting machines were in state enterprises.² Three finishing factories of unknown capacities are also in the public sector.³

1. Information obtained from P.N.P.R. Djantra-Yasa and P.N.P.R. Busana-Yasa, Djakarta, May 1965.

2. Calculated from data in Pembangunan Industri Rakjat, pp.17-19.

3. These three factories are in Tjeper (Central Java), in Bali and in Madjalaja (West Java). From P.N.P.R. Busana-Yasa, op.cit. Their production capacities are included in Table 33.

The cottage industry:

From the data in the KOTOE Clothing Team's report on the use of handlooms and the very low supplies of raw materials it is easy to assume the cottage establishments are now inactive. Nevertheless, in 1961 a large number of them were still registered with the Department of People's Industry. Table 35 illustrates their composition according to the various stages of the manufacturing process.

TABLE 35.

THE COTTAGE TEXTILE INDUSTRY: 1961

	<u>Number of households.</u>
Primitive gedogan weaving	18,489
ATBM weaving	5,424
Spinning	905
Sarong weaving	450
Batikking	27,595

Source:- M.R. Adisendjaja. Madjalah Industri Rakjat. No.6. Year 11, June 1963. p.31.

It is difficult to comment on this table because most of these small manufacturers have, in all probability, not produced for many years. However, a large number of cottage batik producers was most likely still in operation in 1962 because in that year 11,570 tons of cambrics were imported.¹

Employment:

The textile industry is now the biggest single source of employment amongst manufacturing industries. In 1961 textile manufacturing employment was 92,806 or 19.4 per cent of total manufacturing employment.²

1. Statistik Konjunktur, January - April 1963. p.56

2. Statistical Pocketbook of Indonesia 1963. pp.112-3

This was an increase of 20 per cent over the previous year's level of employment in textiles.¹ The most recent data on the composition of employment in spinning was 6,081 (or 8 per cent of total textile employment), in large scale weaving was 38,262 (50 per cent), in medium scale weaving was 13,451 (17 per cent) and in knitting was 12,517 (16 per cent).²

If we assume that every increment of 15,200 spindles (however placed) can provide employment for 333 persons at full capacity,³ the spinning industry at present could employ 4,650 persons. If one worker can supervise two looms or two power knitting machines⁴ the power weaving and knitting industries could employ 24,446 persons per shift plus management personnel, while the handloom (ATBM) equipment could provide employment for another 223,905 workers. Therefore, actual employment recorded for large and medium-sized textile enterprises in 1961 was only about one third of potential employment. The modern finishing plants would add very little to total employment.

Production and imports.

If the level of production and capacity utilisation in the industry is examined as a prelude to a discussion on competitive ability in 1964 it is worthwhile reviewing the record of these data throughout the 1950s and early 1960s because the large fluctuations in annual data make it difficult to regard any one year as typical. The last years of the period reviewed were certainly not free from unusual circumstances and a conclusion on competitive ability of the domestic industry based

1. Ibid. pp.94-5.

2. Perusahaan-2 Industri 1960. pp.94-112

3. Industrial Technical Centre Foundation, P.T. Djunti. p.22, Also

4. Table 39.
From interviews with manufacturers it seemed each worker was permitted to watch only two machines at a time.

on production and import data of those years might prove quite misleading. Chapter VII examined the efficacy of protection measures, but this chapter attempts to draw conclusions about changes in the competitive ability of the industry after fourteen years.

In Chapter VII it was seen that the spinning industry operated at a high rate of capacity utilisation almost all the time and did not suffer the problems of a depression which plagued the yarn consuming enterprises. The surcharges on yarn which were shown in Table 30 appeared to provide sufficient tariff protection for this industry. Therefore, this section will be devoted to the weaving and knitting industries. Table 36 presents data on rates of utilisation of weaving capacity, the level of production in the weaving and knitting industries, and the quantity of cloth imports. This information provides a basis for a discussion on the results of overseas competition, but the limitations of this information must be mentioned beforehand.

First, the rates of utilisation are calculated on the assumption that there are no changes in the level of stocks of yarn in the country. Hence if competitive strength increases in one year this affects the level of imports of yarn; there is no reduction in stocks. It is believed that after the end of 1956 the level of stocks was only a small fraction of imports so that this limitation might not ^{have been} be serious. Second, only large sized knitting and weaving mills are included in the production data and it is a central theme of this thesis that the production performance of the large enterprises was better than the small ones. Therefore, the recorded data cannot be regarded as representative of the whole weaving industry. On the basis of interviews and impressions it is

TABLE 36.

CAPACITY UTILISATION RATES AND PRODUCTION AND IMPORTS OF CLOTH:

1951 - 62.

	Utilis. rates of weav'g capa- city (%)	Prod. of cloth of large mills indexed on base 1952= 100	Production of selected knitted goods of large mills, indexed on base 1952 = 100			Selected cloth imports indexed on base 1952 = 100	
			sing- lets	under- vests	shirts	dyed, pr'd, woven, cotton piece goods	textile materials (clothing)
1951	16	79	-	-	-	167	62
1952	22	100	100	100	100	100	100
1953	34	138	177	105	139	180	53
1954	37	147	372	125	140	147	38
1955	40	155	421	331	113	108	24
1956	45	161	602	535	108	152	62
1957	22	165	480	846	261	123	-
1958	30	160	401	852	280	57	-
1959	N.A.	118	296	498	165	33	-
1960	57	169	574	795	287	78	-
1961	N.A.	177	475	1522	377	145	.1
1962	22	168	472	1346	394	73	-
1963	N.A.	153	396	1319	168	N.A.	N.A.

Sources:-

- (i) Utilisation rates from Table 29.
- (ii) Production of woven cloth and selected knitted goods calculated from data in (a) Statistik Konjunktur 1961, pp.19-20; (b) Statistik Konjunktur 1955, p.16; (c) Statistik Konjunktur, January-April 1963, p.17; (d) Summary Report, 'Materials Used and Production of Weaving and Knitting Mills', first quarter 1964. (All publications from Central Bureau of Statistics, Djakarta)
- Conversion factors for total weaving production:
1 sarong = 3 metres; 1 shawl = 1.5 metres; 1 towel = 1 metre. (Kadarijah, Ekonomi dan Keuangan Indonesia. Vol.XII. No.2/3. March 1959, p.89)
- (iii) Selected cloth imports calculated from data. in Statistik Konjunktur 1961, p.58-9; 1956, p.50-1; January-April 1963, p.56-7. Business News 5.7.66.

assumed here that there was actually a decline in small scale activities to 1964, when ^{They were} ~~it was~~ virtually halted.

Indexes are used for production and import data to facilitate closer comparison of proportional changes. The year 1952 was chosen as the base year because it was not subject to the aftermath of the 1950 economic reform measures.

The utilisation rates were extremely variable and it is difficult to extract a long term trend in the ability of the industry to retain a high level of activity. These figures are, moreover, an inadequate basis for judgement on competitive ability because both production and imports were reduced together sometimes through foreign exchange restrictions.

The sharp decline in utilisation rates in 1957-58 and 1962 were not reflected in the production indexes for woven cloth because these indexes represented the output of large mills only. Likewise the big increase in the utilisation rate in 1960 was accompanied by a small increase in large scale production between 1958 and 1960 because many small firms returned to production in 1960. This indicates that the performance of large scale enterprise was more stable in the face of variations in imports of yarn.

The last two columns of Table 36 show the long run decline in cloth imports. Cotton piece goods are the main competitive commodity to the domestic industry because they resemble most closely its output. Moreover, in 1951 these cotton piece goods imports amounted to 38,647 tons compared with only 2,339 tons of imports of clothes.¹ The latter declined

1. Statistik Konjunktur 1956. pp.50-1

to a negligible quantity at the end of the period mainly due to the much higher surcharges placed on them.

It is very difficult to trace a relationship between cloth imports and utilisation rates or large scale production. The first two series are very erratic; sometimes changing in the same direction and at other times in opposite directions. This can lead only to the conclusion that protection for the industry as a whole was variable and Chapter VII explained why this was so. But the steady increase in the output of large enterprises while competitive imports fluctuated suggests the interesting conclusion that the large manufacturers were able to ignore competitive imports to a great extent. In the only year, 1959, when large scale production experienced a marked decline, imports of competitive cloth declined to a record trough.

We cannot conclude from these figures that the large scale textile industry operated at near full capacity; and the failure to expand at a constant rate¹ suggests that it was not always easy to maintain these high levels of production. But it is easily seen that the analysis of overseas competition must rest very largely on the performance of the small and medium sized sections of the weaving industry.

Before we move on to a more detailed analysis of the strength of the industry it is worthwhile noting some of the substantial changes which have taken place in the composition of domestic output since 1952,² because trends amongst components of output determine the overall competitive strengths which is represented by official statistics.

-
1. See Chapter III, 'Government Plans and the Expansion of the Industry'.
 2. Information in the publications in the footnote to Table 32 is drawn upon here.

Cotton piece goods showed a strong increase while sarong production declined (although it increased in the last few years), and shawls were virtually eliminated as a product. The number of domestically produced towels fluctuated greatly but showed an overall increase while knitted underwear production increased more than any other textile product. This radically altered pattern of textile production was caused by new fashions in clothing. The decline in the output of sarongs and shawls indicates a lessening of the influence of traditional wear and the very great expansion of knitted output reflects the widespread acceptance of undervests, singlets and shorts as a mode of dress for men. The knitting section has benefited much more than the weaving section from this change in pattern ^{of demand} and as a result has become an important part of the industry. One of the reasons why the output of sarongs of the main weaving mills declined is that other types of products are more profitable in the mechanised larger scale factory, and the smaller establishments were left to specialise in sarong production. It might be concluded that much of the strength of the modernised large scale textile industry rests on its ability to shift towards more profitable lines of production and introduce a degree of flexibility in production processes which permits this. This would depend on the kind of new machinery installed and the willingness and initiative of management to alter lines of production on existing machines. The different trends in components of cloth output would suggest that the factory has made these adjustments with some success.

It is difficult to predict whether these trends will continue in the future. Sarong production will very likely continue to decline while textile piece goods should continue to increase with population and national income. Knitted goods output will increase steadily as a greater proportion of the people assume this modern form of dress. If these trends continue the modernised establishments can be expected to benefit at the expense of those using older methods of production.

The weaving industry's competitive ability.

Because of the lack of data on the distribution of capacity according to size it will be assumed here that the weaving industry is made up of two mutually exclusive sections and that the recorded production statistics refer to the large scale section. The further assumption is made that the actual production of large scale enterprises is equal to their capacity production. This assumption will introduce some error but apart from 1959 and recent years it is thought that the error will not be very great. The imputed production activity of the remainder of the weaving industry will be compared with the level of tariff protection and quantities of cotton piece goods. The methodology behind these imputations is given in the footnotes to Table 37. The table itself presents annual data for this comparison.

These assumptions mean that it is the small and medium sized firms which suffer the encroachments of imports while the large scale can compete successfully with overseas manufacturers behind the prevailing surcharge protection; which was shown in Table 30 to be between 25 per cent and 33.3 per cent in this period. Within this group some

TABLE 37.

PRODUCTION OF LARGE AND SMALL SCALE WEAVING ENTERPRISES,
IMPORTS OF COTTON PIECE GOODS, AND SURCHARGES: 1951-63.

	Assumed large scale capacity production (mill.metres)	Assumed small scale capacity production (mill.metres)	Assumed small scale actual production (mill.metres)	Imports of cotton piece goods (mill.metres)	Surcharges
1951	38.9	189.9	26.2	211.8	0
1952	44.7	197.9	29.0	127.6	100 (i)
1953	50.5	205.9	45.9	228.8	33.3 (ii)
1954	57.3	213.9	49.9	186.5	33.3
1955	65.1	221.9	68.9	138.1	50 (iii)
1956	67.8	229.9	83.6	194.2	50 (iv)
1957	73.9	237.9	30.3	157.9	20 (v)
1958	74.5	274.4	60.4	72.6	20
1959	75.1	300.5	94.3	42.4	20
1960	75.7	327.3	256.4	100.7	20
1961	76.5	401.2	260.1	183.7	20
1962	77.0	476.1	137.9	94.6	20 (vi)
1963	N.A.	N.A.	N.A.	N.A.	130 (vii)

Sources:-

(a) Assumed large scale capacity production. This is equal to the actual output of the large weaving and knitting mills so the assumption is made that all large enterprises worked at full capacity over the whole period. Data of yarn consumption were taken from reports of Bank Indonesia; 1954-55, p.148; 1955-56, p.153; 1956-57, p.173; Kadariah, Ekonomi dan Keuangan Indonesia, February 1958, p.16; and Statistical Pocketbook of Indonesia 1963, p.120. These data were then converted into metres by the conversion factor 1 kg.= 5.5 metres. The figures for 1951 and 1952 were very low and it is unlikely that the capacity of large scale weavers increased as much as recorded between 1952 and 1953. For this reason the average rate of increase of assumed large scale capacity for 1953 to 1956 has been used to extrapolate backwards to 1951 and 1952. Hence instead of 25.8 and 36.4 million metres, the data 38.9 and 44.7 million metres are used for 1951 and 1952, respectively. The figures for 1958 to 1960 were lower than the level of 73.9 in 1957. This was due to the low supplies of raw materials. If some compensating correction were not made, the assumed capacity for small scale would be excessively large for these years. Hence data for this short period ^{were} interpolated assuming a constant absolute annual increase between 1957 and 1961. Instead of 72.6, 50.5

and 70.0 million metres, the calculated values 74.5, 75.1, and 75.7 million metres are used.

(b) Assumed small scale capacity production. This is the difference between total weaving capacity (excluding gedogans) and large scale actual production (recorded) - also capacity production. Total capacity data come from Table 13. It is further assumed that this capacity includes the knitting industry; but this is not true. However, to some extent the actual production of the main knitting mills will tend to offset the difference between true and large scale weaving capacity and recorded large scale weaving production. Data for 1951, 1952, and 1959-60 are based on the subtraction of estimated (see above) values for assumed large scale capacity from total capacity. But figures for the years 1952 to 1956 were interpolated by assuming a linear annual increase between 1951 and 1957. If this had not been done there would have been a decline in capacity.

(c) Assumed small scale actual production. Since there are no data on this the assumed production was the difference between the cloth equivalent of total supplies of yarn (domestic production plus imports) and recorded large scale weaving and knitting production. Basic data are taken from Table 29 converting raw cotton to yarn by subtracting 10 per cent waste, and total yarn supplies into metres of cloth.

(d) Imports of cotton piece goods. Data taken from Table 31 and converted into metres.

(e) Surcharges. These data were taken from Table 30.

- (i) This was introduced in August 1952 and it is not clear whether some cotton piece goods entered free of surcharges.
- (ii) Introduced in January 1953.
- (iii) Introduced in September 1955.
- (iv) In September 1956 yarn imports had a 25 per cent duty imposed on them.
- (v) Introduced in June 1957.
- (vi) Textiles retained 20 per cent surcharges but had to be imported on SIVA Inducement Certificates which added to the cost.
- (vii) See Chapter VII.

entrepreneurs might have made abnormal profits but for the whole group it is not possible to describe its competitive ability beyond this comment.

A comparison of columns two and three of Table 37 describes rates of capacity utilisation in the small scale weaving industry. From 1951 to 1958 the level of activity was very low and the temporary increase in 1955 was due to the yarn allocations which were offered to weaker enterprises at that time. The stringent import policy of 1957 was expected to affect all imports but the accompanying inadequate tariff protection proved disastrous to the small scale weavers according to these figures. The rise in utilisation rates after 1957 must be attributed to the allocation system carried out by the Department of People's Industry, which offered a temporary respite to small scale weavers. The fall in 1962 was only the beginning of a long decline which ended in the virtual collapse of this section of the textile industry in 1964-65.

