HANK YARN DIVERSION TO THE POWERLOOM SECTOR AND ANALYSIS OF YARN PRICE FLUCTUATIONS

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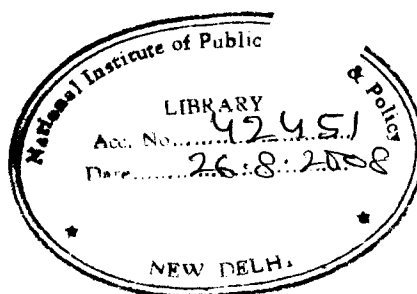
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C O N T E N T S

PREFACE

The National Institute of Public Finance and Policy is an autonomous non-profit organisation established for carrying out research, undertaking consultancy work and imparting training in the field of public finance and policy.

The present study of handlooms focussed, mainly, on the following important issues, viz., (i) problem of hank yarn diversion to powerloom units and (ii) the factors influencing hank yarn prices and its distribution to individual weavers. The study was commissioned at the Institute in September, 1990 by the Office of the Development Commissioner (Handlooms), Ministry of Textiles, Government of India. Dr. A.V.L. Narayana, Senior Economist at the Institute conducted the study and prepared this report.

The Government of India has accorded a high degree of protection to the handloom industry through various fiscal means including concessional excise duty on hank yarn and a consumer subsidy for promoting the demand for handloom fabrics. One of the important objectives of Government intervention is to supply hank yarn to handloom weavers at reasonable prices. An analysis of the impact of the excise concessions on the use of hank yarn is, therefore, of much significance for the purpose of policy making. This study analyses this issue as also the problem of price fluctuations and distribution of hank yarn. A sample survey consisting of handloom weavers, cooperative societies and yarn traders was conducted on an all-India basis in major handloom-powerloom concentrations. It is hoped that the findings of this painstaking study would be of relevance to policy makers and interest a wider audience.

The Governing Body of the Institute does not take any responsibility for the views expressed in this report. That responsibility belongs primarily to the study team and the Director.

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Honorary Director.

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The study of handlooms conducted at the Institute in the past one year mainly focused its attention on two important issues, namely, (i) the extent of diversion of hank yarn by powerloom units, and (ii) the factors influencing hank yarn prices and problems of supply and distribution of hank yarn to individual weavers. After investigating these issues, the study team has arrived at the following conclusions.

1. The study has found that hank yarn diversion to powerloom sector is significant and the quantity of hank yarn diverted was estimated to be in the range of 21 - 53 per cent of the total quantity available in the country.

2. There has been a mushroom growth of tiny powerloom units which have been found using the duty free hank yarn which is normally intended for the handloom sector. There are several reasons for diversion. (a) Hank yarn is convenient to weave after dyeing. (b) It works out to be economical to use hank yarn even after meeting the additional cost of conversion into usable form for weaving on powerlooms, mainly, because of high excise duty differential between cross reel hank and cone yarn; the excise burden has been higher on cone yarn than cross reel hank yarn.

3. In the recent past, hank yarn prices have gone up faster than cone yarn prices for reasons such as increasing yarn demand from the powerloom sector.

Moreover, the rise in handloom cloth prices has not been commensurate with the extent of rise in hank yarn prices. In addition to the above, handloom weavers also faced acute credit crunch and, are therefore unable to meet the increasing cost of yarn purchases. The increase in demand for hank yarn from the powerloom sector seems to have created excess demand situation in the yarn market causing the price rise.

4. Yarn distribution in the far off places has not been regular and timely, and has often fallen short of the count-wise requirements of individual weavers, as revealed through our field surveys. The number of retail outlets for the yarn distribution needs to be increased and the distribution mechanism should be improved.

Policy Suggestions

For bringing about necessary changes in the government policies in this regard, the following package of remedial measures is suggested:

1. As there is a considerable degree of hank yarn diversion to the powerloom sector due to inherent cost advantage over the use of cone yarn, the mechanism of protection given to the handloom sector through fiscal means does not seem to be effective. In particular, the very purpose of maintaining a duty differential between the cone and hank forms of yarn is not served. It is, therefore, recommended that a uniform rate of excise duty be levied on all kinds of cotton yarn whether packed in hank or cone form, of the same count.

The rate of duty may be fixed according to the revenue requirements. A rough estimate of additional revenue yield from a nominal levy of 1 or 2 per cent (or 50 paise to Rs.1 per kg) would be of the order of Rs.17 to Rs.35 crores per year from the yarn going to the handloom sector alone. This is possible because, at present about 340 million kgs of hank yarn is produced in the country every year as estimated in this study, on an average.

2. There is no need to maintain any differential duty structure according to counts of yarn. Differential rates have only complicated the administration and also increased unintended distortions in the cloth prices. A uniform levy of duty across the counts of yarn helps to minimise the unintended burdens.

3. As discussed in the report, in the 1990 Budget, excise duty was removed on cotton fabrics and merged with yarn duty. This has resulted in undue price difference between cone and hank yarn. To reduce this undue cost advantage as also to reduce the diversion of hank yarn by powerloom units, fabric duty may be reinstated on all cotton fabrics except those woven on handlooms. Further, MODVAT may be extended to cotton fabrics as well. This measure would neutralise the cascading of yarn duty. In the case of handloom fabrics, however, yarn duty may be refunded to weavers or cooperative societies by way of duty drawback. Since handloom fabrics are exempted from excise duty, they would not be entitled to MODVAT. Therefore a separate duty draw back is necessary to neutralise the duty burden. In other words, for giving much needed protection to the handloom sector, let handloom fabrics be zero-rated,

while other fabrics be subjected to MODVAT. This scheme however can be worked only in relation to weavers in co-operatives.

4. Since only about 25 percent of handloom weavers fall within the cooperative society fold, and because a large number of weavers are illiterate, it appears that weavers cannot comply with the accounting procedures and paper-work for claiming the duty drawback from the Government of India periodically. As an alternative, it is therefore, suggested that a lump-sum transfer equivalent to the amount of revenue proposed to be raised by way of excise duty on plain hank yarn may be made to the Development Commissioner of Handlooms for the purpose of promotion of handloom products.

5. In addition, budgetary support should be provided to handloom organisations on the basis of sales performance for market promotion as well as increasing the consumer awareness and demand for handloom products.

6. As the study found, there is an urgent need to provide a stable supply of hank yarn to weavers and weaver societies in a more efficient manner. The National Handloom Development Corporation (NHDC) is already entrusted with this responsibility. Its operations must be further strengthened by providing additional grants or increasing government's equity capital to NHDC for improving its distribution network.

7. In particular, for stabilising hank yarn prices, there is an urgent need for creating an agency to operate buffer stocks on a long term basis, purely on

commercial lines, while, at the same time, the present
hank yarn obligation on spinning mills should be made
more effective. The government's intervention is seen
necessary as the spinning mills have pointed out that
lack of ready demand was the reason for their not
complying with the government's regulation of hank yarn
obligation scheme. The proposed buffer stock agency
can then provide a mechanism to purchase hank yarn when
the market demand is low and thus would help to achieve
stabilisation of hank prices.

1. Introduction and Salient Features

1.1 Introduction

1.1.1   Handlooms are India's traditional textiles and occupy a place of pride in India's cultural heritage.   Handlooms constitute a major household industry and provide direct employment to more than 2 lakh weavers. The Government of India has accorded high protection to the handloom industry through various fiscal concessions and other types of budgetary support. One of the salient features of government policies is the regular and adequate supply of essential raw material, i.e., hank yarn to handloom weavers at reasonable prices.

1.1.2   Hank yarn[1] is convenient for use in the handloom industry by handloom weavers for weavers after dyeing.   As against this, cone yarn, as its name suggests, is packed in the form of cone but not generally used by handloom weavers, since cone yarn cannot be dyed before weaving. It may thus be presumed that while hank yarn is absorbed mainly by handlooms, cone yarn is used in the powerloom and mill sectors.

1.1.3   An important point to note in this connection is that the cost of production of hank yarn is somewhat higher than that of cone yarn due to the extra process of reeling involved in the former. While the plain hank yarn is fully exempt, cross reel hank yarn is subjected to concessional rates of excise duty if used by handloom weavers.   In the case of cone yarn, the Government of India levies excise duty. The result has been that the price of cone yarn (inclusive of excise duty) is higher than

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1.   Hank is also termed as a unit of measurement.   Thus, one hank is equivalent to 840 yards of yarn in length and one pound by weight.

that of cross reel hank yarn of comparable counts. If there is no price differential between the two types of yarn, it is cheaper for powerloom units to dye and convert hank yarn to `pirns to bobbins' than to use cone yarn for weaving and then dye the cloth after weaving. Both these factors account for large scale use of hank yarn by powerlooms so that the objective of protecting handlooms is not well served through the duty differential. It was noticed that powerloom units convert hank yarn into `pirns and bobbins' for weaving on powerlooms and thus escape payment of excise duty on a large scale and gain a cost advantage over handlooms. This advantage has gone up apparently after the merger of the fabric duty with yarn duty. It became cheaper to dye hank yarn and covert to pirns and bobbins usable on powerlooms, than to use cone directly in grey form and then dye the cloth after weaving.

1.1.4   Again, in recent years the prices of hank yarn have been rising steeply, vis-a-vis cone yarn of certain counts and have thereby rendered it difficult for handlooms to survive in the face of stiff competition from powerlooms. In this background, the Office of the Development Commissioner of Handlooms (DCH), Government of India commissioned a study at the Institute in September 1990 to examine the following issues;

> "i.   Does the exemption of hank yarn from excise duty have the intended effect of helping handlooms? If not, to what extent is the benefit lost and what are the underlying factors?
>
> ii.   What accounts for the fluctuations in the hank yarn prices? How far is the present structure of trade or distribution channels of hank yarn responsible for such fluctuations?
>
> iii. What would be the appropriate lines of reform in the excise structure and the existing arrangements for distribution of hank yarn in order that the intended benefits accrue fully to the handloom weavers?"

1.1.5   Our study team had undertaken an all-India sample survey of household weavers and co-operative societies in important handloom-powerloom concentrations situated in eight States, which accounted for over 75 per cent of the handloom cloth production in the country. The details of selected sample units are given in Annexure 1. The survey consisted in collecting detailed information regarding loomage, cloth production, quantity of hank yarn consumption, and its availability, yarn prices and welfare measures as expected by weavers from the government.

1.1.6   This report is divided into four chapters. In this chapter, the salient features of the handloom industry are discussed. These include State-wise details of loomage, yarn production and distribution, and consumer purchases of handlooms during the recent years. The purpose of this chapter is to provide a background to the problems of diversion reference of this study. In chapter 2, the issue of hank yarn diversion to powerloom industry is addressed. This forms the focus of the study. In this chapter, we present a range of estimates of hank yarn diversion for selected powerloom concentrations visited by the study team during the survey. In chapter 3, we consider the analysis of factor influencing price fluctuations of hank yarn. It also provides an analysis of inter-mill price and cost variations as also the inter-State variations in retail prices as quoted by yarn traders during our survey. Finally, the last chapter gives detailed discussion of alternative policy suggestions to the problem of hank yarn diversion and price stabilisation.

1.2 Salient Features of Handloom Industry

1.2.1 Loomage and Employment   The details of State-wise installed loomage in the handloom sector are given in Table 1.1 for the two years 1988-89. Handlooms, as the table shows, are concentrated in Andhra Pradesh, Assam, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal and Karnataka. The total number of looms in the country as a whole was about 38 lakh in 1983-84, but the number declined to 28 lakh in 1988-989. There about 8 lakh domestic looms in Assam, Manipur, Meghalaya and Mizoram which are used to produce cloth that is not marketed but used for their own household consumption. Thus the total number of commercial looms declined to over 20 lakhs in 1988-89 (a decline by one-third in 5 years time). In particular, the decline in loomage is substantial in the case of Andhra Pradesh from 5.29 to 2.13 lakh; in Bihar from 1 to 0.73 lakh; in Karnataka from 1.03 to 0.7 lakh; in Kerala, 0.95 to 0.42 lakh; in Maharashtra, 0.8 to 0.66 lakh; in Tamil Nadu from 5.29 to 4 lakh and in Uttar Pradesh, 5.1 to 2.4 lakh. In West Bengal, however, there was a significant increase in the number of handlooms from 2.1 to 3.2 lakh.

1.2.2   There can be a number of reasons for the closure of handlooms in these States. Among others, the most important factor is the non-availability of essential raw material, hank yarn at reasonable prices and the resultant unemployment. Thus

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Table 1.1

State-wise Details of Handlooms and Powerlooms in the Decentralised Sector

(Nos. in lakhs)

State/ Union Territory	Handlooms			Powerlooms (Decentralised)	
	1983-84	1988-89		1988-89	
	All Fibres	All Fibres	Cotton	All Fibres	Cotton
Andhra Pradesh	5.29	2.13	1.66	0.14	0.12
Arunachal Pradesh	0.00	0.44	0.43		
Assam	2.00	12.92	12.73	0.03	0.03
Bihar	1.00	0.73	0.58	0.02	0.01
Goa	0.00	0.00	N.A.		
Gujarat	0.20	0.22	0.18	2.06	0.43
Haryana	0.41	0.17	0.13	0.06	0.03
Himachal Pradesh	0.01	0.30	0.08		
Jammu & Kashmir	0.37	0.25	0.02		
Karnataka	1.03	0.70	0.46	0.39	0.14
Kerala	0.95	0.42	0.40	0.02	0.01
Madhya Pradesh	0.33	0.32	0.25	0.32	0.31
Maharashtra	0.80	0.66	0.61	3.26	2.43
Manipur	1.00	2.67	1.34		
Meghalaya	0.05	0.08	0.08		
Mizoram	0.20	0.94	0.93		
Nagaland	N.A.	0.71	0.19		
Orissa	1.05	1.00	0.86	0.02	0.02
Punjab	0.21	0.11	0.08	0.19	0.05
Rajasthan	1.44	0.31	0.20	0.25	0.21
Tamil Nadu	5.56	4.01	2.88	1.75	1.05
Tripura	1.00	1.16	1.16		
Uttar Pradesh	5.09	2.43	1.45	0.56	0.35
West Bengal	2.12	3.19	2.60	0.04	0.02
Delhi	0.05	0.09	0.08	0.08	0.06
Pondicherry	0.04	0.05	0.05		
Domestic looms in Assam, Manipur, Meghalaya and Mizoram	8.00				
Totals:					
a. All above, but excluding domestic looms	30.20			9.19	5.27
b. Total of all above including domestic looms and others in all States	38.20	28.01	21.43		

Source: Office of the Development Commissioner, Basic Statistics, 1984
and Census of Handlooms in India 1987-88, NCAER, New Delhi.

the scarcity of hank yarn at affordable prices has led to labour displacement of handloom weavers to other economic activities including powerlooms, which are an area of immediate occupation as they employ similar skills readily available with handloom weavers. Thus powerlooms have provided scope for immediate economic adjustment for the handloom weavers. The change of job is more a question of survival for the handloom weaver and not due to the high wage rate in the powerloom industry. Powerloom wages are as low as the handloom wages, being below the subsistence level[2]. It should be emphasised that, notwithstanding the above, the existence of over 20 lakh of commercial handlooms in the country is a reflection of the huge employment in this sector of semi-skilled rural artisans who cannot be left to market forces of competition but need government's patronage. Moreover, the employment potential is greater in the handloom sector than the powerloom sector because it is mostly household oriented and labour intensive. Generally, all members of a weaver's family are employed directly or indirectly in the reeling, dyeing and weaving operations. Given the high employment intensity, it is worthwhile to design schemes which are skill improving and lead to higher value-addition, so that the industry can become economically viable and self reliant over time. Till such time handloom industry would probably need government protection through fiscal and other means including marketing support and infrastructural facilities.

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2. As regards powerlooms in the country in 1988-89, the total number of powerlooms stood at over 9 lakhs concentrated in Gujarat, Maharashtra, Tamil Nadu, Uttar Pradesh, Karnataka, Madhya Pradesh and Andhra Pradesh. Out of 9 lakh, over 5 lakh looms (55.5%) produced cotton cloth exclusively. It is also important to note that the annual raw material requirement is relatively large for the powerlooms as compared to the handloom industry. The obvious reasons are high machine and labour productivities in the former sector.

1.3 Organisation of Handloom Weavers

1.3.1   The philosophy of protecting handlooms dates back to the pre-independence era. Cooperativisation has been considered and followed as a suitable form of organising the household weavers since the Gandhian days. Much emphasis has thus been laid on encouraging co-operatives in the handloom sector by the government over the past three decades. In spite of this, even by 1990, the total loomage covered by co-operative societies was less than 45 per cent in the country (Table 1.2). The degree of cooperativisation, has, however, varied across States as shown in this table. Only 11 States in the country have been able to achieve cooperativisation of more than 40 per cent. The leading States among them are Tamil Nadu, Andhra Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Uttar Pradesh, Gujarat and West Bengal, while in the rest of India, mostly the North Eastern States and others have not been able to achieve progress in the cooperativisation of handlooms. Thus, the handloom industry in these States is highly unorganised and decentralised.

1.3.2   Weaver-cooperativisation is a pre-requisite to implement government sponsored welfare programmes. Unlike in the powerloom sector where entrepreneurs have mastered the art of organising factors of production better than handloom cooperative units, the slow pace of cooperativisation has impeded the growth of the handloom sector. With only 43.5 per cent of the total number of handlooms under cooperatives, it is difficult to implement the government policies targeted to handloom weavers. An immediate concern of the government may be the supply of hank yarn to weavers at reasonable   prices and the supply of

Table 1.2

**State-wise Number of Handlooms in India and Their
Co-operative Coverage as on 30.6.1990**

State/ Union Territory	Total No. of Handlooms	No. of Coopera- tive Societies	No. of Active Cooperative Societies	No. of looms in Cooperative Societies	Proportion of looms under Cooperative Societies % (Col. 4/1X100)
	(1)	(2)	(3)	(4)	(5)
Andhra Pradesh	219715	1833	1382	158656	72.21
Assam	1409168	873	245	408659	29.00
Bihar	82657	620	420	50421	61.00
Gujarat	22573	370	283	9948	44.07
Haryana	20272	491	370	3446	17.00
Jammu & Kashmir	25272	60	5	0	0.00
Karnataka	81585	275	158	49196	60.30
Kerala	51629	578	453	30977	60.00
Madhya Pradesh	47431	520	392	29412	62.01
Maharashtra	62642	635	563	46198	73.75
Manipur	270261	806	667	68646	25.40
Orissa	119005	779	723	92265	77.53
Punjab	12228	969	436	1822	14.90
Rajasthan	33256	90	35	4616	13.88
Tamil Nadu	428545	1614	1577	282840	66.00
Tripura	119072	75	58	4763	4.00
Uttar Pradesh	260714	4579	3588	178850	68.60
West Bengal	338494	1362	920	147992	43.72
Other States/	281052	283	187	22765	8.10
All States above	3604519	16529	12275	1568707	43.52

Source: AIFCOSPIN, Annual 1990, Bombay, p.339.

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credit for purchasing yarn. It may not however, be feasible for the government to cover by these schemes the weavers outside the fold of co-operatives. To have an idea of the number of weavers who can receive government assistance through the existing co-operative societies, one should take into account the information about the working status of full-time handloom weavers, as available from the Handloom Census (1987) Tables 1.3 and 1.4[3]. In 1987-88, the proportion of full time weavers in the handloom industry was 54 per cent only, followed by those working under co-operative societies (20.3 per cent), master weavers (15.4 per cent), those under private owners (6.2 per cent) and those under SHDC and KVIC (4.1 per cent). It thus indicates the organisational difficulties being faced by the government in formulating feasible schemes that would benefit all weavers. It may be noted that there are as many as 22.5 lakh full time handloom weavers in the country as against 28 lakh handlooms according to the Handloom Census, 1987. Only 25 per cent of which (about 5.6 lakh weavers) were covered by co-operative societies or SHDC or KVICs. Most of the government sponsored schemes of financial assistance are directed only through cooperatives and hence these schemes can benefit at most, 6 lakh weavers. Some fiscal concessions are given in the form of full exemption of excise duty on plain hank yarn, irrespective of who actually uses it. Such excise benefits may therefore be availed of, by handloom weavers outside the cooperatives as also by powerloom units through diversion, although, it is not intended for them. It is, therefore, important to recognise that fiscal concessions, provided in the current excise duty structure need to be revamped in the light of the foregoing discussion.