It is difficult to assess competitive ability at any time over the whole period because of the constant rise in domestic costs and the influence of other forms of protection, but the years 1952-53 and 1957 are probably the most suitable years for this assessment because tariff protection was accompanied by the least combined influence of other instruments of protection.

According to this table, with tariff protection of 33.3 per cent only about 25 per cent of weaving capacity outside the large scale section could function and a substantial part of this must have comprised medium sized establishments. When, in 1957 the surcharge on cloth was 20 per cent only about 9 per cent of small and medium scale capacity could be utilized. In both periods there was no tariff on yarn.

After the yarn allocation system was introduced in 1958-59 it was impossible to draw reliable conclusions about competitive ability. Chapter IV described the weakening of the financial structure of the small scale industry and the polarisation of profitability within the whole industry due to inflation. The support, through very cheap credit, of indigenous entrepreneurs who mostly failed to compete with the well-established producer, increased the proportion of weak enterprises in the industry.¹ Hence the only comment which can be made with some confidence is that the overall competitive ability towards the end of the period was most likely less than in the early fifties, but this does not mean that a smaller absolute amount of capacity was able to compete successfully.

It has not been possible to devise a single estimate of the "effective tariff level" which has very much meaning. The value for the effective level of tariff devised by Dr. W.M. Corden² is given as

$$g = \frac{(v' - v)}{v} = \frac{(t - a_i t_i)}{(1 - a_i)}$$

where v = value added ^{possible} under free trade; v' = value added ^{possible} under trade protection; t = nominal tariff on the imported product; t_i = nominal tariff on the imported input; and a_i = share of the imported input's foreign trade value in the imported product's free trade value, *assumed to be constant*.

This means that the "effective tariff level" is determined completely

-
1. J.P. Meek regards the Benteng policy as having fallen far short of its target. After a study of the mechanism of the programme and the type of entrepreneur it assisted he came to the conclusion that the policy caused price increases because of inefficiency and corruption, and the new entrepreneurial group failed to emerge. (J.P. Meek. The Government and Economic Development in Indonesia, 1950-54, pp.174-75.)
 2. W.M. Corden. "The Structure of a Tariff System and the Effective Protective Rate", Journal of Political Economy, June 1966.

by the share of total product value taken by raw materials, reflected in international prices, and by the nominal tariffs; and is, therefore, a concept which is inapplicable to policy determination in a country experiencing substantial inflation. According to the above equation the effective tariff level remains constant so long as the nominal tariffs and the share of the input's free trade value in the output's free trade value are unchanged. If g was calculated to be 30 per cent in a year when the domestic industry was competing successfully, a 30 per cent effective tariff with a 200 per cent domestic cost increase two years later might produce widespread underutilisation in the industry. A more suitable estimate for the real incidence of protection enjoyed by industries in countries suffering chronic inflation must include some function of inflation. Appropriate periodic devaluations could imply, in the long run, unchanged utilisation rates for the same effective tariff level. But even such a refinement will not accommodate an industry which includes a changing composition of dual technology and managerial skills. For a proper estimate of real (full or partial) protection needs in an inflationary situation, not only the average level of profitability, but its range and standard deviation amongst firms at each point in time, ought to be included.

Apart from descriptive functions the "effective tariff level" appears to be of limited use in a dynamic analysis of the growth of this industry without substantial refinements which would be extremely difficult to quantify.

Some perspective of the competitive ability of domestically produced textiles can be gained by referring to information from other underdeveloped countries. In 1932 the Indian industry, whose weaving technology was, on average, at a comparable level with that of Indonesia in the mid fifties, was protected by a 75 per cent duty on Japanese imports.¹ This tariff

1. S.D.Mehta. op. cit. p. 182.

the share of total product value taken by raw materials, reflected in
 by international prices, and the nominal tariffs; and is, therefore, a con-
 cept which is inapplicable to policy determination in a country experi-
 encing substantial inflation. According to the above equation the
 effective tariff level remains constant so long as the nominal tariffs
 and the share of the input's ^{free} foreign trade value in the output's ^{free} foreign
 trade value are unchanged. If g was calculated to be 30 per cent in a
 base year when the domestic industry was competing successfully, a 30 per
 cent effective tariff ~~two years~~, ^{with} and a 200 per cent domestic cost increase ^{two}
^{years} later might produce widespread underutilization in the industry. A more
 suitable estimate ^{of the real incidence of protection enjoyed by industries in} for underdeveloped countries suffering chronic inflation
 must include some function of inflation. ^{Appropriate periodic devaluations could imply, in the long run, unchanged utilization rates for the same effective} But even such a refinement will ^{tariff level}
 not accommodate an industry which includes ^{a changing composition of} dual technology and variable
 managerial skills, ~~such that some firms are enjoying large profits while~~
~~some are contemplating closure.~~ For a proper estimate of ^{real (full or partial)} protection needs
 in an inflationary situation, not only the average level of profitability,
 but ^{its} ~~the~~ range and standard deviation ^{at each point in time,} ought to be included.

Apart from ^{descriptive functions} ~~problems involved in assessing a~~ ¹ for the Indonesian
 weaving industry, the "effective tariff level" ^{appears to be of limited} is of little ~~use~~ in a
 dynamic analysis of the growth of this industry without substantial
 refinements which would be extremely difficult to quantify.

Some perspective of the competitive ability of domestically produced
 textiles can be gained by referring to information from other underdevel-
 oped countries. In 1932 the Indian industry, whose weaving technology was
 on average, at a comparable level with that of Indonesia in the mid fif-
 ties, was protected by a 75 per cent duty on Japanese imports.¹ This tariff

1. S.D. Mehta. op.cit. p.182.

was later reduced to 50 per cent and the industry was also supported by quantitative restrictions. But in the fifties the Japanese weaving industry was more technically advanced and one might reasonably assume a higher tariff barrier would be required for the Indonesian industry than was found necessary for the Indian textile industry in the early 1930s.

After 1957 the textile industry of the Philippines enjoyed a 36 per cent tariff benefit on yarn and a 10 per cent to 25 per cent tariff on woven fabrics, but in a letter to the Chairman of the House Tariff Committee the President of the Textile Mills Association of the Philippines claimed that much higher tariffs were necessary. He estimated that the ratio of domestic costs to prices of imported materials was 2.41 : 1 for yarn, 2.72 : 1 for grey cloth, and 2.9 : 1 for finished cloth.¹ If these figures are approximately correct it is apparent that the provisions of the 1957 Tariff Act were quite inadequate and the textile industry was only supported by the use of quantitative restrictions.

Another factor which makes comparison of production costs difficult to quantify is differences in quality. Both Indonesia and the Philippines² produce an inferior quality cloth due to poor finishing processes. In Indonesia where, unlikeⁱⁿ the Philippines, modern finishing

1. L.D. Stifel. op. cit. p.59

2. In spite of a big expansion of modern finishing capacity and the finishing of grey cloth imports in the Philippines, the quality of the product remains inferior to imports. (L.D. Stifel. op.cit. p.157)

capacity constitutes a bottleneck, if weaving production rises above 30 per cent of weaving capacity, the inferiority of product is probably greater than in the Philippines and competition from imported textiles is likely to be underestimated if production costs alone are considered.

Differences in levels of efficiency in modern spinning processes are not so important although the quality of yarn used and the degree of labour supervision can lead to differences in costs. Once a size of 10,000 spindles has been achieved increases are not important to the level of efficiency.¹ The lower wages in Indonesia would assist in reducing higher costs due to work interruptions.

The main limitations of this analysis must be mentioned. First, the small scale section of the industry is not homogeneous in its cost structure. Some of the firms can be classified as medium sized and there is a wide range of efficiency levels over the entire group. Second, the only data on production is drawn from the returns of about 80 per cent of all large enterprises which might include errors. The remaining 20 per cent plus the actual underutilisation of capacity in the large scale enterprises (which was here assumed to be zero) might account for much of the assumed capacity of small scale weavers. Third, the increases in total weaving capacity during the later years of yarn allocations were inflated by false returns of licenced capacity. This would make the assumed capacity of small scale firms unjustifiably large. Fifth, the

1. The average size of spinning mill in India is 32,000, in Japan is 55,000 and in the Philippines is 25,000. (Sectoral Study. Textile Industries. pp.82-3). The Indonesian average was 26,000 in 1964. (Table 21)

fluctuations in large scale production obviously limit the use of these statistics as measures of large scale capacity. Finally, the existence of inflation, encroaching on the competitive ability of domestic industry between changes in the fixed exchange rates, makes an examination of the tariff system of limited value at all times.

Conclusion

The most efficient section of the textile industry is concentrated in Bandung where the Chinese have their strongest influence.

The spinning industry using modern processes was capable of producing 19,324 tons of yarn in 1964 compared with weaving requirements of about 50,000 tons, and appeared to be able to compete against yarn imports with a small tariff. The weaving section had capacity in 1962 enough for producing between 647 and 688 million metres and the knitting section another 101 million metres. One of the weaknesses of the textile industry was that modern finishing capacity was sufficient to handle only about 30 per cent of total weaving and knitting capacity.

Even after allowing for their limitations capacity and production estimates indicated very low levels of capacity utilisation amongst small firms. Bearing in mind their very weak financial basis and the trends towards new and more efficient processes of production in the large firms and in overseas textile industries it is highly questionable whether this section of the Indonesian weaving industry will ever be able to compete without very high tariffs which would provide the larger manufacturers with abnormal profits. Although a high tariff barrier might be costly in the short

run, it offers the advantage that those firms making abnormal profits will expand and force the permanent closure of inefficient enterprises. Wider considerations of economic benefits gained from the development of the textile industry are studied in the final chapter.

A comparison of productivities of the textile industries of Indonesia and the Philippines led to the tentative conclusion that Indonesia's weaving industry could produce at equal or slightly lower costs than the Philippines's industry because of lower labour costs. This was not an easy comparison to make because of the heavy reliance on quantitative restrictions in the Philippines. Due to changing levels of protective measures as well as the combined use of several measures at the same time it was not possible to draw any conclusion about an overall tariff measure (in the absence of quantitative restrictions) required by the Indonesian industry.

CHAPTER IX

CONCLUSION.

Several different aspects of the textile industry have been examined in this thesis so far, but the conclusions reached in one chapter have not yet been related to conclusions in the others. This chapter draws together the analyses already made by discussing the issues raised by policy and development since 1950, and by exploring the likelihood as well as the desirability of further structural and capacity changes.

The chapter begins with a critical study of the response of the industry to government intervention since Independence and the chances that under similar measures in the future the industry will continue to develop in the same pattern. This will be followed by an evaluation of the benefits and costs of the industry's development so far, in terms of foreign exchange saving and expenditure, employment, and the effect on other industries.

In assessing the costs and benefits of the growth of the industry it is not intended to compare the potential of the textile industry with that of any other industry. Nor will the merits of import-replacement against export promotion be investigated. Both these considerations are beyond the scope of this thesis.

Without further data any such comparison must be highly speculative. However, where obvious benefits of establishing a textile industry occur they will be noted in relation to some of the problems of development, such as inflation and shortage of foreign exchange.

Because of the economic impasse Indonesia has found herself in in the mid 1960s it might not be possible for her to continue her investment plans. If this is the case, then some comments can be made with regard to the several sections of the industry and the question of protection and profits.

Finally, possibilities of improving the industry's efficiency and increasing its communal benefits will be investigated. The strengths and weaknesses of the industry can be discussed by a consideration of reforms.

The growth of the industry and the influence of government policy

The growth of the industry:

In the fourteen years between 1951 and 1965 capacity for processing raw cotton into yarn increased by almost 200 per cent. The spinning industry was capable of producing 5,506 tons in 1952 and 19,324 tons in

1964 by working three shifts a day. The combined handweaving and power weaving section of the industry increased its capacity output (two shifts) from 274.6 million metres to 663.7 million metres. Power knitting factories had emerged by 1964 as an important source of supply to the consumer market with a capacity of 101 million metres, having begun with almost no equipment in 1951. The spinning industry is totally inadequate as a supplier of yarn to the weaving industry; it can provide a little more than 10 per cent of the weaving industry's capacity requirements. However, until the cotton growing experiments are successful and cultivation can be organised on a commercial basis it cannot be regarded as a bottleneck. Finally, finishing capacity using modern processes which were introduced after 1950 was sufficient for 216.6 million metres of cloth production by the end of this period.

This means that the industry can now produce up to 7.3 metres per capita, of which a little over two metres can be properly finished. The targets of the Eight Year Plan assumed capacity production of 10 metres per capita by 1961 and 12 metres by 1967, but these were very ambitious and it is thought that the record of expansion reflects a creditable performance as far as physical capacity is concerned. The references in Chapter III to failures of the government plans refer to the specific goals of the plans: the expansion of the indigenous private and the public sectors. There were also signs that part of the existing private sector had failed to survive both domestic and overseas competition, and the capacity figures discussed here should, perhaps, be qualified by an unknown amount of redundancy and obsolescence in this part of the textile industry.

We now deal with the causes and type of expansion and their relation to government policy.

The effects of government intervention:

The outstanding characteristic of government intervention in the industry was its support for the weaker sections, but the noticeable outcome of the period since 1950 was the further polarisation of managerial and financial strengths amongst individual firms. This contradiction was due to an over-ambitious policy of support for the indigenous group and the inability of the government to isolate the textile industry from trends and disturbances in the rest of the economy. This can be illustrated by referring to the main fields of concern for the entrepreneur in which the government was active: fixed capital investment, working capital, the supply of raw materials, and protection from overseas competition.

Much of the cheap credit which was made available to the formerly inexperienced entrants was never repaid and in those cases where the debt was honoured it was by a grossly devalued amount: the subsidized credit was regarded by some as a reward for services to the revolution while a high rate of inflation assisted those who honoured their debts. Indonesians who purchased new equipment under this scheme but who encountered financial and economic difficulties later on turned to the Chinese for assistance and as a result often became subsidiaries of Chinese concerns. Through this transfer of effective control over the new capacity the level of activity amongst new indigenous firms was largely determined by the willingness of Chinese producers to allow

competition from other producers: when raw materials supplies fell the more efficient producers usually served their own production interests first, because of lower per unit costs. In some cases, in fact, Chinese producers came to own the equipment. Hence frequently, the result of the cheap credit Benteng programme was to supply the well-established Chinese with low priced equipment.

The tendency of Indonesian entrants to purchase handlooms instead of power looms lowered their profitability relative to mechanised plants in a situation where long term loan repayment charges fell. If the new producers had taken advantage of the heavily subsidised credit to install the most expensive and mechanised equipment they might have stood a better chance of becoming independent of their financiers.

In the second field of concern to producers in which the government chose to lend its support the cause of failure was the same as in the Benteng programme: the government did not appear to be clear about its objectives. The state banks were briefed to concern themselves mostly with fixed capital because it was hoped that the cooperatives and the Induks would assist with working capital. But the government failed to recognise that the financial problems of the firms were the same as the financial problems of the cooperatives of which they were members, and that the credit-worthiness of one was the equivalent of the credit-worthiness of the other. The Induks were too concerned with the working capital requirements of their own production activities to offer credit facilities to other manufacturers.

The failure of the government to follow on its fixed investment programme by offering cheap credit for the working capital requirements of new equipment led to the effective mortgaging of this deficit-financed investment to well-established non-Benteng entrepreneurs. The only means by which the new entrepreneurial group could stave off this decline into financial subordination was by proving its credit-worthiness with the state banks; and this could only be done by acquiring a certain level of managerial ability. The Benteng programme as formulated by the government was not merely an inadequate programme for enlarging the role of the indigenous sector; as it stood it could be interpreted as a means of strengthening the non-Benteng group. Although the credit facilities for the Benteng group discriminated against the Chinese they only represented half-measures on which the whole Benteng policy foundered. It would seem that as long as the government postponed a determined effort to train indigenous managers the solution to the dominance of non-indigenous producers and financiers must always elude it. It may prove to be the case that there is no short-cut to the government's goal of Indonesian ownership and management of the economy and that a newly conditioned class of Indonesians must emerge before any measure of support can be successfully utilised.