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3. Table 1.4 provides the percentage distribution of different types of handloom weavers viz., independent weavers, those working under master weavers, co-operative societies, State Handloom Development Corporations (SHDCs), Khadi and Village Industrial Corporations (KVIC) and private owners.

Table 1.3

Working Status of Full time Handloom Weavers

State	Independent	Under master weavers	Under Coop. Societies	Under SHDC	Under KVK/ KVIB	Under private owners	All weavers
Andhra Pradesh	90190	62792	48019	594	2641	14886	219122
Arunachal Pradesh	114	2	0	0	29	400	545
Assam	326445	19625	22568	2389	586	12649	384262
Bihar	61602	1238	8767	2543	1335	869	76354
Gujarat	5327	398	10072	1335	5371	504	23007
Haryana	5164	128	373	57	51	11656	17429
Himachal Pradesh	5835	38	18	40	42	126	6099
Jammu & Kashmir	15855	60	52	2380	2124	22	20493
Karnataka	35686	13623	10126	14395	2609	6956	83395
Kerala	7057	5008	24155	1199	3680	4993	46092
Madhya Pradesh	13608	1877	12537	565	355	916	29858
Maharashtra	13970	93	41089	9898	237	923	66210
Manipur	103117	2079	395	62	6	1489	107148
Meghalaya	463	5	10	2	0	0	480
Mizoram	1878	97	2	0	11	86	2074
Nagaland	22549	0	0	10	0	4340	26899
Orissa	19412	8084	56191	3334	266	1118	88405
Punjab	8827	32	32	8	267	940	10106
Rajasthan	24869	376	1499	1306	2774	1092	31916
Tamil Nadu	18859	140547	184177	452	12712	41900	398647
Tripura	15983	0	431	62	0	740	17216
Uttar Pradesh	235033	16574	5575	6034	5902	1094	270212
West Bengal	179306	69955	24485	360	4943	25796	304845
Goa	13	6	0	0	1	8	28
Delhi	241	86	2589	0	0	4738	7654
Pondicherry	22	1923	1827	0	87	505	4364
All States							
Urban	208185	99793	125245	18496	5153	42000	498872
Rural	1003240	244853	329744	28529	40876	96746	1743988
Total	1211425	344646	454989	47025	46029	138746	2242860

Source: Census of Handlooms in India, 1987 NCAER, New Delhi.

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Table 1.4

State-wise Percentage Distribution of Working Status
of Handloom Weavers

<div align="right">(Percent)</div>

State	Independent	Under master weavers	Under Coop. Societies	Under SHDC	Under KVIC	Under private owners	All weavers
Andhra Pradesh	41.16	28.66	21.91	0.27	1.21	6.79	100.00
Arunachal Pradesh	20.92	0.37	0.00	0.00	5.32	73.39	100.00
Assam	84.95	5.11	5.87	0.62	0.15	3.29	100.00
Bihar	80.68	1.62	11.48	3.33	1.75	1.14	100.00
Gujarat	23.15	1.73	43.78	5.80	23.35	2.19	100.00
Haryana	29.63	0.73	2.14	0.33	0.29	66.88	100.00
Himachal Pradesh	95.67	0.62	0.30	0.66	0.69	2.07	100.00
Jammu & Kashmir	77.37	0.29	0.25	11.61	10.36	0.11	100.00
Karnataka	42.79	16.34	12.14	17.26	3.13	8.34	100.00
Kerala	15.31	10.87	52.41	2.60	7.98	10.83	100.00
Madhya Pradesh	45.58	6.29	41.99	1.89	1.19	3.07	100.00
Maharashtra	21.10	0.14	62.06	14.95	0.36	1.39	100.00
Manipur	96.24	1.94	0.37	0.06	0.01	1.39	100.00
Meghalaya	96.46	1.04	2.08	0.42	0.00	0.00	100.00
Mizoram	90.55	4.68	0.10	0.00	0.53	4.15	100.00
Nagaland	83.83	0.00	0.00	0.04	0.00	16.13	100.00
Orissa	21.96	9.14	63.56	3.77	0.30	1.26	100.00
Punjab	87.34	0.32	0.32	0.08	2.64	9.30	100.00
Rajasthan	77.92	1.18	4.70	4.09	8.69	3.42	100.00
Tamil Nadu	4.73	35.26	46.20	0.11	3.19	10.51	100.00
Tripura	92.84	0.00	2.50	0.36	0.00	4.30	100.00
Uttar Pradesh	86.98	6.13	2.06	2.23	2.18	0.40	100.00
West Bengal	58.82	22.95	8.03	0.12	1.62	8.46	100.00
Goa	46.43	21.43	0.00	0.00	3.57	28.57	100.00
Delhi	3.15	1.12	33.83	0.00	0.00	61.90	100.00
Pondicherry	0.50	44.07	41.87	0.00	1.99	11.57	100.00
All States							
Urban	41.73	20.00	25.11	3.71	1.03	8.42	100.00
Rural	57.53	14.04	18.91	1.64	2.34	5.55	100.00
Total	54.01	15.37	20.29	2.10	2.05	6.19	100.00

Source: Same as in Table 1.3.

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1.3.3 A slow pace of cooperativisation of handloom units creates serious difficulties not only for administering various government programmes of assistance but also for improving the weavers' economic conditions. In addition to government efforts, co-operatives should put sincere and concerted efforts to bring about faster development of the industry and cooperate for the successful implementation of government programmes. During our survey, it was noticed that many co-operative societies have been either defunct or existed only `on paper'. For example, such defunct societies can be found in States of Uttar Pradesh, Karnataka, and Orissa as visited by our study team.

1.4 Pattern of Hank Yarn Production and Distribution

1.4.1 Production by Ownership:Yarn spinning takes place in the country in the cooperative as well as private sectors. In the cooperative sector, spinning mills are jointly owned by

(a) handloom weaver cooperative societies,

(b) powerloom weavers co-operative societies, and

(c) cotton growers societies.

Thus yarn reaches the final consumer, the weavers/weaver co-operative societies both from the cooperative and private sectors through a well- established chain of yarn traders and the National and State Handloom Development Corporations (NHDC and SHDC). The details of distribution are depicted in Fig 1.1.

1.4.2 Leaving aside the composite mills which produce yarn for captive consumption, the pattern of yarn production in the spinning sector can be seen from Table 1.5. There are as many as 764 spinning mills in the country, the majority of which (666) belong to the private sector, while the balance (98) to the cooperative spinning sector. It is of significance to note that

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the number of co-operative mills run by handloom weavers' societies declined from 53 in 1987-88 to 42 in 1989-90, while the number of mills run by powerloom weavers co-operative societies has slightly increased. However, in the private sector, the number of spinning mills was up from 637 to 666 during the same period.

Figure 1.1

Hank Yarn Production and Distribution

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                          ┌──────────────┐
              ┌───────<───│    Yarn      │───>───────┐
              │           │  Production  │           │
              │           └──────┬───────┘           │
              │                  ↓                    │
      ┌───────┴────┐     ┌──────────────┐     ┌───────┴─────┐
      │  Private   │<──  │ Distribution ├──>  │ Cooperative │
      │  Mills     │     │              │     │ Mills       │
      └───┬────────┘     └──────┬───────┘     └───────┬─────┘
          │                     ↓                     │
          │    ┌───────>──┌──────────┐──<─────────┐   │
          │    │          │   NHDC   │            │   │
          │    │          └──┬────┬──┘            │   │
          │    │             ↓    ↓               │   │
          │    ├────>──┌───────┐  ┌──────┐──<─────┤   │
          │    │       │  HDC  ├──│ HLS  │        │   │
          │    │       └───┬───┘  └───┬──┘        │   │
          │    │           ↓          ↓           │   │
          │    │       ┌──────────────┐           │   │
          │    │       │   Member     │           │   │
          │    │       │   Weaver     │           │   │
          ↓    │       └──────┬───────┘           │   ↓
          │    │              ↓                   │   │
   ┌──────┴──┐ │      ┌──────────────┐     ┌──────┴───────┐
   │ Traders ├─┴──>   │   Master     ├─────┤ Independent  │
   │         │        │   Weavers    │     │ Weavers      │
   └─────────┘        └──────────────┘     └──────────────┘
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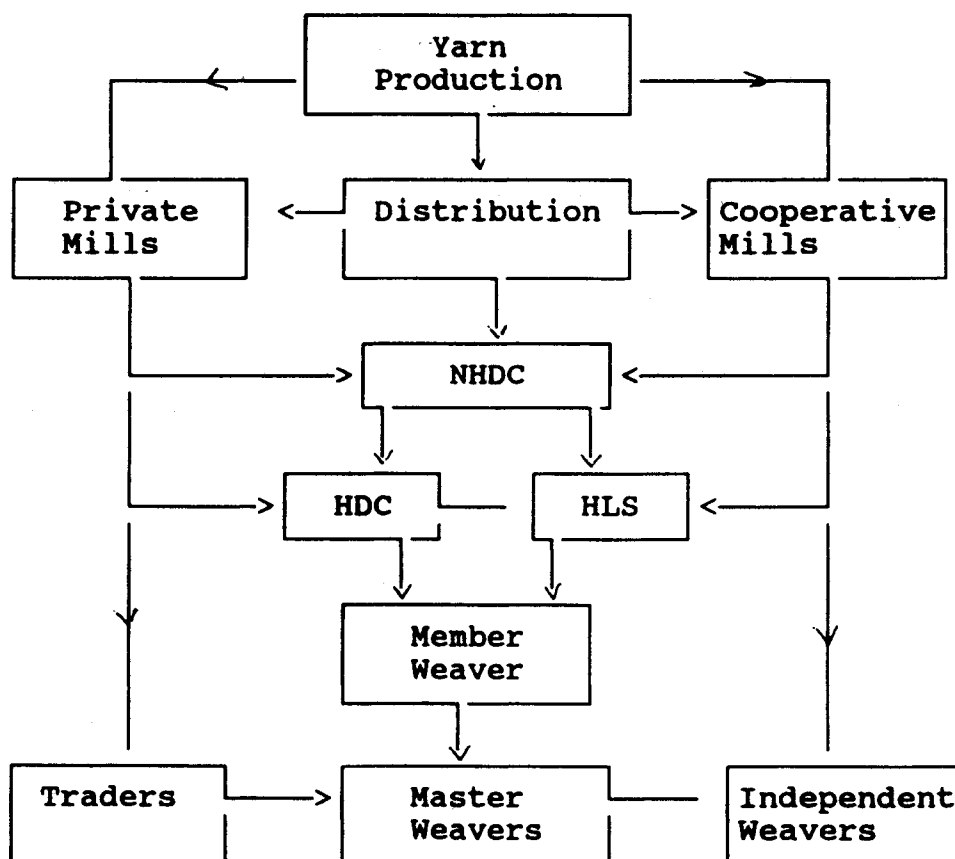
Table 1.5

**Frequency Distribution of Spinning Mills
by Type of Ownership**

	1987-88	1988-89	1989-90
I. Cooperative Spinning Mills run by			
a) Handloom weavers coop. societies	53	55	47
b) Powerloom weavers coop. societies	6	6	7
c) Cotton growers societies	45	46	44
II. Mills run under Private Sector	637	659	666
Total	741	766	764

Sources: i) AIFCOSPIN, **Annual**, (1988 to 1990),
Bombay, p.52,53,56. ii) ICMF, **Handbook
of Statistics**, 1991, Bombay. p.10

Tabla 1.6

**Share of Hank Yarn Production by Ownership of Spinning
Mills, 1986-87 and 1988-89**

Year	Coop. Sector (%)	Private Sector (%)	Total (mil. kgs.)
1986-87	21.80	78.20	338.00
1988-89	24.15	75.85	338.00

Sources: AIFCOSPIN, **Annual**, 1986-87, p.177, 1989-90, p.189,
Government of India, Ministry of Textiles, **Annual
Report**, 1989-90, New Delhi p.61.

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The overall production of hank yarn in all the mills taken together was 338 million kgs. during 1988-89 and it remained at the same level in 1986-87 (Table 1.6). While in 1986-87, the co-operative sector had a lower share of 22 per cent in total hank yarn production, the private spinning sector had a major share of 78 per cent. By 1988-89, the share of the cooperative sector increased to 24 per cent, while that of the private sector declined to 76 per cent, although the number of private mills increased during this period.

1.5 Problems of Yarn Scarcity Faced by Handloom Weavers

1.5.1   Yarn scarcity has been felt by the handloom industry apparently due to various factors such as non-compliance of hank yarn production obligation by mills, inadequate credit availability to weavers, hank yarn diversion by powerloom units, market imperfections mainly in the form of local monopolies of yarn traders, all of which have resulted in a count-wise mismatch between the demand for and the supply of hank yarn.

1.5.2 Flouting of Hank Yarn Obligation by Spinning Mills: All spinning mills in the co-operative and the private sectors are under statutory obligation to comply with the government handloom order in regard to hank yarn production[4]. The intent of the hank yarn obligation scheme is to meet the requirement of handloom weavers. However, in spite of the government order, handlooms have generally faced hank yarn scarcity. Some spinning mills have reported to us that they were not able to comply with the hank yarn obligation since there was no adequate demand for hank yarn of specified counts. Thus the hank yarn obligation is

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4.   Under this, mills have to pack in the hank form, at least 50 per cent of their marketable civil deliveries of yarn (excluding hosiery and cone forms), of which, more than 85 per cent should be in the counts below 40s.

`conveniently' flouted by mills. To verify their claim, it is necessary to find out whether or not there has actually been a shortage of hank yarn in the handloom sector and if so, what are the underlying causes.

1.5.3   It may be useful to look into the (count-wise) total production of cotton yarn (hank and cone) in the country as also the composition of different count groups in total yarn production in each year during the period 1981-82 to 1988-89 (Table 1.7). The overall trend of yarn consumption as suggested by this table, is that the share of coarse counts in production of yarn has declined gradually over time and it appears that mills have not been complying with the hank yarn obligation scheme imposed by the government. For instance, in 1981-82 the total yarn production in the country was 1069 million kgs., while the share of coarse counts (below 40s) was as much as 88 per cent.   In the year 1988-89, the total production of yarn increased to 1302 million kgs., whereas the share of coarse counts declined considerably to 83.5 per percent. The decline in the case of count groups viz., 1-10s, was from 187 to 138 million kgs., and the share of this group came down from 17.5 to 10.6 per cent between 1981-82 and 1988-89.   As against this, the share of higher count groups, between 41-60s, increased from 6.2 to 9.7 percent, of count groups, 61-80s, increased from 3.6 to 4.9 per cent, and of the super fine counts of above 80s went up from 1.7 per cent to 2 per cent.   It thus appears that during this period, consumption of all finer counts of yarn has gone up relative to the total consumption of coarse counts of hank and cone yarn taken together.   It is not clear, however, whether similar decline took place for hank yarn exclusively.

1.5.4   **Yarn Distribution**: The problem of yarn price fluctuation could be partly explained by the yarn distribution in force.   It is possible that even though spinning mills have produced yarn,

substantial quantity of hank yarn to weaver members. The observed trend in the distribution is disquieting and it goes against the interest of the handloom sector. In 1989-90, cooperative spinning mills produced as much as 128 million kgs. of cone yarn as against 76.8 million kgs of hank yarn in the same year. They sold cone yarn in considerable quantities to traders as shown Table 1.9, in different States. Traders' yarn purchase accounted for 100 per cent of the production of cooperative mills in Andhra Pradesh, Madhya Pradesh, and more than 90 per cent of cooperative production of cone yarn in Haryana, Kerala, Pondicherry, Punjab, Rajasthan and Uttar Pradesh. However, traders lifted about 73 per cent of the total sales of cooperative mills in Gujarat and Maharashtra, where the yarn sales to cooperative societies was 12 and 15 per cent respectively. Thus, it is clear that although cooperative spinning mills are established with an objective to meet handloom weavers' interests, the observed facts suggest that it is traders who have reaped the benefits of government assistance to cooperative mills. A major reason for this seems to be the availability of funds in the hands of traders for financing the yarn purchases which the handloom weavers societies were found lacking.

1.5.6   Hank yarn prices are however, generally regulated by a committee, known as a Price Monitoring Committee set up and chaired by the Managing Director of the State Directorate of Handlooms and Textiles. The Committee consists of representatives of the government and spinning mills and meets once a month to fix the issue-price of hank yarn for cooperative mills. The Price Monitoring Committee has played a key role in determining yarn prices in Tamil Nadu, Andhra Pradesh and Orissa but it was not found to be effective in other States visited by us, viz., Karnataka, Uttar Pradesh, Delhi and West Bengal. It is not clear why Price Monitoring Committee cannot enforce the compliance of the hank yarn obligation by cooperative mills.

1.5.7 Irregular and Inequitable Credit Availability: There are also inter-State variations in the distribution of hank yarn and credit availability. It can be seen from Table 1.9 that except for a few States viz., Andhra Pradesh, Gujarat, Kerala, Maharashtra, Tamil Nadu and West Bengal, the proportion of hank yarn sales to traders was more than 50 per cent of the total quantity of hank yarn sold by cooperative spinning mills in the country. One of the reasons seems to be the relatively low degree of cooperativisation of handloom weavers in most States. It cannot be denied that lack of finance in the hands of weavers or weavers cooperative societies could be one major reason. Even to provide assistance to weavers, efforts for increasing the cooperativisation of handloom weavers are needed. Hank yarn supply to weavers can then be made viable and increased in these States. In 1987-88, the total credit limit sanctioned by NABARD was around Rs. 313 crores. Of this, as much as 71 per cent was accounted for, by Tamil Nadu and Andhra Pradesh mainly because of a relatively greater degree of cooperativisation in these two States as compared to other States. It thus facilitated a smooth credit flow and its administration through cooperative banks.

1.6 Demand Factors

1.6.1 Consumption of Handloom Cloth and Demand Elasticities: The survival of handloom industry depends ultimately on consumer demand for handloom products. Thus, it is useful to judge the pattern of consumption demand for cloth in the country and the direction in which consumer preferences are moving. Table 1.10 gives for the period 1982-1988, the trends in per capita consumption of cotton cloth by sector of manufacturing (handloom, powerloom and mill made etc.) for urban and rural India. In per capita terms, the quantity of handloom cloth consumed in the
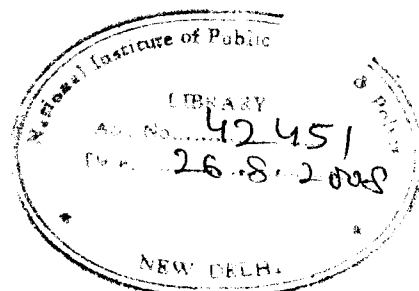
Table 1.9

State-wise Cone Yarn Sales by Cooperative Spinning Mills during 1989-90

Qty. in lakh kgs. unless specified

States	Cooperative Weavers and Institutions	% in Total sales	Traders	% in Total sales	Exports	% in Total sales	Total sales	% in Total sales
1	2		3		4		5	
Andhra Pradesh	0.00	0.00	20.07	100.00	0.00	0.00	20.07	100.00
Gujarat	15.88	12.46	93.01	73.00	18.52	14.54	127.41	100.00
Haryana	0.01	0.04	24.71	99.96	0.00	0.00	24.72	100.00
Karnataka	8.52	32.52	17.60	67.18	0.08	0.31	26.20	100.00
Kerala	0.17	2.09	7.98	97.91	0.00	0.00	8.15	100.00
Madhya Pradesh	0.00	0.00	17.27	100.00	0.00	0.00	17.27	100.00
Maharashtra	85.95	15.04	419.84	73.49	65.50	11.47	571.29	100.00
Orissa	6.95	27.68	17.91	71.33	0.25	1.00	25.11	100.00
Pondicherry	0.03	0.31	9.52	99.69	0.00	0.00	9.55	100.00
Punjab	0.04	0.04	90.64	99.87	0.08	0.09	90.76	100.00
Rajasthan	0.75	0.74	100.92	99.23	0.03	0.03	101.70	100.00
Tamil Nadu	13.73	10.76	113.93	89.24	0.00	0.00	127.66	100.00
Uttar Pradesh	7.46	5.40	127.39	92.23	3.27	2.37	138.12	100.00
	139.49	10.83	1060.79	82.36	87.73	6.81	1288.01	100.00

Source: AIFCOSPIN, Annual 1990, Bombay p.185-187.

country was 3.95 meters in 1982, which was marginally less in urban India than in rural India. Between 1982 and 1988 however, the per capita consumption of handloom cloth decreased both in urban and rural India. But it decreased relatively more in urban India from 3.84 meters in 1982 to 1.99 meters in 1988 (-48.2%), than in rural India where the decline was marginal from 3.98 meters in 1982 to 3.61 in 1988 (-9.3%). The quantity decline was however accompanied by a price increase. The unit value of cloth (the total value divided by quantity) increased both for urban and rural India. For urban India, the unit value increased from Rs. 11.24 per meter in 1982 to Rs. 16.18 per meter in 1988 (43.9%). For rural India, the price rise was from Rs. 7.81 per meter in 1982 to Rs.12.79 per meter in 1988 (63.8%). Thus the consumer demand for the handloom cloth appears to be approximately price elastic (more than -1, i.e., the percentage increase of quantity is more than the percentage decrease in price) for urban India, whereas, it is price inelastic (less than -1) for rural India. This preliminary finding is in line with the intuition that handloom cloth is consumed relatively more by poorer sections (janata cloth consumption, for example) of rural population, whereas, it caters to the needs of middle and upper middle income groups of urban population. It should be noted that the quantity of cloth consumed had gone up during 1982 to 1985, declined in 1986 and 1987, but again increased marginally in 1988.