Special concessions to the small scale, higher cost weavers were made in the form of cheap raw materials when it appeared that the competition from imports and from the larger weavers would force the closure of many small businesses. But through the development of an illegal free market these low priced allocations were channelled to the larger firms and production activity was concentrated in the more

efficient sector of the industry. The free market effectively auctioned the low supplies of yarn and the proceeds of the auction went to the small weavers and their moneylenders.

The sale of allocations meant that the larger weavers could produce at near capacity while the industry as a whole was running at only a fraction of its potential, and this provides an explanation for the expansion of the weaving industry. Data in Chapter VIII showed that the large scale weaving industry managed to maintain a fairly stable production performance in spite of the great fluctuations in overall utilisation rates. However, the failure to expand capacity at a constant rate suggests that there was some unevenness in rates of utilisation even amongst the larger weavers. The ineffective bureaucracy, by allowing free market forces to determine the distribution of yarn, facilitated the expansion of the more efficient section of the weaving industry.

One of the greatest problems which weavers faced was the erratic nature of supplies of raw materials. There were eight Cabinets between 1950 and 1959, each with its own policy of protection to the domestic industry and of discriminatory action within the industry. It is difficult to estimate the overall impact of political instability on the industry, but the uncertainty which this caused became one of the most important acid tests of entrepreneurial skill and financial strength. Only those competent managers backed by sufficient resources of working capital could overcome the uncertainty and speculate successfully on future supplies. The very large fluctuations in working capital requirements brought about by irregular yarn supplies was a principal factor causing the movement of official yarn allocations from the weak

enterprises to the strong enterprises. In this way, the government's method (or lack of method) of planning imports contributed to the demise of the weaker sections of the textile industry. At the same time the speculation of the free market for yarn offered those weavers who could survive uncertainty a more even supply and price of the basic raw material and assisted them in functioning at a more constant rate than government policy would allow. In this way, the speculative yarn market enabled them to plan expansion with a smaller degree of uncertainty.

Once again, the problems of working capital and quality of management allowed the government's policies to founder because they comprised only half-measures : the granting of cheap allocations accompanied by the hopelessly uncertain state of the market which proved too much of a strain on weak managements with low working capital resources.

Tariffs, which were sometimes fixed at a level which successfully protected a large number of inefficient firms, provided abnormal profits to the most efficient firms, while quotas which varied in magnitude benefited these same firms which were the final purchasers of yarn.

Although the rate of profit was by no means constant over time the periodic large profits of the larger firms contributed to further expansion of weaving capacity. The expansion in 1957 was due to the good years of 1955-56 although total utilisation was still low. Protection, both tariffs and quotas, brought about structural changes which increased the overall efficiency of the industry because the abnormal

profits enjoyed by the more efficient firms encouraged the expansion of that section of the industry. It is not easy to conclude that protection caused high prices to the consumer. The high cloth price was due to limited supplies of all textile materials and the failure to exert effective control over consumer goods prices. If all the quota for textile materials had been devoted to cheap cloth free market forces would very likely have determined a similar price level.

One of the more important aspects of protection concerns the expansion of finishing capacity. Because of the former poor quality of the domestic product Indonesians had formed an aversion to it and were strongly prejudiced against all textiles produced in the country. Even when the domestic product had been finished by modern processes this prejudice remained. The only solution appears to be to continually improve finishing processes so that the preference for imports will be exposed as prejudice.

The effects of inflation:

Chapter IV, by examining the main individual cost components of small and large firms, demonstrated the process by which inflation affected final average production costs. It was assumed in the analysis that the large firms were the most efficient, having good management and marketing outlets, large financial resources, as well as the most up to date production techniques; the small firms were assumed to have the reverse of these characteristics. Although the weaving industry is made up of many intermediate firms there is no doubt that there

existed a high degree of polarisation along these lines which was largely the result of racial differences in the ownership-management of firms.

Inflation acted to reduce the importance of repayments of long term loans from banks for fixed equipment, of depreciation charges, and of the wages bill, while it increased the cost of current credit requirements, especially from the imperfect private credit market. Those weavers who started in business at the beginning of the period of inflation with a low credit-worthiness were forced to resort to the free market for loans for working capital, and the high interest rates which they paid in that market reduced their profits and hence their credit-worthiness in later periods. The efficient firms with their higher initial credit-worthiness were best able to exploit this particular effect of inflation. If they were Chinese they would have more difficulties than efficient Indonesian weavers in obtaining state bank credit but there were many ways of overcoming discrimination.

Thus inflation aggravated the cost differences and widened the range of costs per unit of production within the weaving industry. The greater was the initial range of average costs the less was the probability that the government would succeed in protecting the weak weavers.

Inflation affected the free market in yarn through increasing the supply of small weavers' allocations to the market. But it also weakened the effect of tariff protection. The lower profitability of domestic production raised supply schedules and lowered demand schedules in the market. It did not appear that inflation added to speculative demand for yarn since the weakened competitive ability lowered the profitability of stocking yarn, unless devaluation of the Rupiah was thought to be imminent. As a store of purchasing power there were much better choices of commodities. It must be concluded that compared with the effect of uncertainty of supplies inflation had a negligible influence on speculative hoarding of yarn.

The high rates of capacity utilisation of the large scale weaving sector, in spite of inflation eroding tariff protection, can be explained, in part at least, by the fact that many of the fixed costs of large scale production lagged behind the general price rise. Moreover, the increase in the supply of small weavers' allocations to the free market helped to lower the yarn price.

Finally, inflation also weakened the effectiveness of the bureaucracy in carrying out regulations because of the demoralising effect of the reduced purchasing power of salaries.

Hence we can conclude that despite the preferential treatment offered the weaker sections of the textile industry it was the stronger

elements which assumed an increasingly important role in cloth production because it was not possible to isolate the textile industry from the disturbances caused by inflation and uncertainty of supplies of raw materials.

Likely trends if past government policy persists:

Past experience has shown that the influence of other economic factors has been greater than the intended impact of government intervention. While inflation and lack of appropriate controls continue it is not likely that the government will be able to isolate the textile industry from the rest of the economy. Inflation might be reduced in future after the political reversal in 1965, but the foreign exchange crisis and, therefore, the uncertainty of raw materials supplies is likely to continue in the foreseeable future.

Moreover, because the textile industry has become more polarised by levels of efficiency since Independence the past preferential policies of intervention have even less chance of success than formerly because of the relatively greater advantages possessed by the larger firms. Without massive aid under strict supervision to the weak firms it does not appear to be possible to rehabilitate the small scale section of the weaving industry. Moreover, there is a real possibility that without a training programme and a change in attitude towards savings and re-investment, any profits that might be made as a result of this aid would be dissipated in conspicuous consumption. The tendencies towards consumption spending out of profits, noticed before the Second World War, seem to be just as prevalent today in parts of

the industry. The only reason for offering financial assistance before a new entrepreneurial class emerges would be in the case where income is very low and some form of state subsidy must be made anyhow. But this situation is discussed later in this chapter. It must be stressed that the case against the small scale industry in Indonesia rests not on strict economic considerations of size but on the quality of management and organisation with which it is so closely associated.

The trend in polarisation is dependent upon the rate of inflation and the initial financial strength of the firm. Even if inflation is lessened in the future the small scale firms begin in a weaker position in 1966 than in 1950-51, and a very high level of preferential aid would have to be maintained to make them viable in the foreseeable future. The desirability of alternative policies will be discussed but before this can be done it is necessary to review the costs and benefits of the expansion so far in relation to the rest of the economy, and thereby gain some idea of the advantages and disadvantages of future plans.

Costs and benefits of the expansion.

Foreign exchange expenditure and saving:

Table 38 contains what must be regarded as very approximate values for fixed investment and potential value added savings in terms of foreign exchange in the three main sections of the industry. The cost data were taken from a report on the planned costs and revenues of a modern integrated spinning-weaving-finishing unit in 1963. Expenditure on new equipment will vary with the country of origin and degree of mechanisation, and it would be impossible to sum the many different contracts of overseas suppliers of machinery because of the unavailability of the appropriate data. Nevertheless, these estimates, however rough, will provide some indication of the

TABLE 38.

FOREIGN EXCHANGE CONSIDERATIONS OF EXPANSION SINCE 1950.

	New capacity since 1950		Dollar cost of fixed capital investment since 1950	Annual dollar value added saved by capital investment since 1950
	units of equip- ment	units of output	₹ millions	₹ millions
SPINNING: units of capacity = spindles output = yarn in 1000 tons	181,000	15,698	26.85	6.1
WEAVING: ATBM ATM units of capacity = looms output = cloth (million metres)	151,904 8,962	291million 1,032	- 41.4	- 37.3
FINISHING units of capacity are large machines output is in million metres	-	216.6	30.7	16.2
			98.95	59.6

Sources:- (i) New capacity since 1950 for spinning and weaving was obtained from data in Table 13. New finishing capacity was obtained from Table 34.

(ii) The dollar cost of fixed investment is calculated by using the figures stated in the Report of the Industrial Technical Foundation Center, P.T.Djunti, for the U.S. dollar cost of capital investment: 15,200 spindles cost \$2.255 million (p.22); 400 power looms cost \$1.848 million (p.26); finishing plant for 9 million metres cost \$1.279 million (p.30).

(iii) Dollar value added was obtained from

(a) H.N. Bresette, The Evaluation of Presently Installed Cotton Yarn Spindles and Future Potential of the Industry, p.1; 144,900 bales of raw cotton cost \$22.46 million. Therefore, one bale (0.18 tons) costs \$155.

(b) Report of the Industrial Technical Foundation Centre, op.cit., p.43. One bale of yarn costs \$225. Therefore, value added = 45 per cent; or 31 per cent of imported yarn costs can be saved by processing raw cotton.

(c) Report of the Industrial Technical Foundation Centre, op.cit., p.43. One metre of printed shirting/drill costs \$0.5, but one bale of yarn is the equivalent of 990 metres according to the Department of People's Industry. Hence 990 metres cost \$225 of yarn, or one metre costs \$0.23. Therefore, value added = 117 per cent; 54 per cent of the cost of imported cloth can be saved by weaving and finishing yarn.

(d) To separate the value added by weaving and finishing, the total Rupiah costs of weaving processing in the Report of the Industrial Technical Foundation Centre (op.cit., p.28) are used. The total costs of weaving were estimated to be Rupiah 1,020,000 of which imported raw materials were estimated to be Rupiah 622,579. Therefore, the foreign exchange saved (assumed here as the value added in dollar terms) is 64 per cent; or 39 per cent of the dollar cost of imported unfinished cloth could be saved by processing yarn. It is then inferred that 15 per cent (54 per cent - 39 per cent) of the cost of finished cloth imports can be saved by the finishing process performed in Indonesia.

(These might not be accurate measurements of foreign exchange saved because all the data are in Rupiah terms, and arbitrary (official) exchange rates were used to evaluate imported raw materials in domestic currency).

(iv). The ATBM loom is built in Indonesia and does not require foreign exchange.

burden of the textile industry's growth on foreign exchange resources.

Since all raw materials, including chemicals are important and government electricity charges are very small, value added saved is defined in this analysis as the difference between the cost of an imported good and the cost of the import of its raw materials. Unfortunately there are no data on chemicals imported for the textile industry, so that only the commodity to be processed will be included in 'raw materials'.

The total amount spent, excluding spare parts, since 1950 is of the order of \$100 million and annual foreign exchange savings by processing the raw materials in Indonesia amount to almost \$60 million. But this latter amount must be regarded as a maximum because it does not include spare parts and chemicals, but does assume full capacity production. If the industry functions at 50 per cent of capacity the value added savings are halved. Nor does it include interest on credit. The Platt Brothers spinning mills contracts carried interest of 6 per cent. The interest on other equipment is not likely to be more than 10 per cent.

Despite these qualifications the return in terms of foreign exchange savings appears high; for if the industry functioned at full capacity it could save its foreign exchange cost in less than two years. No comparable data for other industries are available so that it cannot be concluded that the textile industry was more suitable than other industries from the point of view of the balance of payments. However, weaving is a process which produced a large value added and the gov-

ernment appears to have done well in choosing to push this section forward, in view of pressure on the balance of payments. Thus in as much as foreign exchange saving is an important criteria for an expanding industry, weaving activity is potentially promising.

The rate of return in foreign exchange terms is not uniform throughout the industry: power weaving has the highest and spinning the lowest rate. It would take weaving a little more than one year to save the foreign exchange spent on it; but finishing would take two years and spinning almost four and a half years. Unfortunately, it is these last two sections whose capacities lag behind that of the weaving section so that any effort to bring the production potential of each stage of the manufacturing process in line with the others would not save as much foreign exchange as would the expansion of the weaving industry.

Employment creation and demand inflation:

Another aspect of expansion of the textile industry which is worthy of consideration is employment potential. One of the reasons mentioned in Chapter III for choosing this industry as a means of industrialisation was that it would create more jobs than other, more capital-intensive, industries.

The goal of high employment potential has been argued against on the grounds that it raises money income and hence total internal demand for goods, both directly and through the multiplier effect. If militant trade unionism can overcome the influence of seemingly unlimited supplies of labour, wages can rise, and generate demand and further demand through the multiplier effect. This will result in rises in domestic prices unless the balance of payments can stand an increase in the quantity of consumer goods imports.

Table 39 presents data on the approximate number of jobs that would have been created by investment in the textile industry since 1950. The handweaving industry was the outstanding source of new employment although it is not clear how reliable this figure is if it includes new handlooms which were only used a quarter of the time. Additional employment created from investment of \$98.95 million was 24,926 giving rise to an overall average initial foreign exchange cost of \$3,970 of providing one job. Similarly, each additional worker would save \$2,382 in value added a year.

TABLE 39

CAPACITY EXPANSION AND EMPLOYMENT SINCE 1950.

	Total employment created	₹ Cost per additional employee	₹ Savings per additional employee.
Spinning	3,965	6,772	1,538
Weaving ATM	14,631	2,830	2,548
Finishing	6,330	4,850	2,559
TOTAL	24, 926	3,970	2,382
Weaving ATEM (assuming one worker to each loom)	151,904	-	-

Sources:-

- (i) Total employment created was inferred from data in Report of the Industrial Technical Foundation Centre, P.T.Djunti. (pp.22, 26, and 30)
- (ii) ₹ costs and savings per additional employee were calculated using data in Table 39, (Sources (i) and (iii))
- (iii) The ATEM loom is built in Indonesia and does not require foreign exchange.

This table shows more clearly than any other the advantages of weaving. Not only does it create many more jobs than spinning and finishing for a given sum but it has a high return in value added. The finishing industry has a strong advantage over the spinning industry for the same reason. The very high dollar savings in value added for each worker provides the basis for a strong argument against any suggestion that the increased employment in the industry was a source of demand inflation for which extra resources had to be found. The rise in demand from increased income of workers, operating through the multiplier effect on general demand, could have been comfortably met by further imports made with the foreign exchange saved per employee which amounted to several times the annual income per capita in Indonesia. For this reason expansion of weaving activity cannot be regarded as adding to inflationary pressures. This does not, however, apply to the spinning section.

Out of a population of 107 million in a country in which there is a good deal of part-time employment the labour force might be anything between 30 and 40 million.¹ Annual increments to this sum, in view of a high rate of population increase in the country, would be a great deal more than the total number of new jobs in weaving since 1950. And yet textile manufacturing has seen the biggest expansion of employment in any secondary industry. With seemingly insuperable obstacles to improving agricultural productivity the development of an import-replacing textile industry appears to be a great advantage to a developing country.

1. The labour force for 1966 has been estimated at approximately 38 million (G.W. Jones. Bulletin of Indonesian Economic Studies. Vol.I. No.4. p.64. June 1966)

But in order that the country should benefit fully from these savings the industry must operate at full capacity.