1.6.2   According to a study based on consumer survey of the Ministry of Textiles (1989, p.16),[6] the estimated average price elasticities for cotton textiles for urban and rural India (by all sectors of manufacturing) were -0.956 and -0.716 respectively during 1985. But the elasticity declined to -0.836 for urban

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6.   See `Third Report on Income and Price Elasticities for Textiles', Ministry of Textiles, Market Research Wing, Bombay, 1989.

India and increased to -1.035 for rural India during 1986. This implies that in 1986 rural demand became more price sensitive than urban demand as far as cotton textiles are concerned. But, in this report, no price elasticities were reported for cotton cloth by the sector of manufacturing separately. Thus, in conjunction with our rough estimate of demand for handloom cloth in particular, it follows that rural demand has been more price elastic for all cotton textiles in general, than for handlooms in particular, because of price competition from powerlooms and mill-made (organised sector) cotton textiles in rural India.

1.6.3   As regards mill-made cotton cloth, the per capita consumption has been higher for urban India than for rural India during the period from 1982 to 1988. For urban India, the per capita consumption increased from about 4 meters in 1982 to about 5 meters in 1987, but it declined to 2.74 meters in 1988. For rural India, however, there was a considerable increase from 1.26 meters in 1982 to 2.15 meters in 1987. In 1988, it declined to 1.39 metres for rural India. In contrast, there was a gradual decline in the same in rural India during the same period, perhaps, due partly to shift in consumer preferences from handloom to powerloom and mill cloth as also due partly to change from cotton to non-cotton fibres.

1.6.4   Considering the aggregate consumption of cotton cloth, as shown in Table 1.11, it is worth noting that trends in aggregate consumption are consistent with those of per capita consumption for each sector. In aggregate terms, there was a decline in all-India consumption of handloom cotton cloth from 2786 million meters in 1982 to 2543 million meters in 1988 (a decline of about -1.45 per cent a year on an average). Similarly,

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Table 1.10

Per Capita Consumption of Cotton Cloth by Sector of Manufacturing, 1982-88

Value in Rs.
Qty. in metres
Unit value = Rs./metre

Year	Area	Handloom			Powerloom			Mill made			All Sectors (incl. hosiery and khadi sectors)		
		Quantity	Value	U.V.	Quantity	Value	U.V.	Quantity	Value	U.V.	Quantity	Value	U.V.
1982	Urban	3.84	43.19	11.24	1.70	19.01	11.18	3.99	48.55	12.17	10.37	116.53	11.24
	Rural	3.98	31.08	7.81	3.86	32.24	8.36	1.26	13.07	10.39	9.92	80.53	8.12
	All India	3.95	33.95	8.59	3.34	29.11	8.70	1.92	20.99	10.95	10.04	88.59	8.82
1983	Urban	3.45	43.32	12.56	1.70	20.09	11.82	3.73	46.67	12.51	9.73	115.69	11.89
	Rural	4.14	33.27	8.04	4.16	36.26	8.72	1.16	11.51	9.92	10.24	85.24	8.32
	All India	3.98	35.69	8.97	3.57	32.37	9.07	1.77	19.99	11.29	10.12	92.58	9.15
1984	Urban	3.23	42.81	13.25	1.87	21.89	11.71	3.47	44.25	12.75	9.29	113.77	12.25
	Rural	4.42	38.50	8.71	3.78	32.96	8.72	1.22	12.79	10.48	10.16	88.43	8.70
	All India	4.13	39.56	9.58	3.31	30.25	9.14	1.76	20.74	11.78	9.93	94.88	9.55
1985	Urban	3.32	47.35	14.26	2.03	24.30	11.97	3.60	50.58	14.05	9.83	128.46	13.07
	Rural	4.37	39.94	9.14	4.11	37.65	9.16	1.68	17.79	10.59	11.11	101.44	9.13
	All India	4.11	41.78	10.16	3.59	34.33	9.56	2.16	25.95	12.01	10.79	108.16	10.02
1986	Urban	2.95	43.11	14.61	2.42	32.97	13.62	4.27	65.33	15.30	10.57	148.20	14.02
	Rural	3.85	37.46	9.73	4.30	42.59	9.90	1.57	17.41	11.09	10.76	104.65	9.73
	All India	3.62	38.89	10.74	3.82	40.15	10.51	2.26	29.56	13.08	10.71	115.68	10.80
1987	Urban	2.57	39.56	15.39	2.55	35.67	13.99	4.98	83.77	16.82	11.42	172.79	15.13
	Rural	3.28	34.31	10.46	4.00	41.47	10.37	2.15	25.11	11.68	10.52	109.38	10.40
	All India	3.10	35.67	11.51	3.62	39.97	11.04	2.88	40.21	13.96	10.75	125.71	11.69
1988	Urban	1.99	32.21	16.18	2.23	32.32	14.49	3.74	63.65	17.02	8.95	137.97	15.42
	Rural	3.61	46.16	12.79	3.45	38.49	11.16	1.39	17.27	12.42	9.24	108.38	11.73
	All India	3.19	42.57	13.34	3.14	36.90	11.75	1.99	29.21	14.68	9.17	116.00	12.65

Source: Government of India, Ministry of Textiles, Market Research Wing, Consumer Purchases of Textiles, (Various Issues), Bombay.

a considerable decline of -5.5 per cent a year, was noticed in the consumption of khadi cloth during the same period. Thus the decline in consumption of handloom and khadi cloth together seems to have been neutralised by an increase in consumption of mill cloth by 2.92 per cent a year, of powerloom cotton cloth by as much as 0.5 per cent a year, and of hosiery cotton cloth by 4.23 per cent a year. Taking into account all types of cotton cloth, the aggregate consumption for all India increased marginally by 0.5 per cent a year between 1982 and 1988.

1.6.5   In urban India the consumption of powerloom cotton cloth and the mill cloth together has increased substantially but there was a decline in the consumption of handlooms. In rural India, the consumption of mill cloth went up substantially, while that of powerloom and handloom cloth remained almost stagnant between 1982 and 1988. This indicates that in rural India consumer preferences have probably shifted in favour of mill made synthetic cloth. This conclusion is also borne out by the fact that the share of cotton cloth in total production, as shown in Table 1.12 (part-B), has declined substantially in the case of powerlooms and organised mill sectors, while it remained stagnant for the handloom sector. It indicates a shift in the production of mills and powerlooms towards cotton blends and synthetics, as also that in rural India consumer preferences have moved towards non-cotton textiles during the same period.

1.7 Statistical Inconsistency between Handloom Production and Consumption Trends

1.7.1   In the official handloom production statistics, cotton cloth production of the decentralised handloom sector is worked out by using the civil deliveries of hank yarn as reported by spinning mills, and by assuming a yarn-to-cloth conversion ratio

Table 1.11

**Pattern of Domestic Aggregate Consumption of Cotton
Cloth by Sector of Manufacturing in India**

(Qty. in million metres)

Sector	Urban		Rural		All India		Avg. % change per annum
	1982	1988	1982	1988	1982	1988	
Cotton							
Handloom	643.00	409.00	2143.00	2134.00	2786.00	2543.00	-1.45
Powerloom	285.00	457.00	2077.00	2043.00	2362.00	2500.00	0.97
Mill Made	666.00	767.00	687.00	823.00	1353.00	1590.00	2.92
Khadi	23.00	13.00	91.00	63.00	114.00	76.00	-5.55
Hosiery	119.00	192.00	357.00	405.00	476.00	597.00	4.23
All sectors	1736.00	1838.00	5355.00	5468.00	7091.00	7306.00	0.50

Source: Same as for Table 1.10.

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Table 1.12

Part A:

Cotton Cloth Production by Sector of Manufacturing in India

(in million metres)

| Year | Handloom | Powerloom | Mill made | Total | Sectoral shares | | | |
					Handloom	Powerloom	Mill Made	Total
1981-82	2540.00	2520.00	2923.00	7983.00	31.82	31.57	36.62	100.00
1982-83	2730.00	2830.00	2593.00	8153.00	33.48	34.71	31.80	100.00
1983-84	2889.00	3148.00	2704.00	8741.00	33.05	36.01	30.93	100.00
1984-85	3073.00	3348.00	2619.00	9040.00	33.99	37.04	28.97	100.00
1985-86	3156.00	3435.00	2587.00	9178.00	34.39	37.43	28.19	100.00
1986-87	3376.00	3676.00	2470.00	9522.00	35.45	38.61	25.94	100.00
1987-88	3432.00	3734.00	2234.00	9400.00	36.51	39.72	23.77	100.00
1988-89	3381.00	3680.00	2021.00	9082.00	37.23	40.52	22.25	100.00

Part B:

Share of Cotton Cloth in Total Cloth Production in Each Sector

(in percent)

Year	Handloom	Powerloom	Mill made	All Sectors
1981-82	96.7	55.4	78.7	72.7
1982-83	97.9	60.3	82.8	75.4
1983-84	97.7	59.2	77.5	74.3
1984-85	97.9	61.5	76.3	75.2
1985-86	97.5	58.3	76.6	73.4
1986-87	97.9	59.1	74.5	73.3
1987-88	97.8	57.8	73.8	72.3
1988-89	97.5	52.5	72.0	68.4

Source: Government of India, Ministry of Textiles, Annual
         Report, 1989-90, New Delhi p.63.

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(1 kg. of yarn is required to produce 10 metres of cloth in the handloom sector). On the other hand, the cloth production in the organised mill sector is based on figures reported by mills. These data are given in Table 1.12 (part-A) for the period from 1981-82 to 1988-89. It is seen that the aggregate production of handloom cloth as reported by official statistics increased from 2540 million meters in 1981-82 to 3381 million metres in 1988-89. Based on the ratio mentioned above, the corresponding quantity of hank yarn delivered was reported to be 254 million kgs. and 338 million kgs. in 1981-82 and 1988-89 respectively. That is, the production of handloom cloth reportedly increased annually at the same rate as that of hank yarn deliveries to the decentralised sector. As against this, the consumption trends of handloom cloth witnessed a decline in urban India and remained stagnant in rural India. It should therefore, be emphasised that handloom production derived from hank yarn deliveries, as shown above, may be quite misleading because of diversion of hank yarn to the powerloom sector. In the powerloom sector however, cloth can be produced by using cone or hank yarn[7]. It is thus not easy to derive the quantity of hank yarn consumption in the powerloom sector, given the production of cotton cloth in that sector.

1.7.2   It thus appears statistically inconsistent that on the one hand, production figures of handloom cloth show an increase, while on the other hand, the domestic consumption of the same shows a decline in urban India and remained stagnant in rural

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7.   In the mill sector, however, cloth production declined considerably from 2923 in 1981-82 to 2021 million meters in 1988-89, partly due to shift in consumer demand from cotton to synthetic fabrics, and partly due to change in consumer preferences to cheaper varieties of powerloom cotton cloth from expensive mill-made cloth. Thus, the share of mill-made cloth in total production steeply fell from 36.6 to 22.2 per cent during the same period.

India during the reference period. A partial explanation can be provided by higher export demand for handloom cotton fabrics and ready-made garments in this period. Apart from this, as pointed out earlier, this difference could be due to the fact that the cloth-to-yarn ratio being based on the past data of input-output relations does not reflect the recent improvements in machine productivity and the rate of yarn consumption per unit of output. Thus the reported production statistics of the decentralised sector suffer from measurement errors which could partly explain the differences between production and consumption trends that remain, even after accounting for exports.

1.7.3   Yet, another important explanation could be that all the quantity of hank yarn reportedly delivered by spinning mills may not have been actually used in the handloom sector but believed to be partly diverted to the powerloom sector. In fact, one of our main objectives in this study is to work out an estimate of hank yarn diversion as also the quantity of cotton cloth production in the handloom sector. In our estimation, as will be explained in detail in the next chapter, we try to account for the diversion of hank yarn to the powerloom sector, using cloth consumption data, as reported by the Textile Commissioner on the basis of independent consumer surveys and exports of handloom and powerloom cotton cloth as available from the respective export promotion councils.

2. Estimation of Hank Yarn Diversion

2.0 Introduction

In this chapter, we examine the issue of hank yarn diversion to the powerloom sector and make an attempt to quantify the extent of diversion, which is one of the main terms of reference in the study. We have made an attempt to provide the estimates of diversion at the national level as well as at micro level for selected places of handloom-powerloom concentrations in the country. For convenience, this chapter is divided into 3 sections. Section 1 deals with macro level estimates, Section 2 deals with micro level estimates and in Section 3, we provide an analysis of diversion of hank yarn including the cost of conversion and the excise duty differential between hank yarn and cone yarn.

2.1 Macro estimate of hank yarn diversion - alternative methods

2.1.1 A major issue addressed to, in this study, is to quantify the extent of hank yarn diversion to powerloom sector. By presumtion, hank yarn is intended to be used largely in the handloom sector. However, in practice it is found to be used also in the powerloom sector for various reasons which are discussed in the last section. So far as technology is concerned, it is important to recognise that suitable conversion machines have been appropriately designed to convert hank yarn into convenient forms such as `pirns' and `bobbins' which are usable on powerlooms. Thus, the diversion is technically made easier. Moreover, dyeing of hank yarn is more convenient than that of cone yarn in the packed form as available before weaving. Hank yarn is, therefore, extensively used on powerloom for production of coloured fabrics.

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2.1.2   As discussed in the previous chapter, hank yarn is diverted to the powerloom sector for economic reasons as well. The present excise duty structure is such that all plain hank yarn is fully exempted from duty without any restrictions on its use i.e., whether used by handloom or powerloom weavers, whereas, there is a differential duty on double hank cross reel (DHCR) according to counts of yarn, and also according to end-use. That is, concessional rates are applicable, if used by registered handloom societies and full rates are charged, if bought by others. There is a systematic adjustment by powerloom units to these excise restrictions. They have reportedly floated fictitious handloom societies for purchasing hank yarn at concessional rates, and, thus diverted hank yarn, which is otherwise intended for handlooms. The quantity of plain hank yarn (duty free) used by powerlooms may be strictly categorised under `diversion' to the powerloom sector.  But the methodology of estimation adopted in this study does include all types of hank yarn whether plain or cross reel hank, consumed in the powerloom sector and classifies the same as `diversion'.

2.1.3   Two different methods of estimation are adopted here to derive a range of estimates for diversion of hank yarn at the country level.   Under the first method, we have identified certain items of yarn-dyed powerloom textiles during the field survey of about 8 major States in India, where both handlooms and powerlooms are concentrated.   Starting with their physical consumption (expressed in linear meters) at the country level, an estimate of their production is obtained after adjusting for their exports and stock changes (hank yarn imports into the country are negligible). From the production estimates, we have derived the quantity of hank yarn consumed (diverted) by powerloom units, using the conversion ratio of cloth-to-yarn under certain assumptions, to be stated later.

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2.1.4   In the second method, an attempt is made to derive an estimate of handloom cloth production, given its consumption, exports and changes in stocks. Again using the conversion ratio of cloth-to-yarn, hank yarn consumption is derived from the estimated handloom cloth production. Finally, the consumption estimate is compared with the quantity of hank yarn available in the country. The latter is based on civil deliveries to decentralised handloom/powerloom sector. If the quantity consumed is found to be less than what is reportedly available, then presumably, the amount of difference is the quantity of hank yarn used in the powerloom sector. However, if the estimate of consumption happens to be more than the quantity available, it suggests errors in the reporting data or statistical estimation or both.

2.2 Data Sources

2.2.1   The following data sources have been used in the estimation. For convenience of reference, they are numbered as shown below.

S.1. Consumer Purchases of Textiles, Vol.1, Market Research Wing, Textile Committee, Ministry of Textiles, Bombay.

S.2. Consumer Purchases of Textiles, Vol.2, Market Research Wing, Textile Committee, Ministry of Textiles, Bombay.

S.3. Handbook of Cotton Textile Industry, Indian Cotton Mills Federation (ICMF), Bombay.

S.4. Handbook of Statistics, Apparel Export Promotion Council, New Delhi.

S.5. Handbook of Statistics, Cotton Textiles Export Promotion Council (TEXPROCIL), Bombay.

S.6. Handbook of Export Statistics, Handloom Export Promotion Council (HEPC), Madras.

S.7. Powerloom Census from various State Directorates.

S.8. Annual Report of the Ministry of Textiles, Bombay.

S.9. Field survey information and primary data.

S.10. AIFCOSPIN, Annual (various years), All-India Federation of Cooperative Spinning Mills (AIFCOSPIN), Bombay.

2.3 Assumptions

2.3.1   The following are the main assumptions used in deriving macro estimates of hank yarn diversion.

A.1   It is assumed that 1 kg of hank yarn yields approximately 14 meters of handloom cloth as suggested by South India Textile Research Association (SITRA), Coimbatore.

An alternative range of estimates is also derived under the assumption that 1 kg. of yarn yields 10 meters of cloth approximately[8].

A.2   The ratio of stock-to-production (k) is assumed to be less for the decentralised sector than for the large scale mill sector. The data on stocks and production of cloth are available only for the organised mill sector but not for the decentralised powerloom sector. Thus we estimate k for the organised sector and use a value for the decentralised sector, which is less than what is estimated for the mill sector. We also assume that, in equilibrium, stock changes are in direct proportion to consumption changes including exports.

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8.   This ratio is used in the official production statistics of handloom cloth as reported by the Office of the Development Commissioner of Handlooms (DCH), Ministry of Textiles.

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A.3   The aggregate consumption data on cotton cloth are not available by varieties of cloth and by the sector of manufacturing (viz., handloom, powerloom, etc.,). However, the corresponding break-down is available in per capita terms. We therefore assume that the share of consumption of cloth of each sector in the total of all sectors in per capita terms is the same as the respective sectoral share of consumption of cloth in its aggregate terms[9]. We will use the per capita share of powerloom sector in order to obtain the aggregate consumption of selected varieties of cotton cloth manufactured in the same sector for the total population in the country.

A.4.   Based on our field interviews with the handloom and powerloom associations and relevant export promotion councils, it is understood that a large portion of handloom fabrics exported from India are actually produced on powerlooms utilising hank yarn. Our investigation suggests that this proportion is about 75 per cent of the total handloom exports (in linear metres).