Problems of further development.

Foreign exchange considerations:

According to the Eight Year Plan there was to be a ceiling imposed on weaving capacity in some areas while a strong effort was to be made on increasing spinning and the bottleneck finishing capacities. Since this constitutes the immediate plans of the government it is worthwhile considering the foreign exchange costs and benefits of these changes first.

Table 40 presents data on capital costs and value added saved of equating capacities of all stages of the manufacturing process.

If the handweaving industry is excluded it would cost \$50.3 million to bring spinning and finishing capacities up to weaving capacity but it would save only \$14.7 million a year in value added. If handweaving capacity is included \$198.7 million must be spent and the annual saving would amount to \$52.9 million. Because of the low return relative to the weaving industry it is thought that the policy of maintaining weaving capacity ahead of the rest of the industry was not inappropriate in view of balance of payments difficulties which emerged periodically.

As regards the future it would seem that, although the foreign exchange cost can be returned in a few years, the initial layout of up to \$200 million is very large in relation to Indonesian's present

TABLE 40.

FOREIGN EXCHANGE CONSIDERATIONS OF EQUATING CAPACITIES OF ALL SECTIONS AND OF EXPANDING TEXTILE PRODUCTION CAPACITY BY ONE METRE PER CAPITA, PER ANNUM.

Capacity bottleneck at present	units of equipment	units of output put	Capital cost of eliminating bottleneck	Value added saved if bottleneck eliminated	New capacity required for increasing output by 107 million metres (or by one metre per capita)		Cost of installing capacity for 107 million metres	Value added saved of capacity of 107 million metres	Ratio of cost to value added saved of capacity of 107 million metres
			\$ millions	\$ million	equipment units	of output	\$ millions	\$ millions	
SPINNING: (a) excl. ATBM equipment/267,056 spindles.	23,161		39.6	9.1	223,000	19,432	33.1	7.6	4.36 : 1
(b) incl. ATBM output/1,168,595 tons yarn.	101,349		173.4	39.6					
WEAVING: ATM equipment/looms.	-	-	-	-	9,288	107	23.2	20.9	1.11 : 1
output/million metres cloth.									
FINISHING: (a) output/million metres finished cloth.	-	75.1	10.7	5.6					
(b)	-	178.3	25.3	13.3	-	107	15.2	8.0	1.9 : 1
TOTAL	(a)		50.3	14.7			71.5	36.5	1.96 : 1
	(b)		198.7	52.9					

Sources:-

(i) The estimation of bottleneck capacities was calculated from Table 33 while the dollar costs of increasing capacity and dollar savings in value added were obtained as described in Table 38, (Sources (ii) and (iii)).

(ii) New capacity required for another 107 million metres annually was calculated for spinning and finishing on the basis of Table 33 and for weaving (power looms only were considered) on the basis of average output of 24 metres a shift, two ^{shifts} metres a day, 240 days a year, per loom.

(iii) The remaining data were calculated as in Table 38, (Sources (ii) and (iii)).

overseas purchasing ability. So critical is her external payments position in the mid 1960s that only an ^{indigenously controlled} investment which would be returned in one or two years would have a chance of being accepted by her overseas creditors.

With the failure to grow cotton commercially in Indonesia, spinning does not represent a bottleneck. Neither the ratio of capital cost to value added saved nor the foreign exchange per additional unit of employment commend the expansion of the spinning industry. The labour employed in constructing the large plants and the low foreign exchange savings per worker employed suggest that this section is much more likely to produce demand pressure through the multiplier effect without sufficient compensating savings of foreign exchange. Thus the case for greater spinning capacity is very weak. It would be of much greater benefit to give effective protection to the weavers.

There is a case for expanding finishing capacity if it is felt that by improving the quality of the domestic product abuses of the import licencing system will be minimised. If some cloth imports are likely to be made in spite of regulations the expected loss of foreign exchange in value added of the weaving and finishing processes must be weighed against the capital repayments instalments on imported finishing equipment. Let us suppose that if finishing capacity can be increased by 107 million metres (one metre per head of population) the abuse of import licences equivalent to 107 million

metres of cloth can be prevented.¹ The value added saved would amount to \$28.9 million (\$20.9 million plus \$8.0 million).² But the cost of installing finishing capacity is only \$15.2 million.

The case for expanding finishing capacity then rests on the amount of cloth imports which can be prevented by improving domestic finishing processes. If this capacity has to be increased by 107 million metres to prevent only 60 million metres of cloth being imported it is still worthwhile to expand finishing capacity. Furthermore, there is a greater likelihood that long term credit can be obtained for capital investment than for cloth imports, so that however critical is the balance of payments it may still profit the economy to increase finishing capacity.

A less expensive method of overcoming prejudice against domestic production is to utilise the facilities offered by Imperial Chemicals Industries. In the past the Indonesian branch of I.C.I. has offered valuable technical advice and a wide range of dyes and chemicals to the finishing industry. But like management training, assistance has been given on application to the Textile Institute in Bandung, to I.C.I., or to the Department of People's Industry. The smaller establishments with the more primitive processes are under less astute managements and are less likely to seek advice.

-
1. This need not be so. Prejudice against the domestic product might be so strong that in order to prevent an abuse of regulations amounting to 50 million metres, finishing capacity of 100 million metres must be installed to raise the reputation of domestic cloth sufficiently.
 2. See Table 40. When finishing processes are so poor that the consumer rejects the domestic product it is the value added of both the finishing and weaving processes which is lost.

Because of the large sized plant units involved in finishing and the smaller strain on management exerted by finance and marketing problems it might be preferable to retain these factories in the public sector, if necessary with foreign management and technicians, until such time as indigenous personnel are suitably trained to assume responsibility.

Table 40 also illustrates the cost of increasing total production capacity by one metre per head of population, or by 107 million metres a year. For an initial cost of \$71.5 million a total of \$36.5 million would be saved each year. The spinning industry would appropriate almost half the cost but save only \$7.6 million annually.

While this might seem a worthwhile proposition, particularly if capital investment can be made on longer term credit than consumer goods imports, it is questionable whether the country should attempt to increase supplies of textiles from any source beyond the present weaving capacity of almost 7.3 metres ^{capita per} annum.

It is not clear how much Indonesia has earned in foreign exchange in the last few years¹ but a government spokesman announced that earnings have declined from \$750 million in 1961 to \$450 million in 1965.²

-
1. J. Panglaykim and H.W. Arndt have published data in the Bulletin of Indonesian Economic Studies (Volume 1, No.5, p.7) which conflict with data obtained privately in Indonesia.

Export Earnings: Indonesia.

	<u>Panglaykim & Arndt estimates</u>		<u>Other estimates</u>
	<u>(Excluding Oil)</u>	<u>(Including Oil)</u>	<u>(Including Oil)</u>
1963	412	656	497
1964	426	632	500

2. The Sultan of Djogjakarta, Minister for Economic Affairs in the 1966 Suharto Government made public this information on May, 1966.

It may be some years before exports can be increased to their former level and in the meantime annual debt repayments are likely to be of the order of \$350 to \$400 million.¹ Hence it would seem that even a small initial investment with a fast return must be foregone in the near future and instead the greatest effort should be made to save as much value added on present supplies of consumer goods imports as possible. This is another reason for halting further expansion of the industry.

Management training:

If the Indonesian government wishes to continue to promote a Benteng programme its most obvious and immediate task is a training scheme for managers. The time for such a policy would appear more opportune in 1965 than it did in 1950 because the level of capacity reached in 1965 allows time for training of personnel before further purchases of equipment are made: in 1950 potential output per capita of the weaving industry was still low and the possibilities of expanding to save foreign exchange in value added were all too obvious. Now that the weaving industry is large enough to permit a temporary ceiling to be placed on it, while any expansion of the spinning industry would commit large sums of foreign exchange, it would appear an appropriate time to conduct an intensive management training programme.

1. Unpublished data, Djakarta, May 1965.

There have been a number of management training courses centred at the universities, particularly at the School of Business Administration at the University of Indonesia.¹ But they have only appeared to be of slight influence for several reasons. First, they are fee-paying courses which means that the more well-established and profitable firms send participants. A manager who is prepared to attend a course already shows a promising attitude to business. Second, the courses are invariably held in a university or in a government department. There appears to have been no attempt to offer management extension services in the environment of the participant, as has been done in agriculture. If a weaver is prepared to go to a university or to a government department for training he has already demonstrated the initiative and interest which is so important to commerce. The first stage of the problem of management training is one of overcoming apathy and convincing entrepreneurs that it is worth their while enrolling for courses. Third, there is no evidence that the course work is based on problems related to the indigenous manufacturer. The influence of foreign universities would suggest that there is a strong slant towards problems of business administration outside Indonesia. Most of the courses are entitled, 'Advanced Management Programme',² and while this might be well suited

1. The School affiliated with the University of California in 1958. At the same time the University of Gadjah Mada, in Central Java, had an affiliation programme with the University of Wisconsin. (J. Panglaykim, Far Eastern Economic Review. Volume XXXVII. No.13. (September 27, 1962. pp.609-611)

2. Ibid. p.611. The participants of one course were described as 'an accountant, a college professor, the manager of a business concern, a banker, etc'. and of another, 'the majority of participants were professional military men who have become managers as a consequence of the nationalisation of the Dutch enterprises in Indonesia'.

to managers of very large Indonesian concerns it might be quite irrelevant to other manufacturers.

The first step in improving managerial abilities is to inculcate a set of values appropriate to commerce: saving, re-investment, and hard work. This can only be done by instructors visiting the entrepreneurs. Once the producers have been convinced that they can do better they are much more likely to volunteer for the course work at the universities.

E.K. Fisk¹ pointed out in a study of small scale enterprises in Malaya that it is extremely difficult to supplant the middleman because of his strong monopsonistic position. A training programme for aspiring indigenous manufacturers would have to include financial and marketing problems but it is not necessary to train managers to substitute perfectly for the middleman. If the new manager can increase his credit-worthiness by greater efficiency and reliability he would qualify for bank credit, or if he were forced to go to the free market through a shortage of bank credit, he would be able to obtain better terms. However, it is doubtful whether any amount of training assistance can solve the management problems of the smallest weavers in Indonesia. It would appear from the analysis in this thesis that the entire small scale weaving industry in Indonesia should be allowed to fall into permanent disuse and training facilities be accorded only to new indigenous entrepreneurs who already possess modern equipment and to aspiring manufacturers on condition that they purchase modern equipment.

1. E.K. Fisk. The Development of Small Scale and Cottage Industries in the Rural Areas of Malaya, p. 34

Any part of the small scale section which is still supported would be so protected for social and political reasons rather than for economic benefit to the country.

Protection and low net foreign exchange earnings:

It is difficult to know what exchange rate would have equated costs and benefits of the textile industry in the past because much would have depended on the exchange rates for other imports which compete for foreign exchange.

The case for refusing to protection to a relatively high cost domestic industry is sometimes argued on the basis of keeping down the internal cost of living and thereby protecting export potential. But foreign exchange must be found for purchasing these textiles, and it is doubtful whether present export industries can increase the value of their hard currency earnings very much in future. Nor it is clear what secondary industries Indonesia could possibly develop for exports. The notion of development through export promotion is therefore highly speculative. On the other hand, the data in this chapter show that specific gains in employment and foreign exchange savings can be made by an import-replacement industry. With so much underemployment in Java export output is not likely to be affected by employing labour in the new textile industry. With the textile industry, export earnings are retained, ^{and} employment and output have risen with no foreseeable rise in prices.

However, in the mid 1960s the government is faced with a dilemma posed by the differences in average production costs and the shortage of foreign exchange. If, as is the case now, the balance of payments cannot stand increased capital expenditure then abnormal profits must be eliminated to restrain further capital investment. But a reduction in tariff protection would also mean lower output in the small scale section and large imports of finished textiles. A total ban on purchases of foreign capital equipment could resolve the immediate dilemma,¹ and this would allow greater freedom of choice of other methods of protection.

If it is decided to eliminate all imports of finished textiles, whether by very high tariffs or by quantitative restrictions, there remains the question, 'How much of the small scale weaving industry should be supported, even in the short-run?'. This problem arises

-
1. Profits in the efficient sector would accumulate and this might present problems of a sudden burst of expansion at a later date.

because total domestic capacity is the equivalent of over 7 metres per capita but the present foreign exchange position will not allow a total supply of that magnitude. Even in 1962 when the supply of textiles was at a record level, only about 670 million metres, or approximately 6.5 metres per capita, were available; while in 1959 as little as 207 million metres, or less than 2 metres per capita, could be provided.¹ This is the reason why I.P.Andren's plan for maximum physical utilisation of present weaving equipment is no longer applicable, although the principle of complete reliance on the domestic industry can still be accepted.

However, well-intentioned the government distribution of yarn allocations to small scale industry was in periods of low supply, it must be recognised that the scheme was a failure: the yarn finally found its way to those producers who would be expected to obtain it if there were a legal free market in all yarn imports. If the government wishes to subsidise or pension off the small scale and cottage industry there must be a less cumbersome way of doing so. The strain on the bureaucracy and on government revenue could be reduced by accepting the existence of free market forces.

An approximate tariff can be calculated whereby that part of the textile industry for which there is enough foreign exchange for raw materials can be effectively protected, but the analysis in Chapter VII showed that this would be eroded by inflation. On the other hand, quantitative restrictions avoid both the necessity of estimating a

1. Calculated from Table 31 assuming 5.5 metres = 1 kilogram.

tariff and the detrimental influence of inflation. Yarn quotas might be auctioned by the government so that all the profits from the importing process which were formerly made by importers, traders, and small weavers operating in the free market would be received by the government. In so far as the profits of importers and traders are reduced, the high propensity to import from this foreign exchange saving is also reduced.

This system is essentially no different from the allocation system except in the distribution of profits. The free market price will be that price which equates marginal revenue product or which satisfies other criteria important to the producer. The most efficient manufacturers will be operating at full capacity and will be making abnormal profits but will be prevented from expanding capacity by a total ban on overseas capital purchases, although they might find it profitable to buy old equipment from less efficient weavers and improve its productivity by rationalisation.

If only those who possess capacity licences are allowed to bid at the auction the opportunities for speculation by middlemen will not be possible but, to the extent that these traders are bound to devise ways of financing manufacturers and thereby obtaining possession of yarn supplies there might be some speculative activity. If the government can ensure regular supplies of yarn there should be no incentive to speculate.

Should the government forego quotas or permit one quota for all textile materials imports without adequate stable protection measures

it can still rely on discriminatory credit measures to ensure a supply of raw materials. After the March 1950 measures and especially in November 1955 the discriminatory use of credit prevented raw materials imports from falling very sharply and there is little doubt that these measures could have been used to far greater effect. But this will always be a clumsy method of protection and in as much as it involves more bureaucratic work it might not always prove reliable. If it was thought that the bureaucracy was capable of enforcing extra controls, a complex system of import regulations, price control measures, and profits taxation might prove more effective. But it has become patently obvious from recent history that the Indonesian civil service is not strong enough to supervise such schemes. Simplifying procedures and at the same time facilitating greater revenue for the government would appear to provide maximum benefit to the country.

The chief reason given for supporting small scale weavers is to provide extra income to the underemployed. There are pockets of distressing poverty in Central Java where there are local concentrations of unused handweaving capacity and there is a strong argument for supporting these areas with subsidised yarn supplies because of lack of alternative employment. But this is not the same as an argument for supporting small scale weavers throughout Indonesia, particularly in West Java where alternative employment is less difficult to obtain. Supervision of allocations made to specified areas would be much easier to control than over larger areas, and efforts to overcome credit problems of the small scale industry might be

concentrated in local banking facilities. Furthermore, an inefficient bureaucracy might be expected to have a better chance of success when its geographical coverage is smaller.