2.4 Macro Estimates of Diversion Under Different Variants

2.4.1 Variant - I: In this variant, an attempt is made to derive the quantity of hank yarn used by powerloom units in production of selected items viz., check pattern shirting, lungis, towels, bedsheets, napkins etc. To do this, we begin with the

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9.   That is, for example, for the handloom sector,
      Per capita consumption of handloom cotton cloth +
      (Per capita consumption of cotton cloth in all the sectors
      of manufacturing)
      = (Aggregate consumption of handloom cloth) + (Aggregate consumption of
      cotton cloth in all the sectors of manufacturing)

consumption data of these items. Various steps involved in our methodology to derive production are suggested by the following relation:

Production =   Consumption - Imports + Exports + Stock changes
                                                    (closing - opening)

2.4.2 Aggregate consumption of selected powerloom items in 1987 and 1988: At data source S.2 (para 1.4), we have the consumption of cotton cloth for various items produced in the powerloom sector for 1988 and 1987 in per capita terms as shown in Tables 2.1 and 2.2, but not in aggregate terms for the country as a whole, which is needed for the purpose of deriving production estimates of powerloom cloth. Unfortunately, we cannot even derive from these data the aggregate consumption of different items of powerloom cotton cloth since (i) the samples are not of the overall population of the country. (ii) the report does not give the sampling fractions disaggregated by items. However, using assumption A.3 above, we will derive the aggregate consumption of the selected powerloom textile items. That is, assuming the sectoral shares of per capita consumption to be the same at the aggregate level, we consider what is called the PL-ratio, given by the per capita consumption of cotton cloth produced in the powerloom sector to the per capita consumption of cotton cloth produced in all sectors. We apply the PL-ratio to the aggregate consumption of cotton cloth in the country. The aggregate consumption of cotton cloth relating to all sectors is shown in Table 2.3 for 1987 and 1988. Table 2.4 gives similar details only for powerloom cotton cloth, as derived by the application of the PL-ratio to the total consumption of cotton textiles. From Table 2.4, it is easy to see that the aggregate consumption of selected powerloom items of cotton cloth in 1988 was as much as 29.47 million metres for lungis, 810.7 million metres for sarees, 93.4 million metres for towels, 107.2 million

Table 2.1

Per capita Cotton Textile Consumption by Sector of Manufacturing, 1988

Item	Per Capita Consumption					Sectoral Ratios				
	Handloom	Powerloom	Mill made	Khadi	Total	Handloom	Powerloom	Mill made	Khadi	Total
1. Lungi										
Urban	0.09	0.02	0.03	0	0.14	0.6429	0.1429	0.2143	0.0000	1.0000
Rural	0.13	0.03	0.02	0	0.18	0.7222	0.1667	0.1111	0.0000	1.0000
2. Sarees (5 mtrs)										
Urban	0.19	0.11	0.21	0	0.51	0.3725	0.2157	0.4118	NA	1.0000
Rural	0.39	0.18	0.04	0	0.61	0.6393	0.2951	0.0656	NA	1.0000
3. Chaddar/bed-sheet/bedcover										
Urban	0.11	0.07	0.05	0	0.23	0.4783	0.3043	0.2174	0.0000	1.0000
Rural	0.11	0.07	0.02	0	0.18	0.6111	0.2778	0.1111	0.0000	1.0000
4. Towels/ Turkish towels										
Urban	0.12	0.04	0.06	0	0.22	0.5455	0.1818	0.2727	0.0000	1.0000
Rural	0.10	0.04	0.02	0	0.16	0.6250	0.2500	0.1250	0.0000	1.0000
5. Others*										
Urban	0.094	0.100	0.124	0	0.318	0.2956	0.3145	0.3899	0.3899	1.0000
Rural	0.048	0.068	0.014	0	0.118	0.3051	0.5763	0.5763	0.1186	1.0000

Note: * The per capita consumption of some of these items, reported in terms of pieces in 'Consumer Purchases of Textiles' was converted into linear metres by assuming the standard per piece length viz., one Turban needs 2 metres of cloth, 1 pillow case 80 cms cloth and 1 napkin 0.4 mtrs. The underlying calculations are shown in Table A.1.3.

Source: Consumer Purchases of Textiles, 1988, Vol. II, Market Research Wing of Textile Committee, Ministry of Textiles, Bombay.

Table 2.2

Per capita Cotton Textile Consumption by Sector of Manufacturing, 1987

Item	Per Capita Consumption					Sectoral Ratios				
	Handloom	Powerloom	Mill made	Khadi	Total	Handloom	Powerloom	Mill made	Khadi	Total
1. Lungi										
Urban	0.09	0.02	0.03	0	0.14	0.6429	0.1429	0.2143	0	1.0000
Rural	0.18	0.04	0.02	0	0.24	0.7500	0.1667	0.08?3	0	1.0000
2. Sarees (5 mtrs)										
Urban	0.23	0.13	0.32	0	0.68	0.3382	0.1912	0.4706	0	1.0000
Rural	0.27	0.19	0.09	0	0.55	0.4909	0.3455	0.1636	0	1.0000
3. Chadder/bed-sheet/bedcover										
Urban	0.13	0.04	0.09	0	0.26	0.5000	0.1538	0.3462	0	1.0000
Rural	0.10	0.04	0.03	0	0.17	0.5882	0.2353	0.1765	0	1.0000
4. Towels/ Turkish towels										
Urban	0.02	0.01	0.01	0	0.04	0.5000	0.2500	0.2500	0	1.0000
Rural	0.13	0.04	0.03	0	0.20	0.6500	0.2000	0.1500	0	1.0000
5. Others										
Urban	0.20	0.15	0.34	0	0.69	0.2882	0.2190	0.4928	0	1.0000
Rural	0.08	0.11	0.05	0	0.25	0.3306	0.4516	0.2177	0	1.0000

Source: Same as for the previous table.

Table 2.3

**Aggregate Consumption of Selected Cotton Textile Items
for Urban & Rural India, 1987 and 1988**

	Aggregate Consumption					
	1988			1987		
	Million pieces	Per piece length in metres	Quantity in million metres	Million pieces	Per piece length in metres	Quantity in metres
1. Cotton lungis	137	1.75	339.75	167	1.75	292.25
Urban	(20.48%)		49.10	(16.65%)		48.65
Rural	(79.52%)	-	190.65	(83.35%)		243.59
2. Sarees						
All textiles			3871.00			3801.00
of which cotton (59.49%)			2302.86	(61.15%)		2376.75
Urban (16.65%)		-	383.43	(30.10%)		700.35
Rural (83.35%)			1919.43	(69.9%)		1626.40
3. Chaddar/bedsheet/ bedcover - All textiles			406.00			395.00
of which cotton (92.3%)			374.74	(92.41%)		365.00
Urban (31.23%)			117.03	(38.25%)		128.77
Rural (68.77%)			257.71	(64.72%)		236.23
4. Towels/turkish towels All cotton			206.00	(28.13%)		71.73
Urban			66.00	(71.87%)		183.27
Rural			140.00			
5. Others* All textiles			1018.00			998.00
Urban	(24.85%)		253.00	(32.18%)		321.16
Rural	(75.15%)		765.00	(67.82%)		676.84
of which cotton			637.38	(65.75%)		656.68
Urban	(50.3%)		127.26	(27.36%)	(55.89%)	179.49
Rural	(66.68%)		510.12	(72.64%)	(70.43%)	476.69

Note: *Urban, rural figures of 'others' were taken in the same ratio as the
respective figures of other cotton items in aggregate textiles (the proportion
of other cotton textile items in all textile items was 50.3% for urban and
66.68% for rural India).

Source: Government of India, Consumer Purchases of Textiles, 1988, Vol. II, Market
Research Wing, Textile Committee, Ministry of Textiles, Bombay.

Table 2.4

**Quantity of Powerloom Cloth of Selected Items Consumed
In India, in which Hank Yarn is Used**

Item	1988	1987
1. Lungis	29.47	47.56
2. Sarees	810.67	695.83
3. Chaddar/bedsheets	107.20	75.39
4. Towels/turkish towels	93.37	54.59
5. Others	334.71	254.58
Total of above	1374.71	1127.95

Note: Includes turban, pillow cases, napkins and other furnishing
       material.

Source: As explained in the text.

metres for chaddar/bedsoeets and 334.7 million metres for others including turbans, napkins, pillow cases, furnishing fabrics etc. Thus, the total consumption of all these items was about 1375 million metres in 1988. The aggregate consumption of almost all these items was less in 1987 (in the case of lungis, the consumption was higher in 1987 at 48 million metres). For all of them together, the total consumption was calculated to be 1128 million metres approximately.

2.4.3   Exports of selected powerloom items: In the next step, the total quantum of exports of selected powerloom items is derived. To work out the total exports of the aforesaid selected powerloom items, we use information relating to exports of cotton fabrics, made-ups and piece goods from the data source S.5 (as given in para 1.4). Summing up the quantity of exports of the selected varieties of cotton textiles, we have arrived at the total quantity of exports of the varieties of cotton cloth in which hank yarn is largely used. The details of these export categories are shown in Table 2.5 for 1987 and 1988. The sum of exports of selected powerloom items was estimated to be 133.5 million metres for 1987 and 126.7 million metres for 1988.

Table 2.5

Destination-wise Exports of Cotton Textile Items from India Produced Largely on Powerlooms by Using Hank Yarn

Item	1988	1987
U.S.A		
1. Yarn dyed fabrics	7.691 sq. yards	6.409
2. Other made-up items	67.447 "	97.701
	75.138 "	104.110
	or 62.21 million metres	or 86.21 million metres

(1 sq. yard = 0.8281 sq. mtrs. where
cloth width = 1 metre approximately)

Item		(in tonnes)
E.E.C		
1. Bed linen	5850	3786
2. Table, toilet/kitchen linen	407	292
Norway		
1. Bedlinen	286°	322
Sweden		
1. Bedlinen	738	805
2. Table cloth	11	100
3. Bed spread etc.	1	100
Austria		
1. Bed linen	98	155
2. Toilet/Kitchen linen	4	3
Finland		
1. Bed linen	195.5	N.A.
	7,590.5	5563

or 64.52 million metres or 47.29 million metres

(1 tonne = 8,500 metres. of cloth approximately)

Total exports of powerloom cloth

wherein hank yarn is used = 126.74 million metres   133.50 million metres

Source: Based on data reported in Handbook of Statistics, (TEXPROCIL), Bombay.

2.4.4   One important point to note here is that various types of cotton fabrics produced on powerlooms were exported in the name of handloom fabrics by certain exporters in order to take advantage of the preferential treatment given to handloom fabrics by USA and some other industrial countries in their bilateral agreements with India within the framework of multi fibre arrangement (MFA).   It is important to recognise that such exports made by unfair means may bring foreign exchange to the country in the short term.   But, in the long term, such malpractices may damage the image of our handloom fabrics abroad. Although we could not assess the exact proportion of such powerloom exports in which hank yarn is used, our field experience with Powerlooms Associations in Coimbatore and Handloom Export Promotion Council at Madras and New Delhi revealed that about 75% of our total handloom exports may have actually been woven on powerlooms using hank yarn (vide our assumption A.4). The exports relating to such handloom fabrics, made-ups and piece goods are also expressed in linear metres as shown in Table 2.6 on the basis of the information given in the data source S.6 (para 1.4). The total handloom exports was worked out to be about 50 million metres in 1988-89 and 51.1 million metres in 1987-88. Thus the total quantity of powerloom items in which hank yarn was used and exported as handloom goods works out to 37.6 million metres for 1988-89 and 38.3 million metres for 1987-88[10].

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10.   Unfortunately, we do not have corresponding data for the calendar years viz., 1987 and 1988. This results in some error in adding up with data on consumption and other exports of powerloom items, which are available only for the calendar years.

Table 2.6

**Exports of Handloom Fabrics from India
During 1988-89 and 1987-88.**

Item	Quantity ('000 sq. mtrs.)	
	1988-89	1987-88
1. Floorcovering	23889	26450
2. Bedcovers/bedspreads	5573	6080
3. Pillow covers/table cloth	7134	6150
4. Towels/napkins	13370	12390
Total	49966	51070

Sources: Daily list of exports from Bombay, Calcutta, Cochin and
Calcutta as obtained from (a) The Cotton Textile Export
Promotion Council, Bombay, (b) The Apparel Export
Promotion Council, New Delhi as quoted in "Hand book of
Export Statistics, 1988-89, Handloom Export Promotion
Council, Madras.

2.4.5   In the final step of the first method, we estimate changes in stocks of selected items of cotton cloth. For this, we consider a stock-to-production ratio (k) which is assumed to be less for the decentralised sector than the large scale mill sector. We have the statistical data on stocks and production of the organised mill sector, but not those relating to the powerloom sector (see assumption A.2 para 1.4). Thus, we first estimate a stock-to-production ratio (k) for the organised mill sector using relevant monthly data for the period 1987 to 1989 from source S.3 as shown in the regression equation given below.

$$S = a + k Q$$

Where S   = stock of cotton cloth with the mills at the end
              of each month in million metres

Q   = monthly production of cotton cloth in million
              metres

$$k = \frac{\Delta S}{\Delta Q}$$

2.4.6   The estimated value of k was found to be 1.05 for the organised mill sector and is statistically significant at 5% level. The value of Durbin-Watson Statistic, being 0.8, suggests the presence of auto-correlation in the error term. We, therefore, consider the coefficient adjusted for auto-correlation which is 1.05 as per details of regression results shown below.

$$S = -53.8 + 1.293Q_i \quad R^2 = 0.84, \quad F(1,34) = 180.9 - (1)$$
$$\quad\;\; (-2.3)^* \;\; (13.4)^* \qquad\qquad D.W. \qquad\qquad = 0.8$$

$$S = 4.6 + 1.05Q_i \quad R^2 = 0.90, \quad F(2,34) = 139.3 - (2)$$
$$\quad\;\; (-0.8) \;\; (4.5)^* \qquad\qquad D.W. \qquad\qquad = 1.88$$

Note: "*" mark indicates that coefficient is significant at 5
       percent level.

2.4.7   Let Q_t and C_t denote production and consumption including exports of cotton cloth at time `t'. We hypothesize that production and stocks are related by the equation

$$S_t - S_{t-1} = k(Q_t - Q_{t-1})$$

We also assume that in the equilibrium , production changes are in proportion to changes in consumption demand.

i.e. $S_t - S_{t-1}$ = $k(Q_t-Q_{t-1})$ = $k(C_t-C_{t-1})$

or Q_t = $C_t + (S_t - S_{t-1})$
       = $C_t + k(C_t - C_{t-1})$
       Q_t = $C_t + k(C_t - C_{t-1})$

2.4.8   For the organised mill sector, k, as estimated above, is 1.05. For the decentralised powerloom sector k is assumed to be equal to 1. Thus, given the values of C_t , C_{t-1} and k for the handloom/powerloom sector, one can derive Q_t from the above equation. The details of this exercise are shown in Table 2.7 for selected items of powerloom cotton cloth in which hank yarn is used in 1987 and 1988[11]. Thus the quantity of hank yarn used by the powerloom sector seems to be of the order of 178 million kg. or about 53 per cent of the hank yarn availability (338 million kgs.) in 1988, under the assumption that 10 metres of cloth, produced from 1 kgs. of yarn. As against this, the estimate of diversion works out to be less at 127 million kg. only, if we assume a yield of 14 metres of cloth per 1 kg of yarn.

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11.   It may be noted that 1988 is the latest year for which consumption data are available from source S.1.

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Table 2.7

Macro Estimate of Hank Yarn Consumption by Powerloom Sector 1988-89: Variant - I

	1987-88	1988-89
1. Total consumption of cotton cloth of such items* produced on powerlooms using hank yarn in 1988	1127.95	1216.9 Mil. mtrs.
2. Exports of aforesaid powerloom items	133.50	126.74 Mil. mtrs.
3. Exports of such powerloom items but branded as handloom items during 1988-89	38.30	37.5 Mil. mtrs.
Sum of above, say C'_t	1299.75	1531.95 Mil. mtrs.

4. Changes in stocks (opening - closing), [assumed to be equal to changes in consumption including exports. $(k(C'_t - C'_{t-1})$, where $k = 1$ and $C'_t - C'_{t-1} = 241.03$ = 241.03   Mil. mtrs.

5. Production estimate for 1988-89 Q_t = 1531.95 + 241.03

    Q_t = 1780 mil. mtrs.

6. Quantity of hank yarn used in production of aforesaid powerloom items in 1988 under assumption that

    a) 1 kg. of yarn yields 10 mtrs. of cloth = 178 million kgs.

    b) 1 kg. of yarn yields 14 mtrs. of cloth = 127 million kgs.

7. Total availability of hank yarn, as reported against mill deliveries to decentralised sector during 1988   = 338 million kgs.

8. Hank yarn consumption by powerloom sector as percentage of total availability in 1988 under assumption
    a) 10 mtrs. of cloth/kg. yarn   = 52.7%
    b) 14 mtrs. of cloth/kg. yarn   = 37.6%

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* The selected powerloom items in which hank yarn is widely used are : yarn dyed check pattern shirting, lungis, sarees, chaddar/bedsheets, napkins, towels etc.,

2.4.9 **Variant II**: Under the second variant, an estimate of hank yarn consumption is obtained for the powerloom sector at the national level by first deriving the quantity of hank yarn consumption in the handloom sector, starting from the consumption of handloom cloth. As mentioned earlier, in this variant also we will make use of the same methodology as adopted in the first variant, wherein we have considered consumption of some specified powerloom items and arrived at production estimates after adjusting for exports and stocks of these items. To recapitulate briefly, we begin with the aggregate consumption of handloom cotton cloth (of all items), add to it (a) exports and (b) changes in stocks of handloom cotton cloth and then obtain an estimate of its production for 1987 and 1988. We then use the cloth-to-yarn conversion ratio as before and deduce the likely quantity of hank yarn consumed in the handloom sector in the country during 1988. The yarn consumption estimate thus derived is compared with the quantity available in the country, as are reported by the mill deliveries of hank yarn to the decentralised sector in 1988. The excess of availability over consumption by the handloom sector gives the quantity of hank yarn consumed by the powerloom sector.

2.4.10 The details of estimation are shown in Table 2.8. The aggregate consumption of cotton handloom cloth in the country was placed at 2425 and 2543 million metres during 1987 and 1988 respectively. The total quantity of handloom exports of cotton cloth for these two years was 87.8 and 84.3 million metres respectively. The total export volume of handloom `made-up' items (viz., towels, chaddar/bedsheets, napkins, pillow cases etc.) was around 50 million metres during 1987-88 and 51.1 million metres in 1988-89. Out of this, about 75 per cent were reported to be actually woven on powerlooms with the use of hank yarn (see our assumption A.4, para 1.4) but exported under the guise of handlooms by some unscrupulous powerloom units.

Table 2.8

Macro Estimate of Hank Yarn Diversion 1988-89: Variant - II

Item	1987-88	1988-89	
1. Aggregate consumption of handloom cotton cloth	2425	2543	millon metres
2. Exports of handloom cotton cloth a) made-ups	12.77	12.49	"
b) piece-goods (including fabrics)	73.92	70.81	"
c) garments*	1.15	1.00	"
Sub-total (a+b+c)	87.84	84.30	"
3. Stock changes of cotton cloth (closing - opening)		15.46	"
4. Production of handloom cloth (sum of 1,2&3 above)		2642.76	"
5. Quantity of hank yarn consumed in in 1988-89 a) when the conversion ratio is 10 mtrs. of cloth per 1 kg. of yarn		264.3	million kgs.
b) when the conversion ratio of 14 mtrs. of cloth per 1 kg of yarn		188.8	"
7. Quantity of hank yarn available in the country in 1988-89		338	"
8. Quantity of hank yarn diverted under the assumption:	a)	73.7	"
	b)	149.2	"
9. Diversion of hank yarn as percentage of availability in the country under the assumption: a) 10 metres of cloth/1kg. of yarn		21.8%	
b) 14 metres of cloth/1kg.of yarn		44.1%	
Range of diversion estimates (%)		21 - 45	

Note: * Handloom exports of 'made-up' items and piece-goods relate to fiscal years 1987-88 and 1988-89, while garment exports relate to calendar years 1987 and 1988. Not all handlooms made-up items and garments are actually woven on handlooms. According to our interviews with Powerloom Associations, it was gathered that about 75 per cent of 'handloom made-ups and garments have been actually woven on powerlooms. Thus we have considered only 25 per cent of total 'handloom made-ups' i.e. 25% of 51.1 = 12.77 million metres for 1987-88 and 25% of 50 = 12.5 million metres for 1988-89 against exports of handloom made-ups, while we have placed the balance 75% of handlooms i.e. 38.3 million metres for 1987-88, and 37.6 million metres for 1988-89 against exports of powerloom made-up items in the above calculation.

Source: For item (1), The Government of India, Ministry of Textiles, Market Research Wing, Consumer Purchases of Textiles, 1988, Vol.I, p.37.

Thus, we have considered only the balance of 25 per cent of the 'above exports' (of 51.1 million metres for 1987-88 and 50 million metres for 1988-89) towards exports of handloom made-up items. Similarly, with regard to exports of readymade handloom garments, we have included only 25 per cent of the total (i.e.,4.3 million metres for 1987 and 4 million metres for 1988) in our estimate of handloom garments[12].