The persistence of the batik industry in spite of low supplies of all textile materials is due to the government's deliberate promotion policy. Cambrics (the unbleached cloth) imports were subject to much lower tariffs than are finished cloth imports, and have usually been protected by quotas as well. It appears likely that this deliberate policy of intervention will continue because of both cultural prestige and the need to satisfy many villagers who prefer the traditional dress. While this protection remains batik and cheap finished cloth cannot be regarded as very close substitutes. The small scale weaving industry cannot supply the rather high cost batik industry with sufficiently cheap raw materials to supplant imports, while the continued support of the batik industry reduces the likelihood of an expansion in the market for finished cloth which might have helped small weavers.

Concluding remarks on sources of information.

The analysis of the industry has been made within the limits imposed by available data. Official statistics on capacity and production were neither reliable nor comprehensive, and the output of the small scale industry was completely unrecorded. Until KOTOE began investigating all capacity licences in December 1964 no thorough investigation had been made concerning the operations of this section of the industry. The enormous disparity between licenced and actual handweaving capacity recorded by KOTOE might be taken as a measure of the capacity which had fallen into disuse but for which allocations of yarn were still claimed. The inadequacy of data on the small scale industry was revealed in Chapter VIII when rigid assumptions had to be made about small scale activity and capacity in order to infer the competitive strength of the industry. Regional sample surveys undertaken by academic institutions in the country were subject to local conditions and offered no information about the small producer. There were no figures for stocks of raw materials and cloth and in the absence of good production data only tentative conclusions could be drawn concerning ~~data~~ stock changes on the basis of import statistics. The best that could be done was to surmise fluctuations in stock-building from the corroborative evidence of Bank Reports, import statistics, price ratios, and the general state of

the economy. The difficulty lay, not in noting the periods during which stocks rose and fell, but in measuring the extent of these changes.

Because statistics of imports, which originated from customs offices, were the most reliable and comprehensive of all the data used in this thesis they were used extensively in several analytical chapters. In Chapter III, for example, imports of raw materials were used as supporting evidence of the rate of expansion of the industry because the data on capacity were not sufficiently detailed. The sample surveys undertaken in Bandung and Madjalaja revealed the necessity of careful preparation and checking in this kind of data collection. Most of the answers were fallacious and it would require a painstaking and well trained enumerator to obtain reliable data. The intensive questioning of a small number of large and leading manufacturers provided more information than the survey.

The almost complete absence of cost data was another serious obstacle to a detailed analysis. In Chapter IV data from the Philippines and India were used as the basis for the argument on costs, and conclusions concerning cost conditions in Indonesia were drawn after making assumptions of the effect of inflation. But this methodology does not provide proof of hypothesis and suppositions however well-founded the assumptions appear from the results of intensive interviewing.

Some of the areas of deficient statistics can be overcome by sample surveys. In the case of capacity data the investigations of KOTOE should be completed and renewed every five years or so, with

sample checks made on capacity licences every year. Information on costs would be extremely difficult to obtain, and in an inflationary situation would be of limited value. Yet these data are of vital importance to an effective protection policy. Periodic sample surveys of a size which is thought to be statistically acceptable for inference about the whole industry would constitute an inefficient and unreliable method of evaluating costs. It would be better to undertake a thorough investigation of the cost structure of a number of different establishments thought to be representative of all types of establishments in the industry. The respondents would be chosen for their reliability. A monthly 'cost of production' index could be drawn up and evaluated by substituting new prices for the components of the index. The effort involved in this procedure would not be great but the results would be extremely useful.

Data on stocks would be very difficult to obtain by any method and quite misleading information could be received by way of sample surveys. Five well paid informants with long experience in the industry are more likely to provide good results than sample surveys or Army inspectors. The Central Bureau of Statistics acquired free market yarn prices in a similar manner by maintaining complete trust and confidence between statistical officer and traders.

Until the weaving section emerges as a reasonably homogenous industry with regard to costs and the statistical services are more efficient there will remain serious deficiencies in data about the textile industry.

APPENDIX A.

Sources of Credit.

The availability of credit, both short and long term, was an important determinant of the rate of expansion of fixed capital and the volume of supply of raw materials for existing capacity. The type of borrower and the credit terms which he was successful in obtaining help to explain the structure of entrepreneurship in the expanding industry as well as the rate of capacity utilisation.

The market for credit can be divided into the organised and unorganised sectors. The former is comprised of the several state banks, the pawn shops, and savings banks. Of these the state banks, which were financed almost entirely from budget deficits, supplied the vast bulk of credit to the organised market. The unorganised money market is so called because it is made up of thousands of small units who either act as brokers between savers and investors or are the source of savings themselves. Each acts independently of the other and although they operate in an efficient competitive manner they comprise a heterogeneous and unorganised market. This market constitutes a channel through which private savings can be offered to potential borrowers without being jeopardised by inflation. Although inflation is not the only factor which makes the private lending market the most popular destination of private savings it has been strong enough to prevent the successful establishment of the forms of credit institutions, such as the private banks and the stock exchange, which

are well-known in economically advanced countries. Even so, it is unable to attract the savings which would be expected to arise in western countries. One estimate of annual total net savings placed the figure at 5 per cent of national income.¹ The result has been that only a fraction, alleged to be 2 per cent in 1953, but 5 per cent in 1954, of the private sector's gross investment was financed from private voluntary savings.²

Banks which are exclusively devoted to the agricultural sector will not be mentioned. Credit facilities in the organised lending market will be discussed first although some are of much less importance than the private, unorganised money market.

Government banks and credit institutions:

The government banks concerned with imports and with the textile industry are Bank Indonesia, Bank Industri Negara (State Industrial Bank-BIN), Bank Pembangunan Indonesia (Development Bank of Indonesia-BPI), Bank Negara Indonesia (State Bank of Indonesia-BNI), Bank Rakjat Indonesia (Indonesian People's Bank-BRI), and Bank Dagang Negara (State Trading Bank-BDN); and they are largely financed from the government budget.³

-
1. U.S. Dept. of Commerce. 'Investment in Indonesia. Basic Information for U.S. Businessmen.' Washington, 1956. p. 79. (Footnote in J. Bennett and E.A. Tenenbaum. Indonesian Industrial Financing, p.16).
 2. D.S. Paauw. Financing Economic Development. The Indonesian Case. p. 68.
 3. This was because 'among Indonesian people there is in general little or no inclination to entrust their money to banks.' (Report of the Java Bank 1951-52, p. 78). The BNI received Rp.250 millions or approximately \$U.S.22 millions, in March 1952 from the government with which to commence operations. (Ibid. p. 79).

Bank Indonesia (formerly the Java Bank) follows the functions of a central bank and as such is intended to offer credit through assisting other banks with rediscounting facilities. Although the bank does not aim to compete with the smaller banks in the granting of loans to individuals or firms it exerts an extremely strong influence on the level of activity in the textile industry by issuing directions to other banks on the type and duration of loans to be made to importers and producers.

In January 1955 Bank Indonesia was given powers to limit the amount of credit extended by different banks, to restrict particular kinds of credit and set maximum and minimum rates of interest.¹ However, such policies were not strongly pursued because they were believed to limit Indonesian banks more than foreign banks. A decree in March 1957 limited credits of longer than one year to enterprises in which paid-up capital plus free reserves were greater than the minimum working capital requirements; and then the loan was not to exceed 10 per cent of paid-up capital plus free reserves.² It is not known what overall effect this measure had, except that it reduced the amount of credit to further fixed investment.

But it was in the import sector in particular that the Central Bank displayed its full powers. The balance of payments was always a source of anxiety to the government and, except in periods of stringent quantitative restrictions, the principle instrument of control over the foreign trade sector was credit policy. H.K. Charlesworth

1. Report of Bank Indonesia 1957-58, p. 136.

2. Ibid. p. 138.

described the role of the Bank in this policy thus:¹

The presence of well-developed sophisticated foreign exchange banks, the lack of strong national domestic private banks, and the continued presence of inflation has forced the Bank Indonesia to be primarily concerned with regulating and controlling foreign exchange banking. Its primary credit policy has been conditioned by the extent of import requirements necessary for the economy.....This orientation toward the foreign exchange sector of the banking system could not be avoided and will continue as long as foreign exchange banking dominates the banking system.

Moreover, in the presence of continuous inflation the average propensity to import with respect to income was always rising and this caused a change in the pattern of credit away from domestic production and towards imports.²

When prepayments were raised in March 1953, the Bank undertook to grant rediscounting facilities where foreign exchange saving or earning could be shown to benefit by the transaction.³ The other banks were also permitted to draw on their credits at the Central Bank up to 40 per cent of the amounts deposited with the Foreign Exchange Fund for the purpose of import financing if their balances with the Bank were completely eliminated. These extra credit facilities were crucial in determining the volume of imports, including raw materials,

1. H.K. Charlesworth A Banking System in Transition. p. 174.

2. Moh. Sadli has suggested a very big increase in the propensity to import. He said:

'During inflation the coefficient of the marginal propensity to import in underdeveloped countries, 0.2 in normal times, can through the money supply, rise to 0.8 if not checked by import controls.'

He does not state how he arrived at these figures but appears to have little doubt that the influence of inflation on imports is very great. (Moh. Sadli, The Background of the Modified Import Regulations p. 161).

3. Report of Bank Indonesia 1955-56. p. 75.

at the time of more stringent trade regulations.

In January 1956 the Bank ordered foreign exchange banks to cease the granting of credit beyond the time needed to land imports in the country because it was believed this placed importers in a strong financial position to retain goods for speculation.¹

In the field of industrial financing the Bank provided credit to other banks in order to support enterprises selected by the government. At the same time it offered special credit facilities to all banks for pre-financing credit when surcharges and prepayments² required on imports were increased. The extent of these extra facilities during a period of limited working capital resources brought about by import regulations was the instrument of the Bank's discriminatory policy.

The BIN which was started in 1952³ was chiefly concerned with long-term credit and dealt exclusively with Indonesian enterprises. Although it was intended to specialise in long-term credits it found itself lending for working capital purposes as well. It was also responsible for most of the government projects. In 1960 the BIN was incorporated in the newly formed BPI.

The BNI specialised in foreign trade and, inevitably, because

-
1. Report of Bank Indonesia 1956-57, pp. 84-85.
 2. Prepayments were compulsory payments in advance for imports and were designed to eliminate excess liquidity. Chapter VII discusses their effect in more detail.
 3. The Bank was established by Emergency Law No. 5, 1952 but had retroactive effect as from April 1951.

of the increasing share of trade in their hands, with the Benteng group. At the end of 1955, 21 per cent of outstanding credits were taken by the foreign trade sector. The BRI¹ was to concentrate on small scale and medium scale enterprises, cooperatives and those individuals in the lower income group. However, in practice their lending activities extended to quite large enterprises and the standards of credit-worthiness made it difficult for an individual in the lower income group to acquire a loan. In January 1957 the BRI was granted the status of a foreign exchange bank² which meant that it shared the special re-discounting facilities offered by the Central Bank.

The BDN was founded in 1958 to replace the credit sources which had been used by the former Dutch trading houses taken over by the government.

A form of state bank credit which was very common until the authorities discouraged it was the permanent over-draft with a ceiling, on which an enterprise could draw at any time. Interest was paid only on that part of the overdraft used and the proceeds of all sales were deposited with the bank. It was a general purposes credit and was very popular in a situation when working capital requirements

-
1. The BRI was begun in 1949 as a continuation of the Dutch 'People's Bank' by the Republican Government. (Report of the Java Bank 1951-52. p. 84).
 2. Report of Bank Indonesia 1956-57. p. 92.

were irregular. But only those enterprises which could offer security and which had good past records with the Bank were permitted this kind of credit.

In 1964 the state banks were reorganised in such a way that they were to specialise in industries rather than in size of enterprise.¹ The banks were assigned to government departments and thereby exclusively committed to the industries under the jurisdiction of that department so that greater control could be exerted over credit policy. Bank Dagang Negara became the bank responsible for the activities of the Department of People's Industry and therefore for the textile industry. However, this scheme was not effective because of resistance by the banks to change.

The Department of Economic Affairs added to credit facilities by offering its own credit to small enterprises through the Credit Foundation,² the Department of Cooperatives, and the Small Industries Credit Bureau, and the BRI.³

In December 1950 the Jajasan Pemusatan Djaminan Kredit Rakjat (Central Foundation for Guarantee of People's Credit) was founded with the object of stimulating Indonesian industry and commerce. The Jajasan acted as a guarantor agency for approved enterprises which wished to apply for credits from BNI and BRI,⁴ but whose credit-worthiness was

-
1. Press interview reported by Business News, Djakarta. 15.1.64.
 2. This is the Jajasan Kredit mentioned later.
 3. D.S. Paauw, op. cit. p. 123.
 4. Ibid, p. 122.

regarded by the banks as doubtful. As such it was a powerful component of the Benteng programme. In February 1956, the JPDKR was changed to the Jajasan Lembaga Djaminan Kredit and its activities expanded to assist those enterprises unable to satisfy normal banking requirements; but applicants were more carefully screened. However, the rate of failure to repay remained extremely high and the Jajasan became a credit institution for those enterprises which would not be passed by banks with reasonable business standards. The remarkable increase in the volume of credit due to the functions of the Jajasan ~~were~~^{was} inspired by the belief that the main reason why Indonesians were held back was the lack of credit facilities. Nevertheless, not all enterprises were successful in obtaining guarantees because the provisions were highly selective. Moreover, the processing of applications was lengthy and troublesome and did not help the manufacturer who required funds suddenly and quickly when faced with a large consignment of raw materials.

The number of bad debtors at all credit institutions was high and in January 1955 Bank Indonesia was given powers to limit the amount of credit extended by the banks to restrict particular kinds of credit and to set maximum and minimum interest rates.¹

The influence of the state banks altered with time. In the early years of the 1950s credit was easy for Benteng producers and importers, and in as much as the import sector attracted most of this indigenous group cheap credit mostly passed directly into importing. Later on, when state credit was not given so generously, the stricter

1. Report of Bank Indonesia 1957-58. p. 136

application of the credit-worthiness criterion meant that the more efficient entrepreneurs, including the Chinese, who would use an Indonesian for application purposes, benefited most.

National private banks:

Throughout the fifties the number of private banks grew rapidly. They were usually established by groups of private businessmen who wished to expand their operations or who hoped to acquire new channels of credit for their existing business. In December 1955 there were 75,¹ and in December 1956 there was a total of 89 such credit institutions but not all of them were in operation because of organisational problems.² By 1959 there were 96 of these banks.³ Nine of them were foreign exchange banks and had stricter credit-worthiness requirements than other banks.

Because of the emphasis on credit-worthiness and profitability the private national banks which had no brief for assisting specific sections of the economy, as had the state banks, tended to concentrate their operations in the trading sector rather than the production sector. At a conference of managers of private banks in March 1964⁴ many delegates believed that the banks' activities should move away from the commercial sector to the industrial sector and that the

-
1. Report of Bank Indonesia 1955-56. p. 82
 2. Report of Bank Indonesia 1956-57. p. 93
 3. Interview with Dr. Pang Lay Kim 21.8.66.
 4. Ibid.

government should provide encouragement to them to do so.