2.4.11   Stock changes of cotton handloom cloth in the country (closing - opening) were estimated on the same lines as under Variant - I.   That is, these are assumed to be approximately proportional to the change in the sum of the total quantity of consumption and exports in 1988 over 1987, which works out to 15.46 million metres.

2.4.12   As shown in Table 2.8, the total production of handloom cotton cloth in the country in 1988 was estimated to be of the order of 2643 million metres. Under the assumption that 1 kg. of hank yarn yields 10 metres of handloom cloth, the quantity of hank yarn consumption in the country was estimated at 264.3 million kgs. in 1988, But, the quantity of hank yarn available to the decentralised sector as reported by civil deliveries of mills in 1988 was 338 million kgs.   Thus, the estimate of diversion works out to 73.7 million kgs. or about 22 per cent of the availability.   Alternatively, if we use the revised conversion ratio of cloth-to-yarn, i.e. 14 metres of cloth per 1 kg. of yarn, the quantity of hank yarn consumed by the handloom sector works out to 189 million kgs. Thus, the amount of hank yarn

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12.   The data relating to exports of ready-made garments are given in terms of pieces in the data source S.4. The quantity of certain export items, expressed originally in pieces have been converted into linear metres by using relevant conversion factors for individual garments.   The conversion from pieces to linear metres was done for all countries to which India exported during 1987 to 1989. The corresponding quantity of exports expressed in million metres is shown in Table 2.9.

diverted to powerloom sector in 1988 was as much as 149.2 million kgs., which is about 44 per cent of the total availability in the country.

2.5 Comparison of Diversion Estimates under the Two Variants

2.5.1   It may be recalled that, under the assumption (a) i.e., 10 metres of cloth production per kg. of yarn, the diversion estimate was 52 percent in Variant - I, but only 23 per cent in Variant-II.   In contrast, under the assumption of 14 metres of cloth production per 1 kg. of yarn, the diversion estimate was 37.1 per cent in Variant-I and 45 per cent in Variant-II.   It should be emphasised that, given the conversion ratio, the estimate of yarn diversion derived under these two alternative methods moves in the opposite directions. Thus if, for example, assumption (a) is on the lower side, then Variant-I gives an upward bias in the diversion estimate because, under this Variant, the quantity of yarn that remains after meeting the consumption demand of the handloom sector is supposed to be consumed by the powerloom sector. On the other hand, under the same assumption (a) Variant II causes a downward bias to the diversion estimate, because, in this Variant, the quantity of hank yarn used by powerloom units is directly reflected by the extent of production of selected powerloom items in that sector. Thus the error of estimation tends to be set off by the degree of error in our assumptions and therefore we get a wide range of estimates of diversion under these two Variants.   Taking into account the above variants simultaneously, the estimated ranges of hank yarn consumption by the powerloom sector are shown below as a percentage of the total availability of hank yarn in the country.

Under the two assumptions these are:

a) 21% to 53% (Assumption: 10 metres of cloth per 1 kg. of yarn)

b) 37% to 45% (Assumption: 14 metres of cloth per 1 kg. of yarn)

2.6 Micro Level Estimates

2.6.1   In this Section, we present micro level estimates of hank yarn diversion based on our field survey. In the course of the study, our team visited a number of handloom and powerloom concentrations in the country. It has been observed that hank yarn is diverted to the powerloom sector in these concentrations in the for productionof mostly colour cloth, using dyed yarn. It is also seen that diversion is caused largely by unauthorised powerloom units. In some locations even registered powerloom units were found to be using hank yarn. The details of hank yarn diversion are given State-wise in the present Section. Before that, we give the methodology used for deriving micro estimates.

2.6.2   In deriving micro level estimates, we have made use of the following field level information,

    a. Loomage capacity in the location visited (L).
    b. Average consumption of hank yarn per loom per day (C).
    c. Effective man days worked by powerloom units per year (N).
    d. Average rate of capacity utilisation as a per cent of installed capacity (U).

Given the data on the above mentioned variables, the quantity of hank yarn used by powerloom units located in different geographical concentration can be easily derived from the relation:

$$\text{Quantity of yarn consumed} = \frac{L \cdot C \cdot N \cdot U}{100}$$

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The information on L is taken from two different sources, namely, (a) Powerloom Census (S.7) which reports both authorised and unauthorised looms, but does not report the number of powerlooms which use hank yarn on an average, and (b) our field visits to local Powerloom Associations. From (b), we have got the number of unauthorised looms as well as the average proportion of looms using hank yarn. Moreover, the official Powerloom Census is found to suffer from under-reporting about the number of unauthorised looms in use. The yarn consumption estimates are derived using the two sources of information, viz., (a) official Powerloom Census and (b) our Field Survey as shown in Table 2.9.

2.6.3   The hank yarn consumption by powerloom units was estimated for selected powerloom concentrations in seven different States, as shown in Table 2.9. The estimates were obtained on the basis of loomage information collected from (i) official powerloom census of the respective States, as well as (ii) our field survey and interviews with the local Powerloom Associations. There is a substantial growth of unauthorised powerlooms in these States which were left out in the official the Powerloom Census. Thus, the estimates of hank yarn consumption by powerloom units are generally on the lower side as per the Powerloom Census as compared to those obtained on the basis of loomage reported by Powerloom Associations[13]. According to the field survey, the major States, where hank yarn was being

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13.   We do not have any specific reason to doubt the accuracy of the figures relating to unauthorised looms as reported by the Powerloom Associations. It was actually seen during the survey that most unauthorised units were found using hank yarn on powerlooms.

Table 2.9

Hank Yarn Consumption by Powerloom Units in Selected States:
Micro level Estimates, 1989-90

State	Location	Quantity of Hank yarn used by Powerloom Sector in 1989-90 (million kgs.)		Total hank yarn availability during 1989-90 (million kgs.)	Diversion as of % of availability during 1989-90	
		Powerloom Census	Field survey		Powerloom Census	Field survey
Andhra Pradesh	Nagari	5.9		54.2	11.0	
Karnataka	Bijapur		4.6 to 5.2	10.5		43.8 to 49.5
Maharashtra	Malegaon and Nagpur circle	8.6		15.0	57.5	
Orissa	As a whole	1.3		10.8	12.0	
Tamil Nadu	Erode & Salem	7.5 to 8.6	20 to 23	66.6	11.4 to 12.8	30.9 to 34.8
Uttar Pradesh	Jalalpur, Meerut and Etawah	6.6 to 8.5	12.4 to 16.1	52.2	12.6 to 16.3	23.8 to 30.8
West Bengal	Ranaghat, Hooghly and Howrah	Neg.		26.3	Neg.	

Note: Hank yarn availability for different States is reported in"Facts and Figures", SIMA, Coimbatore during 1990. SIMA presents hank yarn deliveries at different concentrations in the States. For Tamil Nadu, we have taken hank yarn deliveries by SIMA and added to it the hank yarn supplies by Co-operative Spinning Mills for the year 1989-90, to arrive at the total hank yarn availability in Tamil Nadu.

diverted by powerloom units are Tamil Nadu, Uttar Pradesh and Karnataka. The estimated ranges of diversion are given as a proportion of hank yarn availability in the respective States. The estimates vary between 43.8 and 49.5 percent for Bijapur district of Karnataka; between 30.9 and 34.8 per cent for Erode and Salem districts of Tamil Nadu; and between 23.8 and 30.8 per cent for Jalalpur, Meerut and Etawah districts of Uttar Pradesh. For Tamil Nadu and Uttar Pradesh, the diversion estimates were also obtained according to the Powerloom Census data. The estimated ranges are: between 11.4 and 12.8 per cent for Tamil Nadu and between 12.6 and 16.3 per cent for Uttar Pradesh. As mentioned earlier, these are much lower as compared to the respective estimates derived on the basis of Field Survey.

2.6.4   For States, namely Andhra Pradesh, Maharashtra and Orissa, we have not been able to collect reliable information about the number of unauthorised powerlooms from the local associations. For these States, the estimates of diversion have been derived on the basis of loomage reported in their official Powerloom Census only, notwithstanding its under-coverage of unauthorised powerlooms. Yet, it is noteworthy that for Malegaon and Nagpur circles of Maharashtra, the estimate of diversion is as high as 57.5 per cent. For Nagari of Chittoor district in Andhra Pradesh and Orissa as a whole, the diversion estimates for 1989-90 were around 11 and 12 per cent respectively.

2.7 Diversion Factors

2.7.1   From field surveys, the study team identified five main reasons for the diversion of hank yarn. These are: i) easy-to-dye feature of hank yarn coupled with non-availability of dyed cotton cone yarn, ii) ineffective handloom reservation policies of the government, iii) low cost of conversion of hank

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yarn into pirns and bobbins iv) higher duty and price differentials between hank and cone yarn and finally, (v) loopholes in excise concessions. These features are discussed below.

2.7.2 Easy-to-dye feature:

Colour yarn is not available in cone form for producing colour cloth on powerlooms. Usually, grey cloth is first produced by powerloom units and then sent out for processing and dyeing to independent process houses, etc. In the case of handloom units, however, hank yarn is first dyed and then woven into cloth. Naturally, it is the easy-to-dye feature of hank yarn which creates demand from powerlooms.

2.7.3 Ineffective handloom reservation policy:

The government's reservation policy for the handloom sector aims at preventing the use of hank yarn by powerloom units as well as it prohibits the production of certain types of cloth in the powerloom sector. Under the Handloom Act, 1985, a total of 22 items had been reserved for exclusive production in the handloom sector. But this legislation was rendered ineffective with the powerlooms and mills moving the courts and securing the stay of operation of the government order on the subject. In a recent policy recommendation made by a high level committee, the government has decided to reserve only 11 instead of 22 items for exclusive production by the handloom sector. These include sarees, dhotis, lungis etc. It is proposed to bring these 11 items under the 9th Schedule to the Constitution. So far, these reservations have not been challenged in a court. The necessary bill is however, still to be taken up for consideration by the Parliament for constitutional amendment. Whether or not such an amendment reduces the competition from powerlooms in the production of reserved items is open to doubt, since technically, production of colour cloth is still permissible in the decentralised powerloom sector. As will be pointed out in some detail later, in several

areas surveyed by the study team, it was found that, drawing upon hank yarn seems to be the only convenient way for powerloom units to produce colour cloth because it is economical to dye hank yarn and then weave. In the absence of proper coloring and processing facilities in the vicinity of powerloom centres, it does not seem economical to produce grey cloth first, and then get it dyed and processed. Even if certain items like colour dhotis or sarees are reserved for exclusive production in the handloom sector by constitutional amendments, it is a moot question, whether hank yarn could be prevented from diversion to powerlooms, for, the underlying administrative cost of enforcement by means of physical controls in the decentralised powerloom sector turns out to be prohibitive.

2.7.4 **Low Cost of Conversion**: Besides the technical reasons mentioned above, there is a strong economic reason for the use of hank yarn by powerlooms. This arises mainly because of the low cost of conversion, given the excise concessions. We will elaborate on our field experiences in this regard as follows.

2.7.5   During the course of our survey in Karnataka, the study team found that hank yarn was purchased by some bogus handloom co-operative societies at a concessional rate and diverted to powerlooms directly. As will be seen from the price analysis presented in a subsequent section in this report, hank yarn works out to be cheaper than cone yarn, particularly for finer counts, 40s, 60s and 80s even without duty incidence. The cost advantage increases, if hank yarn is purchased through fictitious means and excise duty is evaded, as indeed was found to be taking place in Bijapur and Belgaum districts during our field visits. It seems that it is more profitable to use hank yarn rather than cone yarn in the production of colour cloth because of the price differential.

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2.7.6 Components of Conversion Cost

2.7.6.1 Wage cost: In Erode, Tamil Nadu, a number of powerloom units were found using winding machines of different capacities viz., 6, 12, 18 bobbins per machine to reel hank yarn into bobbins and pirns. Powerlooms generally require bobbins for the preparation of warp beams, pirns in wefting operations and fly shuttle, etc. The cost of winding machine depends upon the bobbin capacity. Usually small sized powerloom units require winding machines of 6 to 18 bobbin capacity. On an average, one worker (child or adult) is required per one winding machine of 6

bobbin capacity, two or three workers for a 18-bobbin winding machine. Their main job is to see that there is no breakage of yarn while reeling yarn on the machine to create bobbins. As and when there is a breakage, he should join the broken ends smoothly and manually. The average weekly wage per worker was found to be in the range of Rs.35 to 40 on a 6-bobbin capacity machine. As for reeling capacity, on a 12 hour shift per day, about 6.7 kg. of hank yarn can be reeled into bobbins. Thus the labour cost of reeling one kg. of hank yarn into bobbins is worked out as follows:

> Daily wage rate for winding   = Rs. 5/-
> 6.7 kg. of yarn into bobbins
> Wage cost for reeling of one kg. of yarn = Rs.0.75 paise

2.7.6.2 Machine Cost: The cost of conversion of hank yarn is also low and seems to be between Rs.4 and 5 per kg., as discovered during our field survey in Nagpur. It is thus not surprising that conversion has been taking place on a large scale in Maharashtra. The following are some relevant price and productivity details of winding machines used for converting hank yarn into pirns and bobbins. This information was collected from

Table 2.10

Prices of Hank-to-Spool Winding Machines

(Rs. per machine)

Conversion of Yarn from Hank to Bobbin/Pirn	Machine Size		
	5 Bobbins	6 Bobbins	10 Bobbins
1990	3,300	3,700	5,800
1988	2,800	3,300	---
1984	2,200	2,600	---

Add cost of motor

1/4 HP	600 - 1,600
1/2 HP	800 - 2,000

Source: Field Survey in Nagpur.

a machine manufacturer in Nagpur during the course of the survey conducted by the study team in October, 1990. It appears that winding machines which operate on electricity are manufactured in several States and are available in different sizes, ranging from a capacity of 5 to 10 bobbins or 5 to 10 pirns per machine, which is used for the purpose of warping before weaving. Similarly, yarn is reeled into a bobbin which is fixed in a shuttle for wefting. The machine operates with the help of a motor of 1/4 HP or with a higher horse power. The sale prices of winding machines and motors as quoted by the manufacturer are given in Table 2.10[14]

2.7.6.3 <u>Capital Cost</u>: The capital cost of the winding machine with a 6 bobbin capacity is in the range of Rs.1200 - 1500/- and its average life is about 10 years. It can be operated with a 0.5 HP motor. Thus the operating cost of machine for one kilogram of hank yarn is quite small which may be put at Rs. 0.25 per kg. of yarn. So the cost of conversion including wage cost and operating cost works out to be about Rs.1/- per kg. Hence it seems that a price difference to the extent of Rs.1/- makes the conversion of hank yarn viable in and around Erode and Salem

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14. During an interview with the manufacturer the study team gathered that such machines were sold by him in different powerloom concentrations, namely, Kamptee in Nagpur district of Maharashtra; in villages namely, Ghosi, Khopa, Khairabad and Mohamedabad and Mounath Bhanjan in Azamgarh district of U.P; Sanganer in the district of Jaipur; Raipur, Raigarh, Shakti and Chapa, all villages in M.P; Padigaon and Chandrapur, located on the border of Orissa and M.P. and Sariapalli in Orissa. The manufacturer was found to be in business for a long time. While he has had no formal education from any engineering college, his own experience in the field of designing had helped his business prosper. When the survey group visited his premises, he showed new models of framelooms with jacquard designs which, he claimed, would increase the productivity and efficiency of weavers. Our visit to his place rendered useful in examining the use of hank yarn on powerlooms in a great detail.

areas. Thus, it is not surprising to find that hank yarn is used by about 30,000 unauthorised powerlooms which have mushroomed in the Erode area itself.

2.7.6.4   A winding machine can be used for converting yarn from hank to bobbins by simply changing a gear. Spools may be changed to fix bobbins of different sizes. Depending on the strength of the yarn, the efficiency of winding will vary. The capacity output of a machine on an eight-hour shift is approximately one bundle per day, that is, 4.54 kgs., for a British count of say, 40s and 2.252 kgs., if it is 2/60s count. It needs one worker to operate if the machine size is 5 bobbins. The daily wage rate in the Nagpur region varied betweon Rs.17 and 20/-. The machine does not consume much electricity (approximately one unit per day) and its wear and tear involves 50 grams of lubricating oil per year. While other expenses do not exceed Rs. 50/- in a year, the cost of depreciation and replacement is about Rs. 80/- per year.

2.7.6.5   From the above data, it appears that the average variable cost of conversion per bundle of hank yarn, say, of 40s counts may be between Rs 20 and 25. That is, the average variable cost of conversion of hank yarn is between Rs. 3 and 4 per kg. This estimate is higher when compared to the average cost of conversion in Erode of Tamil Nadu, which is Rs. 1 per kg. as derived earlier.

2.8 Higher Duty and Price Differentials

2.8.1   Table 2.11 gives details regarding the duty differential between cone yarn and hahk yarn (with revised structure of excise concessions) for selected counts. It may be seen that the duty differential increased in 1990 over 1988. It was as much as 75 paise for 25s, Re. 1 for 35s, between Rs.1.08

TABLE 2.11

Changes in Excise Duty Differential Between Hank and Cone Yarn, 1988 and 1990

(Rs.per kg..)

Counts	Basic Excise duty on cotton cone yarn March,1988	Basic Excise duty on hank yarn for Co-operative Societies March, 1988	Duty Differential in 1988 (Col.2 - 3)	Basic Excise duty on cotton cone yarn March, 1990	Basic Excise duty on cotton hank yarn for Co-operative Societies March, 1990	Duty Difference in 1990 (Col.5 - 6)	% increase in duty difference in 1990 over 1988 (Col.((7/4)-1) x100)
(1)	(2)	(3)	(4)	(5) (6)		(7)	(8)
25	0.4950	0.0000	0.4950	0.7500	0.0000	0.7500	51.5
26	0.5225	0.0634	0.4591	0.8200	0.0900	0.7300	59.0
35	0.9500	0.2776	0.6724	1.4500	0.4500	1.0000	48.7
36	1.1960	0.2992	0.8968	1.5800	0.5000	1.0800	20.4
40	1.4080	0.4400	0.9680	1.9000	0.6000	1.3000	34.3
45	1.6720	0.6160	1.0560	2.3000	0.8500	1.4500	37.3
46	1.7250	0.6688	1.0562	2.3800	0.9300	1.4500	37.3
56	2.2530	1.1704	1.0826	3.1800	1.6900	1.4900	37.6
60	2.4640	1.2760	1.1880	3.5000	1.8500	1.6500	38.9
80	3.5200	1.8040	1.7160	5.1000	2.6500	2.4500	42.8
100	4.5760	2.3320	2.2440	6.7000	3.4500	3.2500	44.8
120	5.6320	2.8600	2.7720	8.3000	4.2500	4.0500	46.1

Source: Central Excise Tariff Schedule, 1988-89 and 1990-91. Central Board of Excise and Customs, New Delhi.

and Rs.4.05 for finer, medium and super fine counts like 40s and above. Table 2.12 reports the changes in total excise duties (basic + additional + special) and prices of cotton hank yarn when purchased by cooperative societies at concessional rates in 1988 and 1990. Columns 5 and 6 present prices exclusive of excise duty while cols. 8 and 9 give those inclusive of duties for selected counts of cotton hank yarn. The price of coarse counts, 20s, which is mostly used in Janata cloth production has gone up steeply by 28 per cent. The price of 40s has gone up to a lesser extent, however, by about 11 per cent consequent upon a duty increase of over 38 per cent in 1990.The price increase was higher for finer counts such as 60s and 80s, by over 35 per cent, both before and after the levy of excise duty in the respective years.

2.8.2   The price differential between hank yarn and cone yarn has increased with the enhancement of duty burden on cone yarn in the 1990 budget. The duty differential has obviously gone up with the merger of basic excise duty on cotton fabric with that on cotton yarn. It seems to be one of the additional factors that explains the observed diversion of hank yarn to powerlooms. It may be noted in this context that the budgetary changes of excise duty merger were aimed at keeping the overall revenue from cotton yarn and fabrics at the same level as that prevailing before March, 1990. But, as a result of the merger, the count-wise structure of yarn duty has got altered.

2.8.3   From a comparison of price changes of similar counts of cotton cone yarn (Table 2.13) with those of hank yarn during the same period, four significant findings emerge:

i.   Cone yarn prices were lower than hank yarn prices for the coarser varieties such as 6s and 20s in 1990, whereas they were higher than hank yarn prices for medium and finer counts such as 40s, 60s (carded) and 80s. This can be clearly seen by comparing columns 8 and 9 of Tables 2.12 and 2.13.