The national private banks started slowly using private funds and were always a minor supplementary source of funds to the organised state credit market. The large increases in credit outstanding in 1956 and 1957 were mainly the result of assistance from Bank Indonesia which amounted to Rp. 235.0 million in 1956.¹ In December 1954 7 per cent of total lending in the organised loan market was provided by these banks; this rose to 10 per cent in December 1955,² and to 22 per cent in 1963.³

The Stock Exchange:

In June 1952 the Indonesian Stock Exchange began operations in Djakarta. But manufacturers have used it very little to raise new capital and its facilities are mainly used for the turnover of existing securities only. The Governor of Bank Indonesia attributed the failure of the Stock Exchange to increase new fixed capital investment to the public's general unfamiliarity with the possibilities of the Stock Exchange, and to the great inclination to invest savings in real estate or moveables.⁴

The volume of credit in the organised market:

Table (i) provides data on credit outstanding of the banks at the end of each year. In the early years credit was a much higher

-
1. Report of Bank Indonesia 1956-57, pp. 93-94.
 2. Report of Bank Indonesia 1955-56, p. 84.
 3. Interview with Dr. Pang Lay Kim, 21.8.66.
 4. Report of Bank Indonesia 1953-54, p. 75.

proportion of the money supply than later and by 1963 the proportion had fallen to almost half what it was in the early 1950s. This reflects the ease with which credit was obtained through the assistance offered in the attempt to develop an Indonesian commercial class. Furthermore, the fluctuations in credit do not correspond closely with fluctuations in the money supply. The large budget deficits in 1953 and 1954 caused a sharp increase in the rate of inflation which was not matched by a proportionate increase in total credit, and in 1957, in spite of a 50 per cent increase in the supply of money, state bank credit actually fell. The effects of this divergence of trend are discussed in Chapter III and in Chapter VII.

TABLE (i)

THE MONEY SUPPLY AND CREDIT OUTSTANDING OF BANK INDONESIA, BIN, BNI, FOREIGN PRIVATE BANKS AND NATIONAL PRIVATE BANKS, 1951 to 1956, (AS AT END OF EACH YEAR). (Rp. millions)

	Money supply	Credit outstanding of BI, BIN, BNI, & Foreign Private Banks.	Credit outstanding at 20 National Private Banks.
1951	3,328	2,152*	N.A.
1952	4,349	2,445*	N.A.
1953	5,218	2,258	102
1954	7,474	2,660	199
1955	8,647	3,402	182
1956	9,372	3,925	462
1957	14,091	3,533	680
1958	19,872	5,125	1,017
1959	26,383	N.A.	N.A.
1960	34,079	N.A.	N.A.
1963	265,000	75,461 ^(iv)	13,505 ^(iv)

Sources:- (i) Money supply. 1951-1960 Statistical Pocketbook of Indonesia 1963. p. 215; 1963, unpublished data, Djakarta, May 1965.

- (ii) Credit outstanding of non-national, non-private banks; 1951-52, Report of the Java Bank 1952-53, p. 75; 1953-56, D.S. Paauw. op. cit. pp. 124-5; 1957 and 1958 Report of Bank Indonesia 1958-9, p. 114.
 - (iii) Credit outstanding of 20 national private banks, 1953-56, D.S. Paauw. op. cit. p. 125; 1957 and 1958, Report of Bank Indonesia 1958-9, p. 121.
 - (iv) Interview with Dr. Pang Lay Kim. 21.8.66.
- *Debtors, internal commercial bills & participations all together.

As bank credit declined in value so did the length of time for which the loan was made until in late 1964 it was very difficult to obtain bank credit for more than one week.

Pawnshops and Savings Banks:

Pawn broking is a very common source of raising credit and in 1955, with 414 pawn shops, total outstanding loans amounted to Rp.595 million¹ or more than the credit outstanding at 20 national private banks. The average time of this form of credit contract was 95 days.

In 1955 the Post Office Savings Bank, recorded credit balances of Rp.189 million and private savings banks Rp.25 million:² approximately half the credit outstanding at 20 national private banks.

Cooperatives:

Producers' cooperatives were set up after the 1927 Commission on Cooperatives with the aim of promoting the organisation of small scale industries. With the exception of a short period following the protection measures of 1934 they were generally a failure because of lack of experience and knowledge of their office bearers. Their officials were accus-

1. Report of Bank Indonesia 1955-56, p.84

2. Ibid. pp. 84 and 85.

ed of having the wrong attitude towards profit, which included a tendency to corruption of cooperative funds and demanding harsh terms for the extension of credit. But the most important reason for the failure was the inadequate supply of funds and support from local governments and the competition from outside sources of credit. The weakness of the financial structure of the cooperatives was a reflection of the financial weaknesses of the firms themselves since much of their finances was supposed to come from their members. The producer cooperatives were never able to reduce the effectiveness of private credit schemes very substantially, and today *maakloon* still flourishes. The unorganised supply of funds:

The private, free money market has always been of great importance in Indonesia because of the multiplicity of trade relations and the confusion of the two roles of lending and trading. Two of the most common credit arrangements amongst the thousands of units operating in the unorganised money market can be described here. The first is the broker who acts as an intermediary between units of supply and demand for credit in exchange for a fee. The second is the saver who arranges through a private bank to channel his money to a potential investor. Often this arrangement never appears in the bank accounts.

This source of funds was always more dominant amongst the smaller and weaker enterprises whose credit-worthiness did not reach the standards set by the organised money market. It is not possible to indicate the magnitude and limits of the unorganised market but

it can be said that its importance increased absolutely and relatively over the years since the early fifties and in 1964 it was almost the only source of borrowed working capital for all kinds of enterprises; fixed capital investment had virtually halted by that time.

In a situation of underdeveloped credit institutions it is inevitable that greater reliance is made on self-financing and re-investment of profits. Unfortunately, this field is completely undocumented, but it is thought that the Chinese who were discriminated against in credit policy, relied heavily on this method of financing.

The Report of the Java Bank for 1952-53¹ stated that internal savings formed an important source of funds and that in the absence of a large amount of savings by other members of the public this was to be encouraged.

Another form of financing which might be said to be internal to the firm was the use of the system of allocations of foreign exchange for the purchase of overseas equipment. If a manufacturer were allocated \$U.S.100,000 and the blackmarket rate for the dollar was four times the official rate then he could spend \$75,000 on equipment and exchange the other \$25,000 on the blackmarket and so repay the government.² This process was facilitated by overinvoicing the capital goods imports. In some cases the entrepreneur was able to raise initial working capital

1. Report of the Java Bank 1952-53. p. 66.

2. Several manufacturers who were interviewed readily agreed that they had done this to some extent.

in this way as well.

The most common solution for working capital problems of the cottage and small scale manufacturer remains the practice of *maakloon*: a long established association between a private moneylender and a small manufacturer. When the approach to a new source of credit requires a journey into the nearest big town, a long argument about the profitability of production followed by a long wait and an uncertain outcome, it is sometimes thought preferable to rely on former creditors even though they are more expensive. Moreover, the private moneylender is often a middleman who performs marketing services for the small producer, a service which is very valuable because of the growing complexities of the market and the failure of the cooperatives to function in this field.

Interest rates and payments:

Credit charges varied according to bank, type of enterprise, and the rate of inflation. In the early fifties state bank interest rate was between 5 per cent and 7 per cent per annum but this was raised to between 12 per cent and 23 per cent by 1964.¹ Loans made through the *Jajasan Kredit* were subject to higher interest rates. In 1956 of a total charge of 10 per cent per annum the *Jajasan* received 3 per cent for bearing the risks while the bank through which the credit was channelled received the remainder.² The only information found on interest rates

1. This information was gathered from interviews with manufacturers and bank managers in 1964 and from J. Bennett and E.A. Tenenbaum, *op.cit.* p. 89.

2. J. Bennett and E.A. Tenenbaum, *op. cit.* p. 89.

charged by private banks was quoted by Charlesworth¹ who maintained the rate was at 36 per cent per annum. However, if these banks were composed of private businessmen the interest rate might be expected to change with inflation. The private unorganised moneylender functions independently of government assistance and guarantees from the Jajasan Kredit and it is to be assumed that he makes a profit over and above the rate of inflation. His final charges scarcely bear comparison with bank interest rates. In 1958 the free market interest rate was about 2 per cent to 6 per cent a month while the bank rate was about 6.5 per cent per annum.² Because of their low credit-worthiness the small manufacturers were forced to turn to the private money market and in so far as it was a very imperfect market, moneylenders were able to bargain from a near monopsonistic position. Charlesworth describes them harshly as constituting 'a significant source of credit at usurious terms to small indigenous Indonesian business.'³ On the other hand, the big profits made in importing, particularly during periods of import licencing, increased the credit-worthiness of this part of the trading sector which succeeded in obtaining cheap bank credit.⁴

1. H.K. Charlesworth. op. cit. p. 177.

2. Ibid. p. 70.

3. H.K. Charlesworth. op. cit. p. 176.

4. This was especially true after import restrictions were imposed in August 1952. The number of recognized importers rose to 6,000 but after careful screening this was reduced to 770 in September 1953. (J.P. Meek, The Government and Economic Development in Indonesia 1950-54. p. 172).

However, this description of interest rates is inadequate and misleading. In practice, the effective interest rates of the banks are much higher because of the payment of 'commissions' to bank managers and contacts in addition to formal charges. As inflation worsened and formal bank credit amounted to a subsidy these extra payments were raised and might well, on occasion, have approached the free market interest rate, depending on the type of customer. The popularity of state bank credit is partly explained by the absence of coercion to repay. No coercion was used on bad debtors because it was hoped that a bona fide Indonesian middle class would emerge from the cheap credit policy. Some borrowers regarded credit as a gift or as a reward for political services. There was also a reluctance on the part of government officials to bring proceedings against debtors. However, the bad debts increased so much that in 1957 Bank Indonesia felt compelled to comment in spite of its support of the Benteng programme:

.....debtors in general are still too little aware that they have to fulfil their obligations with regard to redemption of their loans in a disciplinary way, in accordance with the amounts agreed upon.¹

The data in Table (ii) suggest the screening imposed by the Jajasan Kredit was not effectively executed. In 1958 about three-quarters of the number and about half of the value of all loans were still in arrears.²

1. Report of Bank Indonesia 1956-57. p. 99.

2. J. Bennet and E.A. Tenenbaum. *op. cit.* p. 89.

Several writers of the Indonesian economy¹ have commented that much of bank credit was given in the form of short term loan because of the risk attached to lending long term during inflation and the poor security offered in most cases. Therefore, it was more difficult to acquire a loan for development purposes. Of course, a short term loan which is never repaid amounts to the same as a long term loan never repaid but the bank would have to be convinced that it was a short term loan before it could be acquired. As inflation increased, the availability of loan term credit for developmental purposes decreased.

1. These include D.S. Paauw (Financing Economic Development. The Indonesian Case) and H.K. Charlesworth (A Banking System in Transition).

TABLE (ii)

SELECTED OPERATIONS OF JAJASAN LEMBAGA DJAMINAN KREDIT

	Credit Applications (Rp.1000)		Reported arrears in repayments	
	Received	Rejected	Amount Rp. 1000	As % of credit reported
<u>Industry:</u>				
Dec.50-				
Sept.52	39,368	5,397	524	10
Sept.52-				
Dec.54	118,662	68,156	7,011	43
Sept.52-				
Dec.56	247,816	151,662	11,123	69
Sept.52-				
Dec.57	317,559	196,675	11,873	57
<u>Total:</u>				
Dec.50-				
Sept.52	94,316	13,090	742	9.9
Sept.52-				
Dec.54	345,593	130,393	10,457	32
Sept.52-				
Dec.56	544,637	264,215	22,289	53
Sept.52-				
Dec.57	662,795	338,812	37,368	56

Sources:-

Java Bank Report 1952-3. p.83.

Bank Indonesia Reports, 1954-5. pp.82-3; 1956-7 pp. 98-9;
1957-8 pp. 108-9

APPENDIX B.

Capacity Production MeasurementDepartment of People's Industry and thesis definitions.

In this thesis production capacity definitions have been made on the basis of official government sources which, in turn, referred to manuals accompanying imported machinery. It might be reasonable to suppose that these manuals refer to output with adequate supplies of raw materials to sustain continuous production for the time period stated as well as with normal machine maintenance practices of industrialized countries. The Department of People's Industry estimates of capacity assume 300 working days a year but this has been reduced to 260 days for spinning and finishing and 240 days for weaving. It would be impossible to accurately define the total working year: some establishments work harder than others and there are numerous 'half-holidays'. Nor is there any suggestion made here that 240 days a year has ever been reached by the weaving industry: the number of business holidays has increased considerably in the last few years to enable workers to be given ideological and military instruction. But the number of days used in this thesis is considered a suitable measure for physical capacity after allowing for traditional religious and social holidays only.

Spinning and finishing factories are assumed to function for three shifts as it is common practice amongst them to have their own power generators installed to make up for their smaller physical capacities. On the other hand, power weaving equipment is confined to

two shifts a day because of limited supplies of state electricity. It is obviously not worthwhile to install expensive power plants in the small weaving sheds; and this is the only concession to the concept of 'economic capacity' made in the estimates in the thesis. Handweaving equipment, ^{usage} is traditionally limited to daylight hours and a minimum of household commitments, so that only one shift is used in these capacity estimates.

Engineering capacity definition.

These estimates of productive capacity are similar to engineering estimates in as much as they are based on technical considerations. It is not clear whether the engineering concept of capacity is always taken as capacity restricted only by technical considerations or whether variable costs associated with the equipment itself, such as depreciation and maintenance, help to determine the definition of

mation no estimate of the error can be made.

Economic capacity definition.

The economic concept of capacity takes into account the profitability of production by allowing for costs of factors of production and for product prices. It might be defined as that level of output at which returns to the manufacturer are maximized. Since there is a large number of producers in a competitive cloth market, economic capacity is the output corresponding to the lowest point on the average cost curve. An increase in demand will lead to abnormal profits being made, firms will expand and their cost schedules will rise until the final cost schedule of the enlarged plant is tangential to the demand curve at its minimum point.

Although this definition allows for cost and price considerations with which the entrepreneur is faced, it is limited by difficulties associated with estimating the elasticities of short run cost curves. If there was a small rise in demand this might make no difference to those firms whose short-run cost curves were elastic near the minimum point. On the other hand, should the short-run cost curve rise steeply after its lowest point it might pay the enterprise to increase its plant and operate on a new cost curve.

If all firms were to bid for extra supplies of raw materials at the same time the cost of production would rise rapidly: that is, before there is time to adjust capacity to a new set of prices, or allow new entrants. This could have the same effect as an inelastic short-run cost curve, and therefore encourage expansion, because

firms recognize an opportunity to reach a higher output at lower cost with additional equipment. Moreover, some firms might be unable, for certain reasons, to invest further and prefer to close down rather than accept losses. In this case, although there would be less pressure on factory prices the industry's total supply curve would be higher, and therefore the product price also. However, this situation would occur only where firms were of unequal efficiencies, as in the Indonesian textile industry.

Problems of measuring economic capacity in the Indonesian textile industry

There are more important limitations associated with calculating this measure in the case of the Indonesian textile industry. The problems of estimation raised by diverse and changing cost structures, tariffs and quantitative restrictions, and inflation are of far greater significance than the differences which are likely to occur between Fortune Magazine's measurement, the McGraw-Hill index, the National Industrial Conference Board's approach, and the Wharton School's estimates.¹

1. Fortune Magazine calculates the ratio of total stock of plant and equipment to total output (corrected for price changes and adjusted by a fixed annual efficiency factor). The weakness of this measure lies in the extent of obsolescence and depreciation, the pattern of prices and the level of demand, and the assumption that the annual efficiency factor remains constant. The McGraw-Hill index is obtained by asking firms how much they expanded in the previous year, how much they are likely to expand in the coming year, their output, and the rate of utilisation at which they preferred to work. The preferred rate was assumed to be at a position of maximum profit but this need not be true. The National Industrial Conference Board procedure is to establish

a fixed capital to output ratio for a year which is regarded as a period when capacity was virtually fully utilised. Once this 'benchmark' ratio has been obtained, a significant rise in the ratio in a later period is taken as evidence of excess capacity. Its weakness is that it does not take account of technological changes or different pressures on prices.

The Wharton School (L.R. Klein) uses 30 groupings of the Federal Reserve of Industrial Production indexes and selects peaks from the quarterly, seasonally adjusted plottings of these indexes. The weakness of this measure is that if all industries achieve their peaks together the pattern of input prices will be different from the pattern of peaks distributed over time such that total production activity remains reasonably steady.

1. Diverse and changing cost structures:

Chapter III showed how the weaving industry expanded after a period when only about half of its capacity was being utilised; some enterprises were operating at a much higher rate of utilisation than others. Therefore, it would be misleading to infer anything about the engineering capacity from levels of output and further expansion.

Although the expansion of some firms while others might be closing down is a strong argument for an economic concept it is clear that a difference must be made between the firm and the industry. If the individual firm makes new capital investment when it is operating at (say) 85 per cent of physical capacity then with unequal production costs, the industry as a whole might begin expanding when it was operating at less than 50 per cent of physical capacity, due to shortages of raw materials or to competition from cloth imports.

Furthermore, new increments of capital investment are

most likely to involve the most modern equipment and this will cause a change in the existing pattern of cost schedules; and the enlarged industry might have to be operating at more or less than 50 per cent before it begins to expand, although the individual firm will only consider re-investment at an 85 per cent rate of utilisation.¹ If the new industry has a greater dispersion of levels of efficiency as a result of investment in modern machinery it would begin to expand when less than 50 per cent of capacity is being utilised.

2. Tariffs:

The level of tariffs affects the cost of raw materials. An increase in the tariff on yarn will shift the weaver's cost schedules and with it the position of the lowest point of the average cost curve. But the size of the industry and its rate of expansion will also depend on the degree of protection offered, because this influences the price of the product which consumers are prepared to pay. If there is an increase in the tariff on cloth, demand facing

1. Frank de Leeuw points out that changes in physical capacity can lead to changes in the most efficient or most profitable level of output. He assumes that technical considerations and economies of scale bring about this change. In the case of the Indonesian textile industry something more is involved. The increased capacity will be more productive and efficiently run. The change in the cost structures as a result of expansion will be more radical than in the case of an industry gradually expanding former techniques under a uniform management. (Frank de Leeuw. 'The Concept of Capacity'. Journal of the American Statistical Association. Volume 57, p.831. December 1962).

the individual manufacturer will rise and he will produce where his new average cost curve is tangential at its lowest point to the higher demand curve. If, on the other hand, there is a fall in demand arising from lowered protection some firms will have to close (or suffer a loss) and those firms formerly making abnormal profits will have to reduce their investment plans accordingly.

3. Quantitative restrictions:

Restricted imports of yarn can cause a rise in the cost of this input through the mechanism of the free market; for every size of quota there is a different free market price. If quotas are also imposed on cloth imports (as is almost certain to be the case) the rise in demand facing the individual firm will help to accommodate the greater yarn cost and there may be little change in the rate of utilisation of the more efficient firms. The final economic capacity of the industry will depend on the size and commodity composition of the quotas.

4. Inflation:

If inflation is present while there is a fixed exchange rate for imports of yarn, the cost of this input will fall relative to the cost of other inputs; and the effect will be a shift in the average cost curve. If money demand for cloth rises in proportion to the rise in cost of other factors of production (that is, at the same rate of inflation), abnormal profits can be made and the industry will expand. But unless cloth imports are prohibited the lowered

effective incidence of protection during inflation will mean a fall in demand for the product of the weaver. Because the whole of the competitive good is imported at a fixed rate of exchange the fall in demand facing the industry will be greater than the fall in costs.¹ In this way inflation will be constantly reducing economic capacity of the industry. The economic capacity of the individual firm might be increased if inflation forces other, weaker firms out of business, and thereby affects the industry's supply curve. Another effect of inflation on the textile industry has been to alter the patterns of cost structures of factors of production other than imported raw materials. Chapter IV showed how larger enterprises gained relative advantage over the smaller enterprises through the widening disparity of interest charges and labour costs. This would alter the average cost curve of the whole industry and, therefore, the volume of output at which it would be making normal profits.

* * * *

We can conclude that the government is able to influence the estimate of economic capacity in the textile industry to a marked extent by its monetary and tariff policies and by its protection of the balance of payments. Therefore, it would seem that any careful assessment of the economic capacity of this industry

1. It is assumed here that there is no significant increase in real income and no significant increase in demand for textiles through a substitution effect.

BIBLIOGRAPHYBooks.

- I. Adelman Theories of Economic Growth and Development. Stanford University Press. 1962.
- G.C. Allen & A.G. Donnithorne Western Enterprise in Indonesia and Malaya: A Study in Economic Development. Allen and Unwin, London. 1957.
- G.C. Allen Japanese Industry: Its Recent Development and Present Conditions. International Secretariat. Institute of Pacific Relations. New York. 1940.
- A Short Economic History of Modern Japan, 1867-1937. Allen and Unwin. London. 1946.
- Japan's Economic Recovery. Oxford University Press. 1958.
- A.F. Barker Justice to Japan. Leeds. 1937.
- J.H. Boeke Economics and Economic Policy of Dual Societies. International Secretariat. Institute of Pacific Relations, New York. 1953.
- The Evolution of the Netherlands Indies Economy. Netherlands and Netherlands Indies Council of the Institute of Pacific Relations. New York. 1946.
- K.E. Boulding Economic Analysis. Hamish Hamilton. London. 1955.
- J.O.M. Broek Economic Development of the Netherlands Indies. International Secretariat. Institute of Pacific Relations. New York. 1942.
- S.J. Chapman The Cotton Industry and Trade. Methuen. London. 1905.
- H.K. Charlesworth A Banking System in Transition. The New Nusantara Publishing Company, Djakarta.

- M.T. Copeland. Cotton Manufacturing of the U.S. Harvard University. 1912.
- Maurice Dobb. Economic Growth and Underdeveloped Countries. International Publications. New York. 1963.
- E.K. Fisk. The Development of Small Scale and Cottage Industries in the Rural Areas of Malaya. Rural and Industrial Development Authority, Economic and Planning Division of the Colombo Plan Technical Cooperation Scheme, 1960.
- The Economies of the Handloom Industry of the East Coast of Malaya. Kuala Lumpur. 1960.
- G. Fleming. Die Strukturwandlungen und die Aussenhandelesverflechtungen in der Welttextilwirtschaft. University of Kiel, 1960.
- J.S. Furnivall. Netherlands Indies: A Study of Plural Economy. Cambridge University Press. 1944.
- C.J. Geertz. The Social Context of Economic Change. An Indonesian Case Study. Centre for International Studies, Massachusetts Institute of Technology, 1956.
- K.L. Govil. The Cotton Industry of India. Prospect of Retrospect. Hind. Kitabs. Bombay. 1950.
- E.A. van der Graaff. De Statistiek in Indonesie (Statistics in Indonesia). N.V. Uitgeverij. W. van Hoeve. The Hague. 1955.
- C.J.J. van Hall and C. van de Koppel. De Landbouw in de Indische Archipel Vol. III 's-Gravenhage W. van Hoeve. 1946-50.
- E. Hawkins, H.W. Guthrie and L.H. Palmier Entrepreneurship and Labour Skills in Indonesian Development - A Symposium. Monograph No. 1. Yale University. South East Asian Studies. 1961.
- E.D. Hawkins. Labour in Transition. (In Indonesia. ed. R.T. McVey.) Yale University. 1963.
- B.H. Higgins Entrepreneurship and Labour Skills in Indonesian Economic Development. Cellar Bookshop. Stechert. 1961.
- Indonesia's Economic Stabilisation and Development. Institute of Pacific Relations. New York. 1957.
- M.A. Jaspán. Social Stratification and Social Mobility in Indonesia. Gunung Agung. Djakarta. 1959.
- S.J. Kennedy. Profits and Losses in Textiles. Harper. New York. 1936.

- W.W. Lockwood. The Economic Development of Japan: Growth and Structural Change. (1868-1938) Princeton University Press. New Jersey. 1954.
- A.B. Loebis. Ordonansi dan Peraturan Devisen Terbaru Penjelasaannya. Kinta Printers. Djakarta. 1962.
- Friedrich and Vera Lutz. The Theory of Investment in the Firm. Princeton University Press. New Jersey. 1951.
- J.A.C. Mackie. The Indonesian Economy: 1950-63. Sonderdruck aus Band XVI der Schrufter des Instituts fur Asienkunde in Hamburg. Alfred Metzner Verlag. Frankfurt/Main. 1964.
- S.D. Mehta. The Cotton Mills of India. (1854-1954). The Textile Association (India) Bombay. 1954.
- A.M. de Neuman. Industrial Development in Indonesia. Cambridge Students' Bookshop. 1955.
- D.S. Paauw. Financing Economic Development. The Indonesian Case. Centre for International Studies. Free Press. Illinois. 1959.
- Pang Lay Kim Beberapa Fakta dan Angka Produksi Tekstil dalam Negeri. (Some Facts and Figures of Textile Production in the Country). University of Indonesia Djakarta. 1960.
- State Trading Enterprises in Indonesia: First Year's Performance. University of Indonesia. 1963.
- G.J. Pauker. 1956 Perspectives on Indonesian Politics and Economic Development. National Planning Association. Washington. 1956.
- J.J. Polak. The National Income of the Netherlands Indies 1921-1939. University of Indonesia. Jajasan Badan Penerbit.
- M. Zen Rahman. Report of Sampling Survey of Weaving Factories Which Use ATMs. University of Indonesia, Djakarta. 15.11.62.
- A.K. Sen. Choice of Techniques. Blackwells. Oxford. 1960.
- P.H.W. Sitsen. Industrial Development in the Netherlands Indies. Bulletin No. 2 Netherlands and Netherlands Indies Council of the Institute of Pacific Relations. New York. 1942.
- Soedjatmoko. Economic Development as a Cultural Problem. Modern Indonesia Project. Cornell University. Ithaca. 1958.

- L.D. Stifel. The Textile Industry. A Case Study of Industrial Development of the Philippines. Cornell Data Paper, No. 49. New York. November 1963.
- J.O. Sutter. Indonesianisasi: Politics in a Changing Economy, 1940-55. Cornell University. Ithaca. 1959.
- N.H. Thakker. Indian Cotton Textile Industry During the Twentieth Century. Vora and Co. Bombay. 1949.
- Donald E. Wilmott. The National Status of the Chinese in Indonesia, 1900-1958. Monograph Series. Indonesian Project. South East Asia Program. Cornell University. New York. 1961.
- C. Wolf. Selected Economic Development Projects in Burma and Indonesia. Cornell University. 1954.

Articles.

- Abdulgani. 'Indonesia's National Council.' Far Eastern Survey. Vol. XXVII. No.7. 1958.
- R. Anspach. 'Monetary Aspects of Indonesia's Economic Reorganisation in 1959.' Ekonomi dan Keuangan Indonesia. Vol. XIII. No. 1/2. 1960.
- C. Bakker. 'Credit Policy (Indonesia)'. Ekonomi dan Keuangan Indonesia. Vol. IX. No. 3. 1956.
- T. Balogh. 'Agriculture and Economic Development.' Oxford Economic Papers. Vol. XIII. No. 1. 1961.
- Beng To. 'The Balance of Payments.' Ekonomi dan Keuangan Indonesia. Vol. IX. No. 7. 1956.
- E. Bernstein. 'Some Aspects of Multiple Exchange rates.' Ekonomi dan Keuangan Indonesia. Vol. VI. No. 5. 1953.
- J.O.N. Broek. 'East Indonesia: Problems and Prospects.' Far Eastern Survey. Vol. XX. No. 7. 1951.
- C. Budiardjo. 'Devaluation in Indonesia - Use and Limits.' Ekonomi dan Keuangan Indonesia. Vol. XII. No. 7/9. 1959.
- H.B. Chenery. 'The Application of Investment Criteria.' Quarterly Journal of Economics, February 1953.
- W.M. Corden & J.A.C. Mackie. 'Development of the Indonesian Exchange Rate System.' Malayan Economic Review. Vol. VII. No.1 April. 1962.

- S.K. Dey. 'Gotong Royong or Alang Alang.' Ekonomi dan Keuangan Indonesia. Vol. VIII. No. 9. 1955.
- M. Diebold. 'The Interdependence of Agriculture and Industrial Planning in an Underdeveloped Country.' Ekonomi dan Keuangan Indonesia. Vol. VI. No. 11. 1953.
- M.D. Dris. 'Taxation in Indonesia.' Ekonomi dan Keuangan Indonesia. Vol. XI. No. 8/9. 1958.
- K.H. Dronkers. 'The Utilisation of Domestic Capital for the Promotion of Economic Development.' Ekonomi dan Keuangan Indonesia. Vol. VI. No. 5. 1953.
- Economic Research Bureau. University of Gadjah Mada. 'The Batik Industry in Central Java.' Ekonomi dan Keuangan Indonesia. Vol. XI. No. 7. 1958.
- D.W. Fryer. 'Indonesia's Economic Prospects'. Far Eastern Survey. Vol. XXIII. December 1954.
- B. Glassburner. 'Problems of Economic Policy in Indonesia, 1950-57.' Ekonomi dan Keuangan Indonesia. Vol. XIII. No. 7/8. 1960.
- 'Review of Gunnar Myrdal's "Economic Theory and Underdeveloped Countries".' Ekonomi dan Keuangan Indonesia. Vol. XII. No. 4. 1959.
- 'Review of Higgins' 'Indonesian Economic Stabilisation and Development.' Ekonomi dan Keuangan Indonesia. Vol. XI. 1958.
- F. Golay. 'Entrepreneurship and Economic Development in the Philippines.' Far Eastern Survey. Vol. XXXIX: No. 6. 1960.
- J.J. Hartemink. 'The Problem of Industrialisation.' Ekonomi dan Keuangan Indonesia. Vol. VI. No. 5. 1953.
- E. Hawkins. 'Labour Management Relations as a Strategic Factor in Indonesia's Development.' Ekonomi dan Keuangan Indonesia. Vol. XII. No. 4. 1959.
- T. Herman. 'The Role of Small Scale Industries in Asian Economic Development.' Economic Development and Cultural Change. Vol. IV. No. 4. 1955-56.
- B.H. Higgins. 'Development Problems in the Philippines: A Comparison with Indonesia.' Far Eastern Survey. Vol. XXVI. November 1957.
- 'Indonesia's Development Plans and Problems.' Pacific Affairs. Vol. XXIX. No. 2. 1956.

- B.H. Higgins. 'Indonesia's Five Year Plan.' Far Eastern Survey. Vol. XXV. No. 8. 1956.
- E.D. McVey. 'The Implementation of the Mechanisation for Small Scale Industries Programme.' Ekonomi dan Keuangan Indonesia. Vol. X. February 1957.
- 'The Rationale of Import Surcharges.' Ekonomi dan Keuangan Indonesia. Vol. VI. No.5. 1953.
- D.D. Humphreys. 'Indonesia's National Plan for Economic Development.' Asian Survey. Vol. II. No.2. December 1962.
- W. Hollinger. 'The Trade and Payments Agreements Programme of Indonesia.' Economic Development and Cultural Change. Vol. IV. No.2. 1955-56.
- G.W. Jones. 'The Growth and Changing Structure of the Indonesian Labour Force, 1930-81'. Bulletin of Indonesian Economic Studies. Vol. I. No.4. June 1966.
- Kadarijah. 'The Textile Industry of Indonesia.' Ekonomi dan Keuangan Indonesia. Vol. XII. No. 2/3. 1959.
- R. Kovary. 'A Proposal to Build up the Institutional Framework for Economic Development in Indonesia.' Ekonomi dan Keuangan Indonesia. Vol. VI. No.1. 1953.
- J. van der Kroef. 'Chinese Assimilation in Indonesia.' Social Research. Vol. XX. No. 4. 1953.
- 'Economic Development in Indonesia: Some Cultural and Social Impediments.' Economic Development and Cultural Change. Vol. IV. No.2. 1955-56.
- 'Entrepreneurship and the Middle Class in Indonesia.' Economic Development and Cultural Change. Vol. II. No. 4. 1952-54.
- 'Indonesia's Economic Difficulties.' Far Eastern Survey. Vol. XXIV. No. 2. 1955.
- 'Indonesia's Economic Future.' Pacific Affairs. Vol. XXXII. No. 1. 1959.
- 'Instability in Indonesia.' Far Eastern Survey. Vol. XXVI. No. 4. 1957.
- Liem. 'Banking.' Ekonomi dan Keuangan Indonesia. Vol. IX. No. 7. 1956.