Table 2.12

Changes in Excise Duty and Prices of Cotton Hank Yarn for Co-op Societies, 1988 and 1990

Counts	Total Excise duty (Basic + Addl.) on cotton hank yarn (Rs/kg)		% Change in 1990 over 1988	Prices of cotton hank yarn exclusive of excise duties (Rs/Kg)		% change in Ex-factory prices of hank yarn in June, 1990 over June, 1988	Duty inclusive prices of cotton hank yarn		% Change in duty inclusive prices in June,1990 over June-1988
	w.e.f. March, 1988	w.e.f. March, 1990		June 1988	June 1990		June 1988 (Col.5 + 2)	June 1990 (Col.6 + 3)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
6	0.00	0.00	0.00	27.53	28.85	4.79	27.53	28.85	4.79
20	0.00	0.00	0.00	38.85	49.75	28.06	38.85	49.75	28.06
40	0.52	0.72	38.46	48.26	53.28	10.40	48.68	54.00	10.92
60 carded	1.41	2.21	56.74	59.69	68.90	15.43	61.10	71.12	16.39
60 combed	1.41	2.21	56.74	70.00	95.59	36.56	71.41	97.81	36.90
80	2.04	3.17	55.39	84.80	113.80	34.20	86.84	116.98	34.71

Note : Hank prices relate to Coimbatore market and Cone prices relate to Bombay market as quoted in the report.

Source: Duty Prices were obtained from Joint Textile Commissioner's Report on "Facets of Hank Yarn obligation" dated 23rd July, 1990.

Table 2.13

Changes in Excise Duty and Prices of Cotton Cone Yarn, 1988 and 1990

Counts	Total Excise duty on cotton cone yarn (Rs/kg)		% Change in duties in 1990 over 1988	Prices of cotton cone yarn exclusive of excise duties (Rs/Kg)		% change in Ex-factory prices of cone yarn in June, 1990 over June, 1988	Duty inclusive prices of cotton cone yarn		% Change in duty inclusive prices in June,1990 over June, 1988
	w.e.f March, 1988	w.e.f. March, 1990		in June 1988	in June 1990		in June 1988 (Col.5 + 2)	in June 1990 (Col.6 + 3)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
6	0.14	0.22	53.30	23.10	26.09	12.94	23.24	26.31	13.19
20	0.47	0.72	53.19	40.85	40.28	-1.40	41.32	41.00	-0.77
40	1.67	2.28	36.49	47.25	58.63	24.08	48.92	60.91	24.51
60 carded	2.92	4.20	43.67	62.00	70.62	13.90	64.92	74.82	15.24
60 combed	2.92	4.20	43.67	67.50	89.50	32.59	70.42	93.70	33.05
80	4.18	6.12	46.54	89.28	119.65	34.02	93.46	125.77	34.58

Note : Hank prices relate to Coimbatore market and Cone prices relate to Bombay market as quoted in the report.

Source: Duty Prices were obtained from Joint Textile Commissioner's Report on "Facets of Hank Yarn obligation" dated 23rd July, 1990.

ii. The price of cone yarn of coarser count 20s has remained stable, around Rs. 41 between 1988 and 1990 while that of hank yarn of the same count experienced an appreciable increase, from Rs.38.85 to Rs.49.75 per kg. during the same period. The price of hank yarn ruled higher than that of cone yarn during the recent period. Evidently, it is not economical for powerlooms to use hank yarn of coarser counts.

iii. In the case of finer counts such as 40s, 60s (carded) and 80s, however, it seems hank yarn prices (ex-factory) were lower than cone yarn prices during the period starting September, 1987. The price difference (Table 2.14) widens further in favour of hank yarn, if hank yarn is bought at concessional duties, as are available to registered handloom societies.

iv. The price differences between hank yarn and cone yarn are given in Table 2.14. The price of cone yarn continued to rule higher with the shifting of excise duty from fabric to yarn stage in March, 1990 as well as due to other market forces. It thus seems advantageous for powerloom units to use hank yarn in place of cone yarn in the case of finer counts. For instance, considering the ex-factory prices (before the incidence of duty),the price difference (cone price minus hank price) varied as much as Rs.4.00 per kg. in the case of 40s (carded), Rs.11.13 per kg. for 60s and Rs.2.90 per kg. for 80s (see the last 3 columns of Table 2.15) in June, 1990. Looking into Table 2.16, one may notice that cone prices were higher than corresponding hank prices by more than Rs. 11 during the whole year, 1990 in the case of counts, 60s. Thus,

Table 2.14

**Price Difference Between Cone and Hank Yarn Before
and After Duty, 1988 and 1990**

Counts	Ex-factory price difference (cone - hank) (Rs./kg.)		% change in Price differ-ential between 1988 and 1990 ((Col.3/2)-1)*100)	Duty Incl. price difference with excise concessions (cone - hank) (Rs./kg.)		% change in Price differ-ential between 1988 and 1990 ((Col.6/5)-1)*100
	June 1988	June 1990		June 1988	June 1990	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
40	-1.01	5.35	630	0.24	6.91	2779
60 carded	2.31	1.72	- 26	3.82	3.70	- 3
80	4.48	5.85	31	6.62	8.79	33

Note : Hank prices relate to Coimbatore market and Cone prices relate to Bombay market as
quoted in the report.

Source: Duty Prices were obtained from Joint Textile Commissioner's Report on "Facets of
Hank Yarn obligation" dated 23rd July, 1990.

Table 2.15

Changes in Excise Duty and Prices of Cotton Hank Yarn in 1988 and 1990

Counts	Total Excise duty on cotton hank yarn		% Change in duties in 1990 over 1988	Prices of cotton hank yarn exclusive of excise duties		% change in Ex-factory prices of hank yarn in June, 1990 over June 1988	Duty inclusive of prices of cotton hank yarn		% Change in duty inclusive of price in June,1990 over June 1988
	w.e.f. March, 1988	w.e.f. March, 1990		in June 1988	in June 1990		in June 1988	in June 1990	
							(Col.5 + 2)	(Col.6 + 3)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
6	0.14	0.22	53.30	27.53	28.85	4.79	27.67	29.07	5.04
20	0.47	0.72	53.19	38.85	49.75	28.06	39.32	50.47	28.36
40	1.67	2.28	36.49	48.26	53.28	10.40	49.93	55.56	11.27
60 carded	2.92	4.20	43.67	59.69	68.90	15.43	62.61	73.10	16.75
60 combed	2.92	4.20	43.67	70.00	95.59	36.56	72.92	99.79	36.84
80	0.18	6.12	46.54	84.80	113.80	34.20	88.98	119.92	34.78

Note : Hank prices relate to Coimbatore market and Cone prices relate to Bombay market as quoted in the report.

Source: Duty Prices were obtained from Joint Textile Commissioner's Report on "Facets of Hank Yarn obligation" dated 23rd July, 1990.

TABLE 2.16

Yarn Prices of Selected Counts in Bombay & Coimbatore Markets, 1987 to 1990

(Rs./Kg.)

Month & Year	20s Carded Cone	20s Carded Hank	40s Carded Cone	40s Carded Hank	60s Carded Cone	60s Carded Hank	80s Carded Cone	80s Carded Hank	Price Difference (cone - hank) Count20 Carded	Count40 Carded	Count60 Carded	Count80 Carded
	Bombay	C'batore	Bombay	C'batore	Bombay	C'batore	Bombay	C'batore				
Sep'87	25.28	27.20	41.57	41.28	56.72	51.22	66.26	60.65	-1.92	0.29	5.50	5.61
Oct	25.19	25.18	40.68	37.44	55.37	48.02	61.20	56.57	0.01	3.24	7.35	4.63
Nov	26.00	26.42	42.91	38.29	56.75	49.82	63.75	57.62	-0.42	4.62	6.93	6.13
Dec	28.50	29.21	45.67	41.46	64.00	52.96	73.11	62.84	-0.71	4.21	11.04	10.27
Jan'88	29.71	31.97	47.50	44.27	68.00	57.54	83.88	68.84	-2.26	3.23	10.46	15.04
Feb	32.87	34.26	53.67	50.82	74.17	67.23	82.19	73.41	-1.39	2.85	6.94	8.08
Mar	32.00	32.62	47.90	47.17	70.14	60.24	75.80	70.95	-0.62	0.73	9.90	4.85
Apr	30.87	35.20	44.65	45.26	61.96	58.96	71.18	68.66	-4.33	-0.61	3.00	2.52
May	30.73	35.02	46.97	44.86	62.43	58.34	70.85	68.19	-4.29	2.11	4.09	2.66
June	31.25	34.52	47.25	44.99	61.78	59.07	70.32	69.26	-3.27	2.26	2.71	1.06
July	31.25	35.00	47.90	47.18	61.95	59.77	73.53	69.34	-3.75	0.72	2.18	4.19
Aug	31.25	34.86	47.35	45.18	61.55	59.56	74.75	69.33	-3.61	2.17	1.99	5.42
Sep	31.25	33.92	45.32	44.07	60.50	58.20	72.89	67.97	-2.67	1.25	2.30	4.92
Oct	31.25	32.94	45.57	43.29	60.01	56.67	70.50	67.18	-1.69	2.28	3.34	3.32
Nov	31.48	32.83	46.22	42.73	58.30	56.47	67.97	67.18	-1.35	3.49	1.83	0.79
Dec	32.50	34.36	48.11	43.31	58.30	57.26	71.91	72.14	-1.86	4.80	1.04	-0.23
Jan'89	32.25	35.67	48.91	45.67	56.98	60.02	81.60	70.67	-3.42	3.24	-3.04	10.93
Feb	32.25	35.62	47.28	46.28	54.43	59.74	83.38	71.66	-3.37	1.00	-5.31	11.72
Mar	32.51	35.50	42.11	46.43	69.74	60.42	85.52	73.63	-2.99	-4.32	9.32	11.89
Apr	35.22	36.00	55.80	48.36	79.75	64.11	88.50	77.99	-0.78	7.44	15.64	10.51
May	35.13	35.74	55.80	49.34	79.40	66.63	96.41	83.23	-0.61	6.46	12.77	13.18
June	35.13	36.60	55.56	52.48	78.66	69.99	97.98	109.69	-1.46	3.08	8.67	-11.71
July	35.90	36.78	54.62	51.77	77.69	70.60	94.82	94.89	-0.88	2.85	7.09	-0.07
Aug	38.52	37.16	54.34	52.74	78.30	71.79	98.50	98.85	1.36	1.60	6.51	-0.35
Sep	39.52	38.79	51.85	53.63	79.62	72.91	93.76	96.74	0.73	-1.78	6.71	-2.98
Oct	39.63	38.60	52.70	52.79	80.85	72.14	101.13	93.93	1.03	-0.09	8.71	7.20
Nov	38.53	38.48	52.70	52.70	81.90	72.55	100.13	94.72	0.05	0.01	9.35	5.41
Dec	37.63	38.25	52.63	52.69	81.90	72.73	92.39	93.94	-0.61	-0.06	9.17	-1.55
Jan'90	36.76	38.22	52.60	51.36	81.90	70.67	94.17	92.69	-1.46	1.25	11.24	1.48
Feb	36.75	38.46	55.62	52.63	84.10	71.26	95.13	94.60	-1.70	2.99	12.84	0.53
Mar	36.71	39.76	56.69	53.66	85.31	71.81	94.34	94.94	-3.05	3.03	13.50	-0.60
Apr	36.50	39.75	57.51	53.05	84.50	71.62	95.62	94.84	-3.25	4.46	12.88	0.78
May	36.73	39.49	57.37	52.75	84.07	71.32	96.88	94.80	-2.76	4.62	12.75	2.08
June	36.75	39.40	56.73	52.75	82.35	71.22	95.10	92.20	-2.65	3.98	11.13	2.90
July	36.75	38.85	57.38	53.08	82.45	70.48	90.90	92.76	-2.10	4.30	11.97	-1.86
Aug	37.23	38.44	57.40	52.26	82.40	69.80	87.85	92.79	-1.21	5.14	12.61	-4.94
Sep	37.91	38.50	57.45	51.95	81.65	68.83	NA	NA	-0.59	5.51	12.82	NA
Oct	39.64	38.99	57.65	51.65	82.69	69.30	NA	NA	0.65	6.00	13.39	NA
Nov	38.91	39.32	57.40	51.23	82.74	69.38	NA	NA	-0.41	6.17	13.36	NA
Dec	38.50	39.54	57.40	52.11	81.95	69.38	NA	NA	-1.04	5.29	12.57	NA

it is not surprising to find that powerloom weavers substitute hank yarn for cone yarn, taking note of the fact that the cost of conversion is low at Rs. 1 to 4 per kg. It is cheaper to buy hank yarn and reel it into pirns and bobbins rather than to use cone yarn, at least in the case of some coarse and fine counts. It should also be noted that the corresponding cost of converting cone yarn into pirns and bobbins may be slightly lower due to scale economies and lesserwastage involved in winding yarn from cone to pirns or bobbins. Nevertheless, the use of hank yarn by powerloom units carries some additional gain to them depending upon (i) the extent to which the price of cone yarn exceeds that of hank yarn after the duty incidence and (ii) the availability of processing facilities in the vicinity of powerloom centres. Some policy implications of these findings are given in Chapter 4.

2.9 Loopholes in excise exemptions: Survey results

2.9.1   It is well known that plain hank yarn has been totally exempted from excise duty without any end-use restrictions on the consideration that it is largely used by handloom units. However, from the survey of six States conducted by the study team so far, it appears that it is extensively used also by powerloom units.

2.9.2   As mentioned earlier, in Orissa the consumption of plain hank yarn by powerloom units is estimated at 13 lakh kgs. out of a total of 122 lakh kgs. of hank yarn available for that State as as per SIMA's revised estimates. It may be noted that double hank cross reel (DHCR) yarn is not produced in Orissa, and so has to be imported from other States. Plain hank yarn is, on

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the other hand, produced in surplus quantities and exported to other States after meeting the demand from both handloom and powerloom units within the State. It was also found that in Orissa, powerlooms are disappearing for want of processing and sizing facilities in the vicinity of powerloom centres. Thus, the consumption of plain hank yarn by powerloom units may not increase over time. If suitable supporting measures, such as dyeing and sizing facilities are provided to powerloom units either by the State authorities or otherwise, use of hank yarn on powerlooms can be reduced as also the sickness of powerloom units can be avoided.

2.9.3   In Karnataka also, DHCR yarn, specially of finer counts viz., 40s, 60s and 80s, was found to be used extensively by powerloom units. This was revealed by our field survey in the districts of Bijapur and Belgaum.

2.9.4   In West Bengal, hank yarn consumption by powerloom units seems to be limited to the production of sarees and dhotis with colour borders. Unlike in Orissa, there are independent processing houses situated near powerloom centres like Ranaghat, Dum Dum and Hooghly, in West Bengal where colouring and printing facilities have been available to the decentralised powerloom units (see Appendix A.3 for details). Our field visits to these places revealed that hank yarn is used by independent processing houses in preparation of warp-beams employed in powerloom units. Moreover, according to the Powerloom Census Report of West Bengal, as many as 48 out of 146 powerloom units (about 1/3rd) enumerated in the census were found to be using hank yarn in 1989 (see Khanna et.al 1990, p. 87). But the extent to which hank yarn is consumed by the enumerated units is not available from the Powerloom Census. Thus no estimate of hank yarn diversion could be made for West Bengal with the available information.

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2.9.5   In U.P. also the survey team identified some powerloom units using hank yarn in considerable quantities in districts of Gorakhpur, Faizabad, and Meerut. During the Delhi survey, the study team identified a unit which specialised in converting hank yarn with a special purpose machine. Hank yarn thus converted is sold to powerloom units in Punjab and Haryana. However, the team could not get any clue as to how the units procured hank yarn. Three of the powerloom units interviewed, responded that they could convert hank yarn into `pirns and bobbins' using conversion machines installed outside the spinning mill gate. Special machines designed for the task ensure high quality of conversion. The cost of conversion of yarn seems to be quite low, thereby, ensuring high profitability of conversion. In Maharashtra, in Kamptee town of Nagpur District and Solapur, a number of powerloom units were found to be using plain hank yarn which is dyed and then woven into colour cloth.

3. Analysis of Yarn Price Fluctuations

3.0   This chapter is devoted to an examination of yarn price fluctuations influenced by all the major factors from the supply and demand sides.   In the beginning, the monthly price fluctuations of hank yarn of different counts are considered and later, the underlying trend and seasonality will be estimated. In the subsequent part, a qualitative analysis of all casual factors affecting the yarn prices both from supply and demand sides will be presented. Finally, a summary of price analysis will be given at the end of the chapter.

3.1.1   An analysis of price fluctuations is important for policy making in regard to supply of hank yarn to the handloom weavers.   The livelihood of handloom weavers is very much dependent on the availability of hank yarn at expected prices. Thus a major deviation in the yarn prices during a short period would have serious implications on the employment in the handloom sector.   It is, therefore, pertinent to consider the past price data of hank yarn and examine the underlying pattern of fluctuations,   as is done customarily using appropriate statistical methods.

3.1.2   By fluctuation, we mean here, the back and forth movement of an observed variable during a period of time.   One can measure the fluctuation in price series by means of the statistic,   namely,   the standard deviation (S.D.) or the coefficient of variation (CV) which is defined as S.D./Mean * 100 over a period of time.   It may be noted that when prices are not stable, the coefficient of variation generally shows a tendency to increase, whereas, when prices are relatively stable over time,   C.V may decline or remain constant.   All price data

generally have a trend inherent in them. Given the stability in prices, the coefficient of variation therefore declines, as the trend increases over time, and increases, when the trend decreases.

3.1.3   Since all monthly price data may also have seasonality, an attempt is made to decompose the price fluctuations over different years, separating inter-year fluctuations from intra-year fluctuations. It is also a matter of interest to examine the price correlations[15]

(a)   between different counts of yarn in both hank and cone forms,

(b)   between selected varieties of cotton viz., coarse, semi-medium, fine and super fine varieties,

(c)   between raw cotton, hank yarn and cone yarn.

Prices of different yarn counts, as also of cone and hank forms are expected to be interrelated basically because of a high degree of substitution between them. We have, therefore, sought to measure the degree of price correlation of selected counts of hank yarn, as also that of respective varieties of cotton and yarn. The intra-year fluctuations are measured by the coefficient of variation of monthly prices in a year, while, inter-year fluctuations are measured by the coefficient of variation of annual prices over the period, 1984 to 1990.

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15.   The correlation analysis should be considered with a caution because these are not partial correlations, which provide correlation between two variables while the influence of other variables, is held constant.

3.1.4 **Intra-year fluctuations of yarn prices**: In the recent period, yarn prices were found fluctuating considerably, affecting the handloom activities severely. There has been a perceived affect on handloom weavers' employment resulting even into starvation deaths in Andhra Pradesh. During 1984 to 1990, hank yarn prices have risen from around Rs.20 per kg to over Rs.40 per kg. in the case of coarse counts 20s, from Rs.27.07 to Rs.53.60 in the case of 40s, from Rs.34 to Rs.72.90 per kg. in the case of 60s, from Rs.40 to Rs.107 per kg in the case of 80s. Such an accelerated increase was also accompanied by wide fluctuations within each year, which have adversely affected the work schedule of handloom weavers and also resulted in unemployment. To support this contention, the basic data of prices of yarn counts (20s to 80s) are provided in Table 3.1 for the period, January of 1984 to November of 1990. The sample statistics of these price variables viz., maximum price, minimum price, the mean and standard deviation and coefficient of variation are given in Table 3.2. As mentioned above, the coefficient of variation of these variables was considerably high; 23.1 per cent for the coarse counts 20s, 24.4 per cent for popular counts 40s, 28.1 per cent for the medium counts, 60s and 32.7 per cent for super fine counts, 80s of hank yarn. In the case of cone yarn of the respective counts, however, the coefficient of variation varied between 23.9 per cent to 30.5 per cent. Comparatively, hank yarn seems to have been more adversely affected by wider price fluctuations than cone yarn of similar counts, but the difference is only marginal as, both hank and cone forms have witnessed similar increase in their prices during the same period.

Table 3.1

Monthly Yarn Prices During January 1984 - November 1990

	Hank Yarn Counts				Cone Yarn Counts			
OBS.	20s	40s	60s	80s	20s	40s	60s	80s
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
84M1	22.34	29.53	38.41	44.98	21.00	29.12	44.13	59.96
84M2	22.43	29.70	38.35	44.70	21.00	29.09	44.51	58.63
84M3	23.24	29.64	36.91	43.08	21.90	29.05	44.12	58.25
84M4	25.07	30.11	36.59	42.34	23.50	29.91	42.11	58.33
84M5	24.44	30.18	35.56	42.15	24.00	29.68	41.73	58.08
84M6	24.42	30.07	34.00	40.59	24.60	29.13	37.98	54.49
84M7	24.81	30.01	34.94	41.20	26.38	30.26	38.46	54.05
84M8	27.97	31.22	37.05	43.28	27.00	30.91	40.09	54.27
84M9	27.79	30.70	35.28	41.28	26.40	31.19	39.63	54.27
84M10	27.16	29.85	34.63	40.01	25.23	31.77	38.44	55.26
84M11	26.92	29.97	35.21	40.84	25.00	31.82	39.87	55.31
84M12	26.81	30.11	35.60	41.58	24.94	31.91	41.73	56.96
85M1	26.32	30.12	36.30	41.65	24.94	32.66	45.68	59.82
85M2	26.25	31.33	37.86	42.11	25.00	32.66	47.16	61.54
85M3	26.20	31.79	38.09	43.15	24.80	32.65	48.27	63.82
85M4	26.41	31.99	38.62	46.14	24.21	32.68	47.97	62.52
85M5	26.35	32.44	39.32	46.77	24.20	33.06	47.51	62.52
85M6	26.25	32.68	40.15	50.01	24.18	33.10	47.11	63.77
85M7	26.23	32.72	41.39	51.07	24.18	32.94	46.21	64.82
85M8	25.93	32.65	41.83	51.42	24.18	30.86	42.40	62.62
85M9	24.88	32.10	41.79	53.03	24.18	30.51	40.89	58.21
85M10	22.85	30.71	39.42	49.98	23.64	29.73	39.76	57.50
85M11	22.50	30.00	38.51	48.38	22.05	29.14	40.83	60.08
85M12	22.96	30.06	38.67	48.50	22.06	31.62	42.13	60.34
86M1	23.20	30.10	38.96	48.74	22.06	32.71	43.86	61.12
86M2	21.53	29.70	38.01	47.25	21.52	32.07	43.72	61.98
86M3	20.74	29.17	36.52	45.61	18.73	30.41	43.60	61.40
86M4	20.37	28.83	35.68	43.23	17.64	29.31	43.92	61.78
86M5	20.23	28.57	35.47	42.67	17.80	28.23	43.97	60.57
86M6	20.26	28.49	35.40	42.40	18.21	27.98	43.61	60.02
86M7	20.12	28.34	35.35	42.15	18.86	27.68	41.95	62.19
86M8	19.94	28.10	35.95	41.50	18.86	37.15	42.10	62.68
86M9	19.33	27.81	35.63	40.86	18.86	29.55	42.02	60.36
86M10	19.37	27.81	35.88	41.44	17.75	30.80	43.87	59.34
86M11	19.64	28.00	36.66	42.83	17.94	31.92	43.74	59.63
86M12	20.01	28.26	37.42	43.39	19.25	33.95	45.06	62.08
87M1	22.81	31.41	40.23	46.87	21.91	37.18	49.37	65.86
87M2	22.44	31.51	40.42	48.66	21.81	36.73	47.70	65.57
87M3	21.98	30.87	39.91	48.11	21.31	36.84	47.70	65.04
87M4	22.86	32.19	41.18	50.48	21.20	36.86	47.05	63.60
87M5	23.56	33.53	41.76	51.19	21.42	37.97	49.48	65.91

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Table 3.1 Contd...

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
87M6	24.07	34.75	42.01	52.33	21.92	38.50	50.10	66.66
87M7	25.24	36.74	43.72	55.98	25.85	40.77	51.50	65.14
87M8	27.59	43.20	44.42	61.11	25.82	44.30	54.01	73.31
87M9	27.20	41.28	51.22	60.65	25.28	41.57	56.72	71.73
87M10	25.18	37.44	48.02	56.57	25.19	40.68	55.37	69.24
87M11	26.42	38.29	49.82	57.62	26.00	42.91	56.75	68.94
87M12	29.21	41.46	52.96	62.84	28.50	45.67	64.00	70.51
88M1	31.97	44.27	57.54	68.84	29.71	47.50	68.00	85.05
88M2	34.26	50.82	67.23	73.41	32.87	53.67	74.17	92.33
88M3	32.62	47.17	60.24	70.95	32.00	47.90	70.14	90.16
88M4	35.20	45.26	58.96	68.66	30.87	44.65	61.96	87.07
88M5	35.02	44.86	58.34	68.19	30.73	46.97	62.43	87.03
88M6	34.52	44.99	59.07	69.26	31.25	47.25	61.78	87.22
88M7	35.00	47.18	59.77	69.34	31.25	47.90	61.95	90.47
88M8	34.86	45.18	59.56	69.33	31.25	47.35	61.55	90.08
88M9	33.92	44.07	58.20	67.97	31.25	45.32	60.50	88.99
88M10	32.94	43.29	56.67	67.18	31.25	45.57	60.01	90.12
88M11	32.83	42.73	56.47	67.18	31.48	46.22	58.30	90.30
88M12	34.36	43.31	57.26	72.14	32.50	48.11	58.30	91.10
89M1	35.67	45.67	60.02	70.67	32.25	48.91	56.98	90.77
89M2	35.62	46.28	59.74	71.66	32.25	48.23	54.43	91.01
89M3	35.50	46.43	60.42	73.63	32.67	53.86	69.74	95.46
89M4	36.00	48.36	64.11	77.99	35.38	55.80	79.75	103.15
89M5	35.74	49.34	66.63	83.23	35.13	55.80	79.40	106.31
89M6	36.60	52.48	69.99	109.69	35.13	55.60	78.66	105.92
89M7	36.78	51.77	70.60	94.89	35.67	54.80	77.69	107.03
89M8	37.16	52.74	71.79	98.85	37.28	54.40	78.30	121.10
89M9	38.79	53.63	72.91	96.74	39.43	52.25	79.62	122.28
89M10	38.60	52.79	72.14	93.93	39.63	52.70	80.85	122.27
89M11	38.48	52.70	72.55	94.72	38.83	52.70	81.90	122.80
89M12	38.25	52.69	72.73	93.94	37.63	52.65	81.90	122.80
90M1	38.22	51.36	70.67	92.69	36.93	52.60	81.90	122.80
90M2	38.46	52.63	71.26	94.60	36.74	55.29	84.10	123.47
90M3	39.76	53.66	71.81	94.94	36.75	57.00	85.31	123.90
90M4	39.75	53.05	71.62	94.84	36.50	57.22	84.50	123.90
90M5	39.49	52.75	71.32	94.80	36.69	57.45	84.07	122.06
90M6	39.40	52.75	71.22	92.20	36.75	56.62	82.35	120.09
90M7	38.85	53.08	70.48	92.76	36.75	57.40	82.45	120.00
90M8	38.44	52.26	69.80	92.79	37.05	57.40	82.40	120.25
90M9	38.50	51.95	68.83	91.38	37.92	57.45	81.92	119.88
90M10	38.99	51.65	69.30	91.16	39.64	57.65	82.87	120.92
90M11	39.32	51.23	69.38	91.20	38.50	57.40	82.68	120.92

Source: "Handbook of Statistics on Cotton Textile Industry", ICMF, Bombay (various issues).

Table 3.2

Sample Statistics of Monthly Yarn Prices,
January 1984 - November 1990

a. Hank yarn

	Counts			
Variable(s)	20s	40s	60s	80s
Maximum	39.7600	53.6600	72.9100	109.6900
Minimum	19.3300	27.8100	34.0000	40.0100
Mean	29.2735	39.0351	50.3098	62.2707
Std. Deviation	6.7634	9.5091	14.1452	20.3349
Coef. of Variation	.2310	.2436	.2812	.3266

b. Cone yarn

	Counts			
Variable(s)	20s	40s	60s	80s
Maximum	39.6400	57.6500	85.3100	123.9000
Minimum	17.6400	27.6800	37.9800	54.0500
Mean	27.8334	41.2865	57.2620	80.4710
Std. Deviation	6.6589	10.4361	15.9662	24.5167
Coef. of Variation	.2392	.2528	.2788	.3047

3.1.5 **Price Correlations across Counts**:   The price correlations
between different counts of hank yarn and cone yarn are seen to
be very significant ranging between 0.9 and 1 in Table 3.3[16].
This seems possible due to the inherent trend in these prices
which is common to all counts of hank yarn as well as cone yarn.
As against this, similar estimate of the coefficient of
correlation obtained when the trend has been removed from their
respective prices is 0.8 only. The coefficient of correlation is
higher at 0.96 between hank yarn of 20s and 40s, as shown in
Table 3.3, before detrending the price data. In other words, the
observed similarity in price movements of hank yarn and cone yarn
is mostly due to general trend in prices (inflation). Detrending
thus helps to correct for this and examine the inherent
correlations, if any. The estimates of correlations of detrended
price series are given in Table 3.4. From this table, it can be
inferred that prices of coarse counts of hank yarn are not highly
correlated with those of 60s or 80s of hank yarn. Similarly,
prices of cone yarn of counts 40s, 60s and 80s are found to be
relatively weakly correlated with the coarse forms of hank yarn.
But hank yarn of 40s appears to be strongly correlated with the
hank yarn of fine and super fine counts 60s or 80s, the
correlation being 0.68 and 0.73 respectively. Similarly, prices
of hank yarn of 60s are strongly correlated with hank 80s, the
coefficient of correlation being 0.95. Comparing the hank yarn
and cone yarn, the correlation obtained from the detrended data
suggest that only in the case of hank 20s and hank 60s, yarn
prices are moderately correlated, while cone yarn of 60s is
highly correlated with hank yarn of 80s. In the case of other
counts, the coefficient of correlation is, by and large, less

----

16.   By definition, coefficient of correlation ranges between -1 and +1.

Table 3.3

Matrix of Correlation Coefficients Between Different Counts of Hank Yarn and Cone Yarn

	H20	H40	H60	H80	C20	C40	C60	C80
H20	1.0000	.9605	.9481	.9236	.9844	.9261	.9090	.9255
H40	.9605	1.0000	.9904	.9727	.9549	.9750	.9647	.9600
H60	.9481	.9904	1.0000	.9821	.9461	.9699	.9729	.9748
H80	.9236	.9727	.9821	1.0000	.9315	.9506	.9667	.9755
C20	.9844	.9549	.9461	.9315	1.0000	.9206	.9155	.9299
C40	.9261	.9750	.9699	.9506	.9206	1.0000	.9637	.9461
C60	.9090	.9647	.9729	.9667	.9155	.9637	1.0000	.9744
C80	.9255	.9600	.9748	.9755	.9299	.9461	.9744	1.0000

Note : H20 = Hank 20s, C20 = Cone 20s etc.,

Source : Based on Monthly Data from January 1984 to November 1990
as given in Table 3.1.

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Table 3.4

Matrix of Correlation Coefficients Using Detranded Price Data

	H20	H40	H60	H80	C20	C40	C60	C80
H20	1.0000	.8204	.5551	.4459	.5171	.4539	.1533	.0566
H40	.8204	1.0000	.6816	.7272	.5104	.1516	.3748	.0082648
H60	.5551	.6816	1.0000	.9474	.2249	.5358	.6905	.3594
H80	.4459	.7272	.9474	1.0000	.2094	.3206	.7443	.3420
C20	.5171	.5104	.2249	.2094	1.0000	.3244	-.1380	-.2795
C40	.4539	.1516	.5358	.3216	.3244	1.0000	.2449	.4887
C60	.1533	.3748	.6905	.7443	-.1380	.2449	1.0000	.6452
C80	.0566	.0082648	.3594	.3420	-.2795	.4887	.6452	1.0000

Note   : H20 = Hank 20s, C20 = Cone 20s etc.,

Source : Based on Monthly Data from January 1984 to November 1990
         as given in Table 3.1.

than 0.4. Thus the prices of hank yarn have not, in general, moved in tandem with those of cone yarn, except for the general trend.

3.1.6   As regards cotton and yarn prices, the index of intra-year price fluctuations of various cotton varieties as well as hank yarn and cone yarn are given in Table 3.5. A significant finding of our analysis of price fluctuations is that prices of all varieties of cotton and cotton yarn have exhibited wide fluctuations in the year 1987, as their respective index of coefficient of variation was maximum in this year. This can be attributed to a severe drought witnessed in various States of India, and (ii) lower opening stocks after allowing for exports during the previous year, 1986-87 as well as in 1987 to the tune of 1 lakh bales of extra long staple and Bengal Desi cotton. Thus cotton production fell considerably and its prices were highly unstable during this year. As a result hank yarn as well as cone yarn also witnessed wider price fluctuations in that year. Owing to a relative instability in cotton prices, the Government of India resorted to duty-free imports both under the advance licensing against exports of yarn, cloth and made-up items and also for augmenting the supply of hank yarn for mitigating the hardships faced by handloom sector. The total quantity of duty free cotton imports on this account was about 1 lakh bales. In 1988-89, due to a bumper crop the upward tendency in cotton prices was arrested to a considerable extent. The average prices of cotton varieties were lower in 1988-89 than earlier and they further declined in 1989-90. Since 1987 the fluctuations have declined relatively faster as can be seen from the declining value of the coefficient of variation in this table for cotton prices but, in spite of cotton prices falling, yarn prices of all varieties were fluctuating and buoyant in 1988-89 and 1989-90. However, the index of variation indicates a relatively lower

Table 3.5

Estimated Coefficients of Variation in Monthly Prices of Selected Varieties of Cotton and Cotton Yarn During 1984 - 1990

1. Cotton

YEAR	Cotton Varieties				
	Coarse (Wagad)	Semi medium (Kalyan)	Medium (Jayadhar)	Fine (1007)	Super fine (Sankar 4)
1984	9.31	8.17	6.60	6.44	7.20
1985	7.89	8.73	8.98	7.38	7.06
1986	11.53	10.70	7.85	16.87	4.66
1987	10.85	12.60	12.09	11.91	18.08
1988	N.A.	5.50	6.69	3.47	12.18
1989	4.78	4.97	3.88	0.35	7.65
1990	4.73	5.17	1.44	2.62	5.07

2. Hank Yarn

Year	20s	40s	60s	80s
1984	8.51	1.63	3.75	3.57
1985	5.85	3.24	4.13	7.60
1986	5.00	2.45	3.06	5.37
1987	9.07	11.68	10.16	9.81
1988	3.16	4.80	4.67	2.70
1989	3.35	5.72	7.61	13.64
1990	1.36	1.36	1.41	1.55

3. Cone Yarn

Year	20s	40s	60s	80s
1984	8.08	3.63	5.45	3.56
1985	3.89	4.21	6.85	3.57
1986	7.22	8.57	2.07	1.72
1987	10.05	7.48	9.21	4.31
1988	2.51	4.61	7.43	2.27
1989	7.11	4.50	12.18	11.13
1990	2.57	2.45	1.36	1.25

Source: Based on annual prices derived on from monthly data in Handbook of Statistics on Cotton Textile Industry, ICMF, Bombay (various issues).

value for hank yarn price than cone yarn price in the year 1990 implying that hank prices were relatively more stable than cone prices in this year (see Figures 3.1 and 3.2). Nevertheless, the observed monthly fluctuations can be attributed to seasonal factors to a large extent.

3.1.7 **Inter-year Price Fluctuation**: As pointed out earlier, the fluctuations over years are also accompanied by a trend which needs to be examined separately. This can be done by considering annual average price obtained from the monthly data in a year. This is shown in Table 3.6 for selected varieties of cotton as well as different counts of hank yarn and cone yarn during the period 1984-1990. The inter-year prices subsume seasonality in the short term fluctuations. Since all prices have a trend in common, the estimated correlations between them have shown high value ranging from 0.7 to almost 1.0. From the estimated correlations between prices of cotton and hank yarn of different counts (Table 3.7), it can be seen that the prices of hank yarn have shown high correlation (0.5 to 0.85) with those of selected varieties of medium staple cotton like Kalyan, Jayadhar, long staple varieties such as `1007 and Sankar-4'. In particular, hank yarn prices have shown strong correlation with those of long staple cotton due to trend, as far as the annual data are concerned during 1984-1990. The underlying trend and seasonality are estimated as follows.

3.2 Estimation of Trend and Seasonality in Hank Yarn Prices

3.2.1 Using the regression approach, we have tried to fit alternative models to the price data and have estimated the time trend and seasonality. For convenience, the estimates of only those models which have performed reasonably well are presented in Tables 3.7 and 3.8. The following time-series model has been fitted to each of price series of selected yarn counts viz., 20s, 40s, 60s and 80s.

Table 3.6

Annual Average Prices of Selected Varieties of Cotton and Cotton Yarn

1. Cotton

YEAR	Cotton Varieties				
	Coarse (Wagad)	Semi-medium (Kalyan)	Medium (Jayadhar)	Fine (1007)	Super fine (Sankar 4)
1984	5869	6020	6092	6400	6658
1985	4249	4349	4575	5232	6008
1986	2885	2955	3156	3739	5168
1987	4704	4949	5301	6423	8305
1988	N.A.	6865	7002	7994	11065
1989	5781	5907	6307	7085	9840
1990	5097	5412	5973	6942	9620

2. Hank Yarn

YEAR	20s	40s	60s	80s
1984	22.70	27.36	36.17	42.36
1985	25.47	31.68	39.39	47.61
1986	20.43	28.63	36.32	43.51
1987	24.49	35.56	43.88	53.60
1988	33.14	44.62	57.99	67.83
1989	36.81	50.20	67.35	87.82
1990	39.06	52.37	70.42	93.03

3. Cone Yarn

YEAR	20s	40s	60s	80s
1984	24.25	30.32	41.07	56.49
1985	23.97	31.80	44.66	61.46
1986	18.96	30.98	43.45	61.10
1987	23.85	40.00	52.48	67.63
1988	31.37	47.37	63.26	89.16
1989	35.94	53.14	74.94	109.24
1990	37.39	56.74	83.02	121.55