- E.C. McVoy 'Indonesian Manpower Survey and Employment Information.' Ekonomi dan Keuangan Indonesia, Vol. IX. No. 5. 1956.
- 'Some Aspects of Labour and Economic Development.' Ekonomi dan Keuangan Indonesia. Vol. VIII. No. 4. 1955.
- L.A. Mears. 'Economic Development in Indonesia Through 1958.' Ekonomi dan Keuangan Indonesia. Vol. XIV. No. 1/2 1961
- H. de Meel. 'Impediments to Economic Progress in Indonesia.' Pacific Affairs. Vol. XXIV. No. 1 1951.
- J.E. Moes. 'Trade Unionism in Indonesia.' Far Eastern Survey. Vol. XXVIII. No. 2. 1959.
- W. Mulia & Harun Zain. 'The Implementation of the Mechanisation programme for Small Scale Industries.' Ekonomi dan Keuangan Indonesia. Vol. X. No. 2. 1957.
- W. Mulia. 'The Mechanisation of Small Scale Industries Programme.' (Second Report) Ekonomi dan Keuangan Indonesia. Vol. X. No.2. 1957.
- National Planning Bureau. 'Economic Development in 1953.' Ekonomi dan Keuangan Indonesia. Vol. VI. No.9. 1953.
- 'Financing Economic Development.' Ekonomi dan Keuangan Indonesia. Vol. VII. No.5. 1954.
- 'Indonesia's Social and Economic Development in 1954.' Ekonomi dan Keuangan Indonesia. Vol. VIII. No. 7. 1955.
- 'A Study of the Indonesian Economic Development Scheme.' Ekonomi dan Keuangan Indonesia. Vol.X No. 9. 1957.
- 'Some explanations of Indonesia's 1956-60 Plan.' Ekonomi dan Keuangan Indonesia. Vol. IX. No.11. 1956.
- A.M. de Neuman. 'Approaches to the National Economic Planning in Indonesia.' Ekonomi dan Keuangan Indonesia. Vol. VI. No.10. 1953.
- 'Progress of Industry and the Development Plans in Indonesia.' Ekonomi dan Keuangan Indonesia. Vol. VII. Nos. 4/5. 1954.
- 'Promotion of Indigenous Industries with Credit Facilities.' Ekonomi dan Keuangan Indonesia. Vol. IX. No. 11. 1956.

- D.S. Paauw. 'The Role of Local Finance in Indonesian Economic Development.' Ekonomi dan Keuangan Indonesia. Vol. VII. No.1. 1955.
- L.H. Palmier. 'Aspects of Indonesia's Social Structure.' Pacific Affairs. Vol. XXVIII. No.2. 1955.
- R. Pamoentjak. 'Notes on the Balance of Payments.' Ekonomi dan Keuangan Indonesia. Vol. IX. No.6. 1956.
- Pang Lay Kim & H.W. Arndt. 'Survey of Recent Developments.' Bulletin of Indonesian Economic Studies. Vol.1. No. 4. June 1966.
- Pang Lay Kim. 'Business Management Training in Indonesia.' Ekonomi dan Keuangan Indonesia. Vol. XIII. No.1/2 1960.
- 'Management Training in Indonesia.' Far Eastern Economic Review. Vol. XXXVII. No. 13, September 27, 1962.
- 'Some Notes from the History of Marketing (Trading Regulations) in Indonesia from 1933 to the B.E. System of 1957.' Ekonomi dan Keuangan Indonesia. Vol. XVI. No.2. 1963.
- G.J. Pauker. 'The Eight Year Plan.' Pacific Affairs. Vol. XXXIV. Summer 1961.
- K.N. Rao. 'Small Scale Industry and Economic Development in Indonesia.' Economic Development and Cultural Change. Vol. IV. No.2. 1955-56.
- M. Sadli. 'Background of the Modified Import Regulations.' Ekonomi dan Keuangan Indonesia. Vol. VI. No.4. 1953.
- 'Structural and Operational Aspects of Public Enterprise in Indonesia.' Ekonomi dan Keuangan Indonesia. Vol. XIII. No. 5/6. 1960.
- Suhadi. 'Cooperatives as a Means of Economic Development.' Ekonomi dan Keuangan Indonesia. Vol. XII. No. 7/9. 1959.
- Sumitro. 'The Budget and its Implications.' Ekonomi dan Keuangan Indonesia. Vol. VI. No.1. 1953.
- 'Instability of Trade and Economic Development.' Ekonomi dan Keuangan Indonesia. Vol. VI. No. 12. 1953.

- Sumitro. Indonesia 'Stabilisation Policy 1955.' Ekonomi dan Keuangan Vol. IX. No.1. 1956.
- Sundam. 'An Institutional Approach to Economic Development.' Ekonomi dan Keuangan Indonesia. Vol. XII, No. 5/6. 1959.
- H.L. Tims. 'Developing the Managerial Resources in Indonesia.' Ekonomi dan Keuangan Indonesia. Vol. XII. 2/3. 1959.
- A. Wardhana. 'Foreign Exchange and its Implications in Indonesia.' Ekonomi dan Keuangan Indonesia. Vol. X. No. 10. 1957.
- W. van Warmelo. 'Onstaan en Groei van de Handweefnijverheid in Madjalaja.' (Development and Growth of the Handweaving Industry in Madjalaja). Koloniale Studien. 1939.
- Theses.
- Haswany Achmad and Novian Abbas. Industri Tekstil di Indonesia. (The Textile Industry in Indonesia.) University of Indonesia. 1959.
- Rachmat Ali. Pengaruh Peraturan Peraturuan Impor Terhadap Perkembangan Industri Tekstil. (The Influence of Import Regulations on the Textile Industry). University of Indonesia. 1956.
- N.G. Amstutz. The Development of Indigenous Importers in Indonesia, 1950-55. Cornell University. 1958.
- Hasran Basri. Perkembangan Koperasi Industri Tekstil di Indonesia. (The Development of Textile Cooperatives in Indonesia). University of Indonesia. 1959.
- Rustam Didong and Loekman Djadan. Perkembangan Perindustrian Tekstil di Perkadjangan. (The Development of the Textile Industry in Perkadjangan). University of Indonesia. 1959.
- E.I. Harahap. Peranan Wanita dalam Keradjanan Tekstil. (The role of Women in the Cottage Textile Industry). University of Indonesia. 1959.
- Kadarijah. Kebidjaksanaan Pemerintah dalam Industri dan Pasaran Tekstil. (Government Policy in the Textile Industry and Market). University of Indonesia. 1959.

- Kadarijah. Perkembangan Perindustrian Tekstil di Indonesia. (The Development of the Textile Industry in Indonesia). University of Indonesia. 1958.
- Keuw Khe Tiauw. The Distribution of Pekalongan Batiks in Djakarta and Environs. University of Indonesia. 1959.
- Kho Sam To. Textile Cloth Retailing in Djakarta. University of Indonesia. 1959.
- Koo Bie Hoo. Textile Wholesale Marketing in Djakarta. University of Indonesia. 1959.
- Evie Koo. Industri Tekstil di Indonesia. Keadaan dan Masa Depan. (The Indonesian Textile Industry. Now and the Future). University of Indonesia. 1958.
- Liauw Siok Djoe. Perkembangan Keradjinan Didaturan Tinggi Bandung. (The Development of the Cottage Industry in the Surroundings of Greater Bandung.) University of Indonesia. (Undated.)
- Zeid Achmad Martak. Industri Textil di Madjalaja. (The Textile Industry in Madjalaja). University of Indonesia. 1958.
- J.P. Meek. The Government and Economic Development in Indonesia. 1950-54. Doctoral Dissertation Series. Publication No. 17, 622. University of Michigan.
- Muswar Djamal and Arifin Astrawinata. Masalah Perusahaan Peradjudan. (Problems of a Knitting Factory). University of Indonesia. 1959.
- Njee Liang Djien. The Internal Marketing Functions of the Batik Industry. University of Indonesia. 1959.
- Pang Lay Kim. Marketing Benang Tenun di Indonesia. (The Marketing of Yarn in Indonesia.) University of Indonesia. 1959.
- Parjono. Peraturan Impor Baru dan Big VIII. (The New Import Regulations and the Big VIII). University of Indonesia. 1959.
- Samzaini. Beberapa Aspek Ekonomi Perusahaan dalam Industri Batik. (Some Economic Aspects of the Firm in the Batik Industry). University of Indonesia. 1959.
- H.O. Schmitt. Some Monetary and Fiscal Consequences of Social Conflict in Indonesia, 1950-58. University of California. 1959.
- Soehirman Tjokrosoebroto. Nasalah Pasaran Benang Tenun di Indonesia. (Problems of the Yarn Market in Indonesia). University of Indonesia. 1959.

- Soemawan Tjokroprawiro. Hasil Rentjana Lima Tahun I Industri. (The Results of the First Five Year Plan for Industry.) University of Indonesia. 1959.
- Sudarsono. Peranan Multiple Exchange Rate dalam Perdagangan Internasional dan Pembangunan Ekonomi di Indonesia. (The Role of the Multiple Exchange Rate In the International Trade and Economic Development of Indonesia.) University of Indonesia. 1959.
- Sjahrial Wahab. Gabungan Koperasi Batik Indonesia. (The Association of Batik Cooperatives of Indonesia.) University of Indonesia. 1959.
- Widjojo Nitisastro. Migration, Population Growth, and Economic Development in Indonesia: A Study of the Consequences of Alternative Patterns of Inter-Island Migration. Doctoral Dissertation. University of California. 1961.

Indonesian Government Publications

- M:R. Adisendjaja. 'Industri Tekstil Indonesia.' Madjalah Industri Rakjat. No. 6. June 1963.
- I.P. Andren. U.N. Industrial Advisor. Memorandum to Minister of People's Industry. Djakarta, 2.10.59.
- Foreign Exchange Requirements (Machine Capacity, Short and Long Term Planning.) Memorandum to Minister of People's Industry, Djakarta 14.10.59.
- Textile Industry in 1960, Planning and Data to Determine and Control Progress of Textile Manufacturing. Memorandum to Minister of People's Industry, Djakarta, 7.4.60.
- Textile Planning and Implementation 1960. 24.9.60.
- Textile Planning Data - 1960 Programme. April 1960.
- Comments on Memo 14 October 1959 - Foreign Exchange Requirements - Machinery Capacity, Short and Long Term Planning. February 1961.
- Department of Peoples Industry Annual Progress Reports on the Development of Projects, for 1962 to 1964.
- Development of People's Industry in the National Overall Development Plan. April 1962.
- Madjalah Warta Industri. Vol. III. No.2. February, 1957. Djakarta.

- Department of People's Industry A Review of Progress Report of the 'Loan Projects for the Mechanisation of Privately Owned Factories.' (By Eric D. Manning). Djakarta. 15.6.60.
- Pembangunan Industri Rakjat. Djakarta. April 1962.
- Plans for Textile Target 1965. Memorandum to Minister of People's Industry. December 1964.
- Progress Report on Spinning Capacity. Memorandum Minister of People's Industry. 3.12.1960.
- Usaha Pembangunan. Djakarta. 1964.
- Department of Agriculture. Laporan Tengah Tahunan. January to June 1963. Djakarta. 1963.
- National Planning Bureau. Report. Clothing Needs in Indonesia. Djakarta. 20.10.64.
- Report of the Execution of the Five Year Development Plan. Covering the Years 1956-58.
- Other Reports:
- (a) Indonesian.
- Bank Reports: Report of the Java Bank: 1949-50 to 1952-53 and Report of Bank Indonesia: 1953-54 to 1958-59.
- Kadarijah. Masalah Kebidjaksanaan Administrasi Penjaluran Sandang. (Problems of the Administration of Policy on the Distribution of Textiles). Report of the Institute of Economic and Social Research, University of Indonesia, Djakarta 1964.
- KOTOE. Progress Reports of the Special Team for Determining Raw Materials for the Production of Textiles. 11.2.65.
- Sadli, Mulia, Kadarijah, Zain and Sulti. Masalah Pertekstilan Dewasi Ini. (Target, Produksi Efektif dan Kapasitet). University of Indonesia, Djakarta 1964.
- Suratman, Harsono, and Soeharno. Laporan Penyelidikan Tentang Sjarat-Sjarat Minimum Jang Diperlukan Untuk Mengadakan 2 Hingga 3 Shift Diperusahaan-perusahaan Tekstil di Indonesia. University of Gadjah Mada. Djogjakarta. 1963.
- (b) United Nations.
- I.P. Andren. Indonesian Industry and the Eight Year Plan. Draft of Final Report to the United Nations Bureau of Technical Assistance Operations. 1.10.61.

- ECAFE Sectoral Study. Textile Industries. Asian Conference of Industrialisation. November 1963.
- Juan B. Gaztambide. An Interim Programme of Industrial Estates in Indonesia. Djakarta. 1.9.1961. United Nations Bureau of Technical Assistance Operations. New York.
- D.M. Simpson. Report on a Programme of Breeding and Cultural Experiments with Cotton in Indonesia. Food and Agricultural Organisation, Cotton Breeding Expert. 1956.
- (c) United States
- J. Bennett & E.A. Tenenbaum. Indonesian Industrial Financing. Continental-Allied. Co. Inc. Washington. 1958.
- H.N. Bresette. (Industrial Advisor-Textiles). Evaluation of Presently Installed Cotton Yarn Spindles and Future Potential of the Industry. Report to U.S.A. A.I.D. Djakarta. 8.6.1964.
- Committee Appointed by the Conference of New England Governors. Report of the New England Textile Industry. 1952.
- Industrial Technical Centre Foundation. Projek Pemintalan Pertenunan Penjempurnan. P.T. 'Djunti'. Djakarta. Djakarta 21.12.1963.
- Research and Policy Committee of The Committee for Economic Development (USA) Meeting the Special Problems of Small Business. New York. June 1947.
- Sub-committee on Economic Statistics of the Joint Economic Committee, Congress of the U.S. 87th Congress. First Session. Measures of Productivity.
- U.S. Economic Survey Team to Indonesia. Indonesia, Perspective and Proposals for U.S. Aid. 1964.
- (d) Philippines.
- Philippine National Bank. Investment Prospects in Selected Industries. Department of Economic Research and Statistics. Manila. 1960.

Newspapers and periodic publications:Business News Djakarta. 1964 and 1965.

Commercial Advisory Foundation of Indonesia.

Warta CAFI. 15.8.64.

19.11.64.

29.12.64.

5.1.65.

13.1.65.

23.1.65.

27.1.65.

2.2.65.

25.2.65.

20.3.65.

Publication No. 45/HM/64Economic Section. 12. 5.64.

26. 5.64.

1. 9.64.

30. 9.64.

31.10.64.

Economist Intelligence Unit Report. Indonesia. London.

April 1961, No. 36.

October 1961. No. 38.

May 1962. No. 40.

July 1962. No. 41.

May 1963. No. 44.

July 1963. No. 45.

Indonesian Statistics:

(Central Bureau of Statistics, Djakarta).

Perusahaan-perusahaan Besar 1961 (II) and (III)Statistik Konjunktur 1955, 1961 and January-April 1963.Statistical Pocketbooks of Indonesia, 1960 to 1963.Summary Report: Materials Used and Production of Main Knitting
and Weaving Mills 1964. (Monthly reports).

Summary Report: Imports According to Type. 1963 and 1964.
(Monthly reports).

Government Departmental Statistics:

Statistical Abstract for the Netherlands East Indies, 1929-1939.
Departmen van Landbouw, Nijverheid en Handel.
Djakarta.