Source: Same as for Table 3.5

INTRA-YEAR VARIATION OF PRICES
OF COTTON VARIETIES AND HANK YARN

Figure 3.1
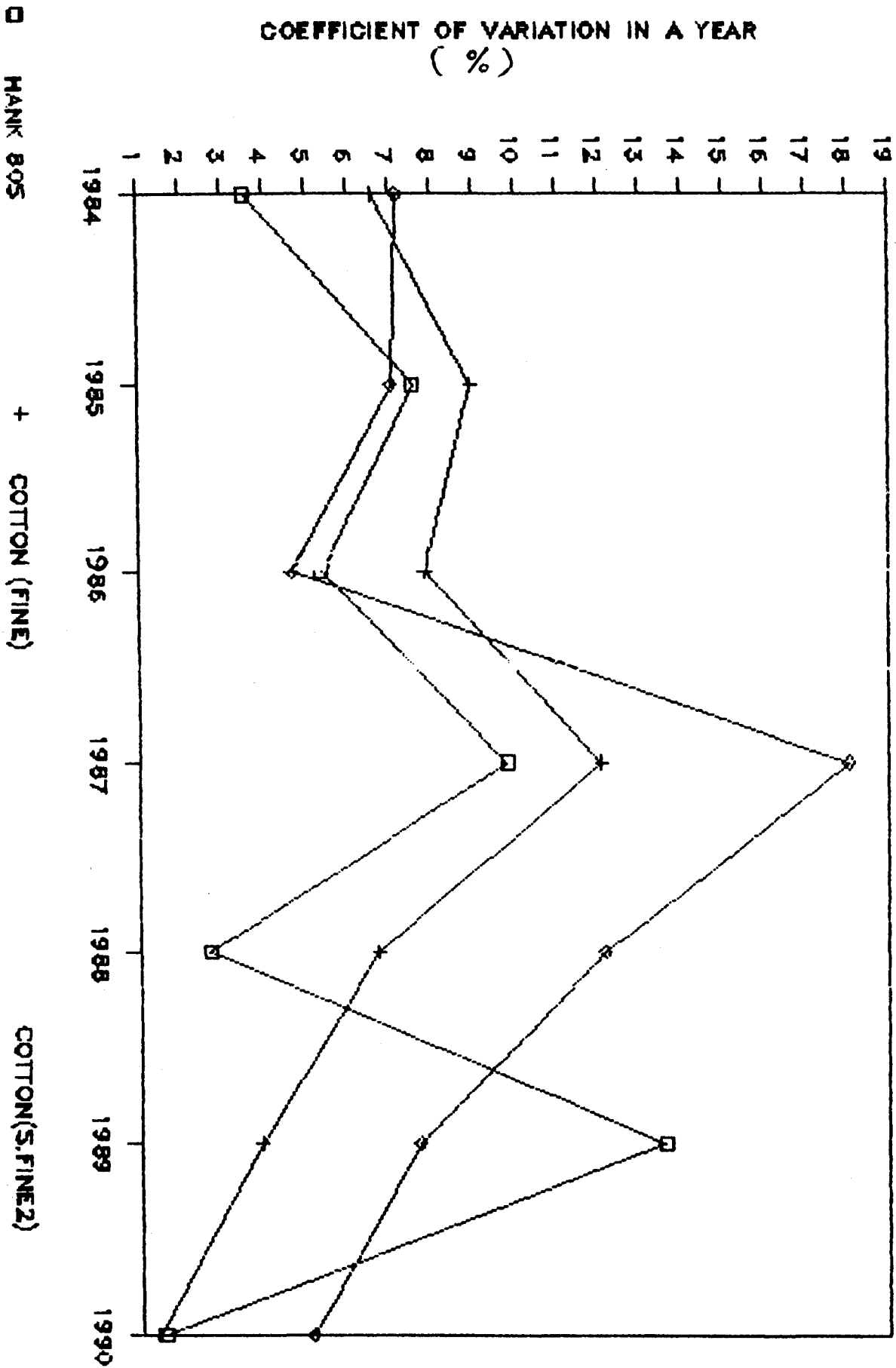
Figure 3.2

INTRA--YEAR VARIATION OF PRICES

OF SELCTED COUNTS OF HANK YARN
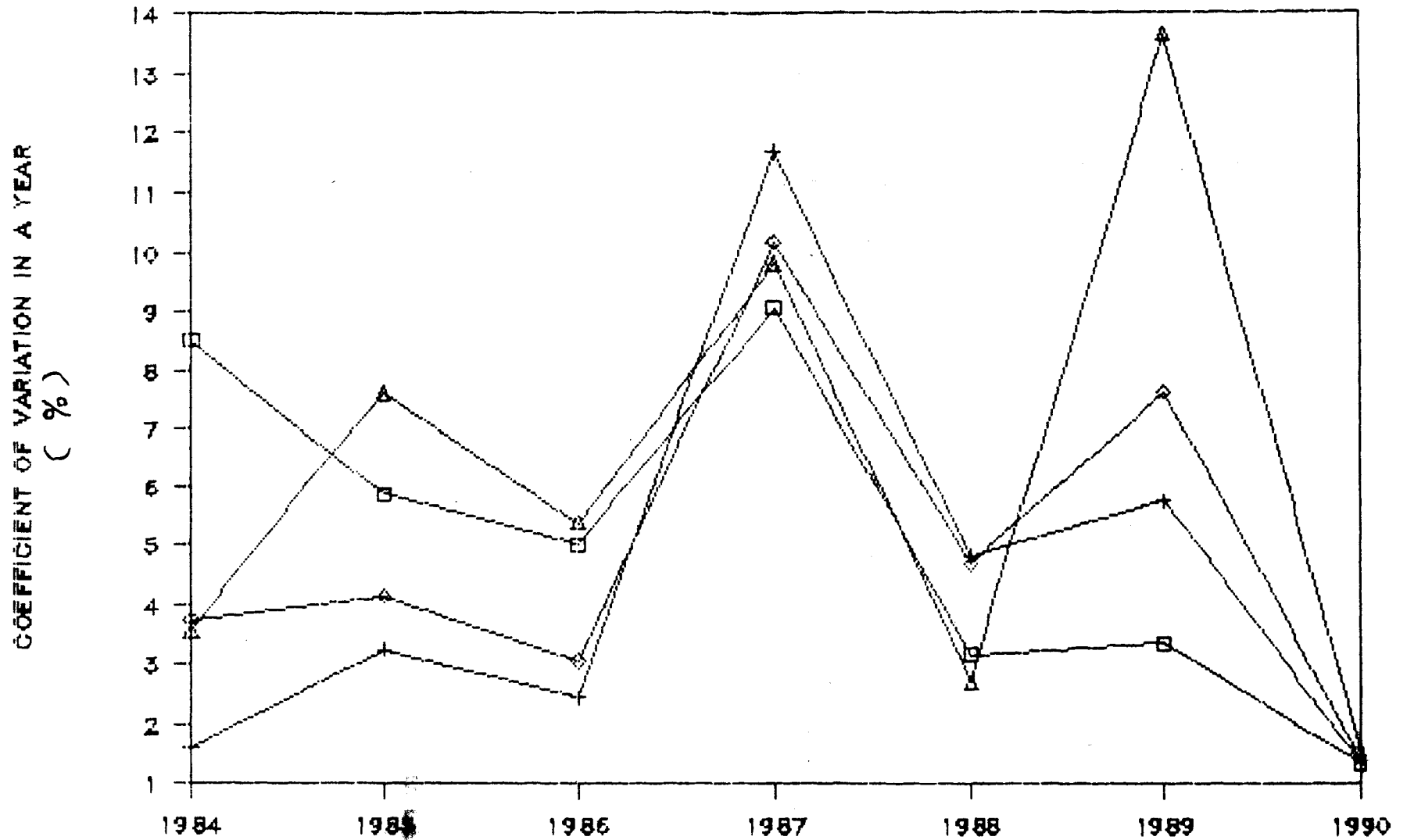
HANK 20S   + HANK 40S   ◇ HANK 60S   △ HANK 80S

$$\log P_t = \text{Constant} + A_o T + \Sigma A_j S_j + U_t \qquad (1)$$

where P_t =   price of yarn (Rs./kg in the `t` th month.

           U_t =   the error term

           S_j =   seasonal dummies

           T   =   monthly trend

           A_j's (j = 1, ...11)

monthly seasonality parameters, A_o, the time trend.

3.2.2   Using monthly data of different counts of hank yarn for the period January 1984 to December 1990, trend and seasonality have been estimated from the above model. Initially, OLS (Ordinary Least Squares) regression results have suggested the presence of serial-correlation in the error term and therefore the model was re-estimated after adjusting for serial-correlation by Cochrane-Orcutt method.   The revised results shown in Table 3.8 suggest that the estimated trend is statistically significant. Yarn prices increased at different rates for different counts of yarn. On an average, the rate of increase was 1 per cent a month in the case of hank yarn of counts 20s and 40s, 1.21 per cent a month for 60s, and about 1.4 per cent for the super fine counts of 80s.   Thus, prices of coarse counts registered a lesser increase than that of fine and super fine counts during the period from 1984 to 1990.

3.2.3   In our time series analysis, price series exhibited monthly seasonality in January for the yarn counts 20s, in February and August for yarn counts 40s, and only February for counts, 60s. The seasonality parameter was not significant in the case of super fine counts, 80s. One interesting finding is that only a few significant peaks, but no significant troughs were indicated in the selected price series of yarn counts by the

respective coefficients of the seasonal dummies (S_j). It implies that hank yarn prices have not shown any significant seasonal decline even during the rainy season usually when yarn demand goes down. Thus, there is a general tendency for prices to go up than to come down from the trend value even seasonally. To improve the models the insignificant seasonal parameters were dropped from the model and the trend equations were re-estimated

Table 3.7

Estimated Correlations Between Cotton and Hank Yarn Prices (Annual Data 1984-1990)

Hank Yarn Counts	Cotton Varieties				
	WAGAD	KALYAN	JAYADHAR	1007	SANKAR
20s	0.50	0.58	0.67	0.72	0.82
40s	0.41	0.51	0.61	0.69	0.85
60s	0.45	0.53	0.62	0.69	0.84
80s	0.45	0.46	0.56	0.62	0.83

Source: Same as for Table 3.5

Table 3.8
Estimates of Trend and Seasonality of Hank Yarn Prices
(Monthly Data, Period January 1984 - December 1990)

Independent variables	20s	40s	60s	80s
Constant	2.813 (4.923)*	2.996 (14.26)*	3.144 (17.036)*	3.266 (18.14)*
Time (Monthly)	.010 (1.551)	.010 (3.837)	.0121 (5.09)	.139 (5.587)*
Monthly Seasonality				
S1	.034 (2.43)*	.026 (1.819)	.026 (1.779)	.013 (0.694)
S2	0.025 (1.373)	.050 (2.709)*	.046 (2.462)*	.027 (.913)
S3	.012 (.566)	.033 (1.541	.015 (.695)	.007 (.234)
S4	.033 (1.437)	.032 (1.390)	.015 (.666)	.009 (.280)
S5	.022 (.936)	.033 (1.371	.012 (.484)	.010 (.311)
S6	.019 (.776)	.040 (1.664)	.010 (.420)	.045 (1.389)
S7	.020 (.844)	.046 (1.926)	.018 (.744)	.030 (.939)
S8	.039 (1.724)	.060 (2.637)*	.025 (1.093)	.045 (1.446)
S9	.021 (.995)	.038 (1.800)	.026 (1.223)	.021 (.728)
S10	-.016 (-.912)	-.00009 (-.005)	-.006 (-.347)	-.017 (-.674)
S11	-.018 (-1.378)	-.0099 (-.743)	-.007 (-.535)	-.021 (-1.081)
R^{-2}	.977	.978	.983	.977
F (13, 69)	266.0	286.8	376.2	270.5
D.W.	1.461	1.721	1.81	1.911
N	84	84	84	84
Rho	.972 (35.2)*	.937 (24.0)*	.927 (24.09)*	.905 (20.20)*

Notes: 1. The above estimates were adjusted for auto-correlation and obtained by Ochrane Orcutt method.
2. Figures in brackets are t- values of coefficients.
* indicates significance at 5%,
** for significance at 10% level.

including the remaining variables. The results thus obtained are given in Table 3.9. From this table it is easy to note that the estimated trend rates of growth have remained almost the same as before (in Table 3.8), while the values of F-statistic have improved, confirming the goodness of fit.

3.2.4   More than 97 per cent of the price variation has been explained by the estimated equation. The value of `rho' the estimate of 1st order serial-correlation is also significant in all the four cases, which thereby suggests that the price series under consideration exhibit a significant serial- correlation process of the 1st order.

3.2.5   The actual price series were plotted against their fitted values and simulated. These plots are shown in Figures 3.3 to 3.6 for the yarn counts viz., 20s, 40s, 60s and 80s, respectively. These figures indicate that actual values of price data have been very closely traced out by the estimated model, thereby capturing the inherent fluctuations and the turning points in the price series. It is noteworthy that the estimated model is capable of representing the monthly price movements of hank yarn of important counts during the past seven years from 1984 to 1990. From the estimated seasonal parameters, it is thus possible to indicate as to when hank yarn prices have tended to go up and to what extent. On the basis of these estimates suitable policy action can be initiated to regulate the price fluctuations as will be discussed in the next chapter.

Table 3.9

Estimates of Trend and Seasonality of Hank Yarn Prices
(Monthly Data, Period January 1984 - December 1990)

(Adjusted for Auto-Correlations)

Independent variables	20s	40s	60s	80s
Constant	2.768 (6.203)*	3.053 (16.51)*	3.17 (19.75)*	3.31 (21.19)*
Time trend (monthly)	.009 (1.9)*	.010 (4.01)*	.012 (5.612)*	.013 (6.02)*
Seasonal dummies				
S2 (February)	.002 (.20)	.021 (2.067)*	.023 (2.60)*	--
S8 (August)	--	.018 (1.822)**		
R^{-2}	.973	.977	.984	.977
F	992.3	892.8	1642.5	1707.1
D.W.	1.54	1.646	1.792	1.90
Rho	.964 (32.7)*	.931 (23.9)	.920 (24.4)	.896 (20.1)
N	84	84	84	83

Notes: 1. The above estimates were adjusted for auto-correlation and obtained by Ochrane Orcutt method.
2. Figures in brackets are t- values of coefficients.
* indicates significance at 5%,
** for significance at 10% level.

Figure 3.3

Monthly Prices of Hank Yarn, Count 20s

(January, 1984 - December, 1990)

(LCH = Log of Prices of Hank Yarn, Count 20s)

Plot of Actual and Fitted Values

LCH20 ———————— Fitted ·················

Figure 3.4

Monthly Prices of Hank Yarn, Count 40s

(January, 1984 - December, 1990)

(LCH = Log of Prices of Hank Yarn, Count 40s)

Plot of Actual and Fitted Values
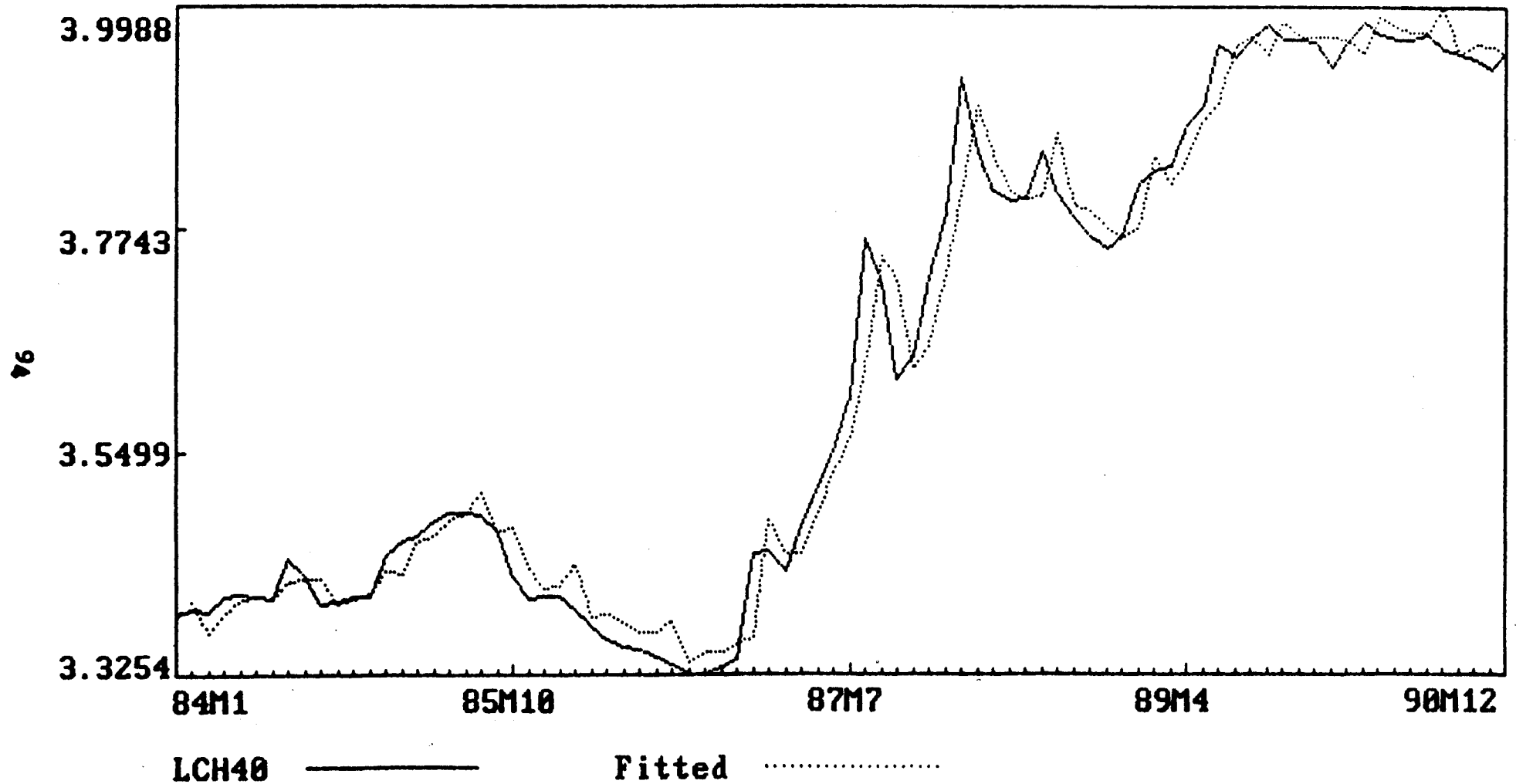
Figure 3.5

Monthly Prices of Hank Yarn, Count 60s

(January, 1984 – December, 1990)

(LCH = Log of Prices of Hank Yarn, Count 60s)

Plot of Actual and Fitted Values

LCH60 ——————   Fitted ················
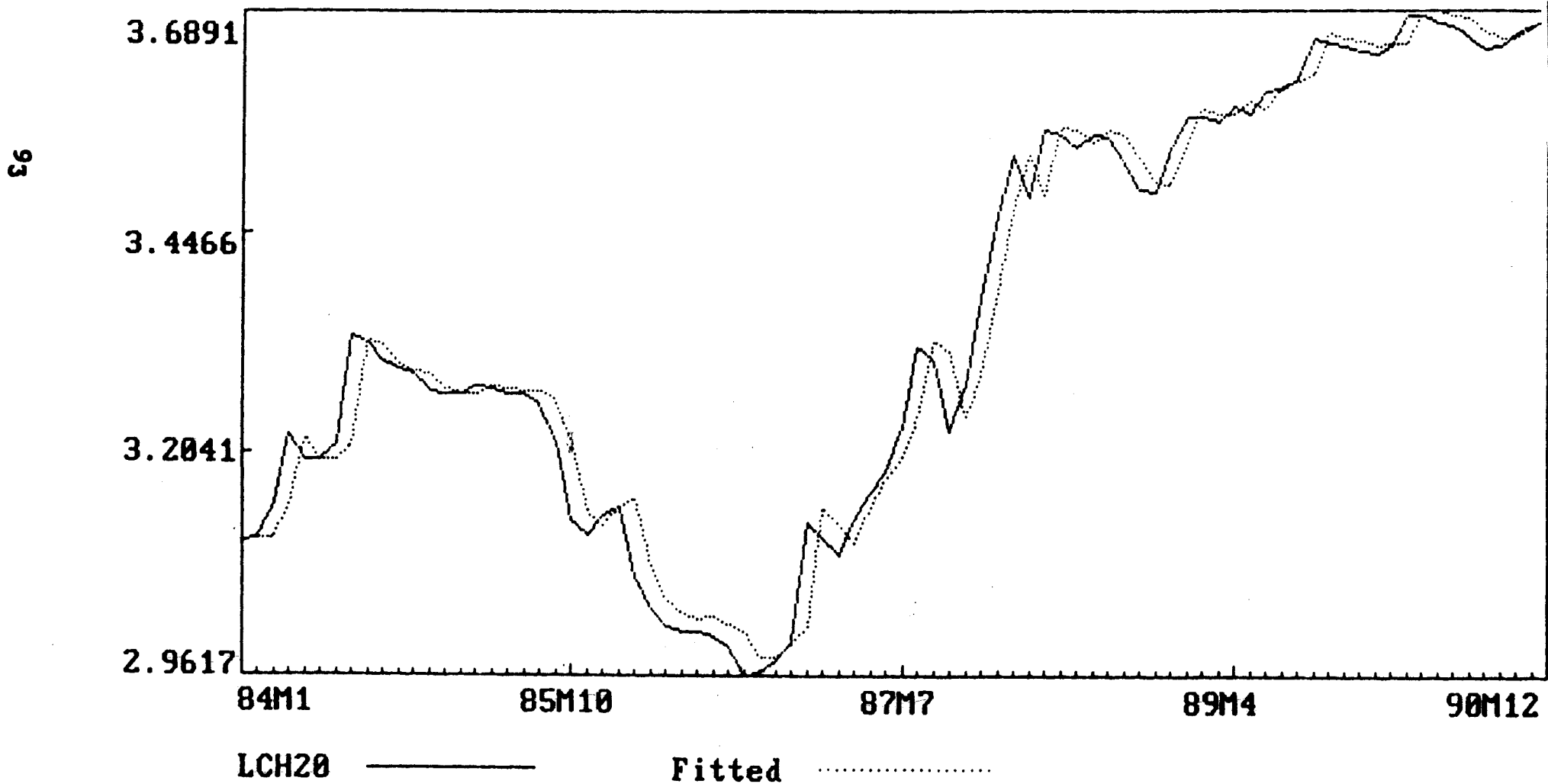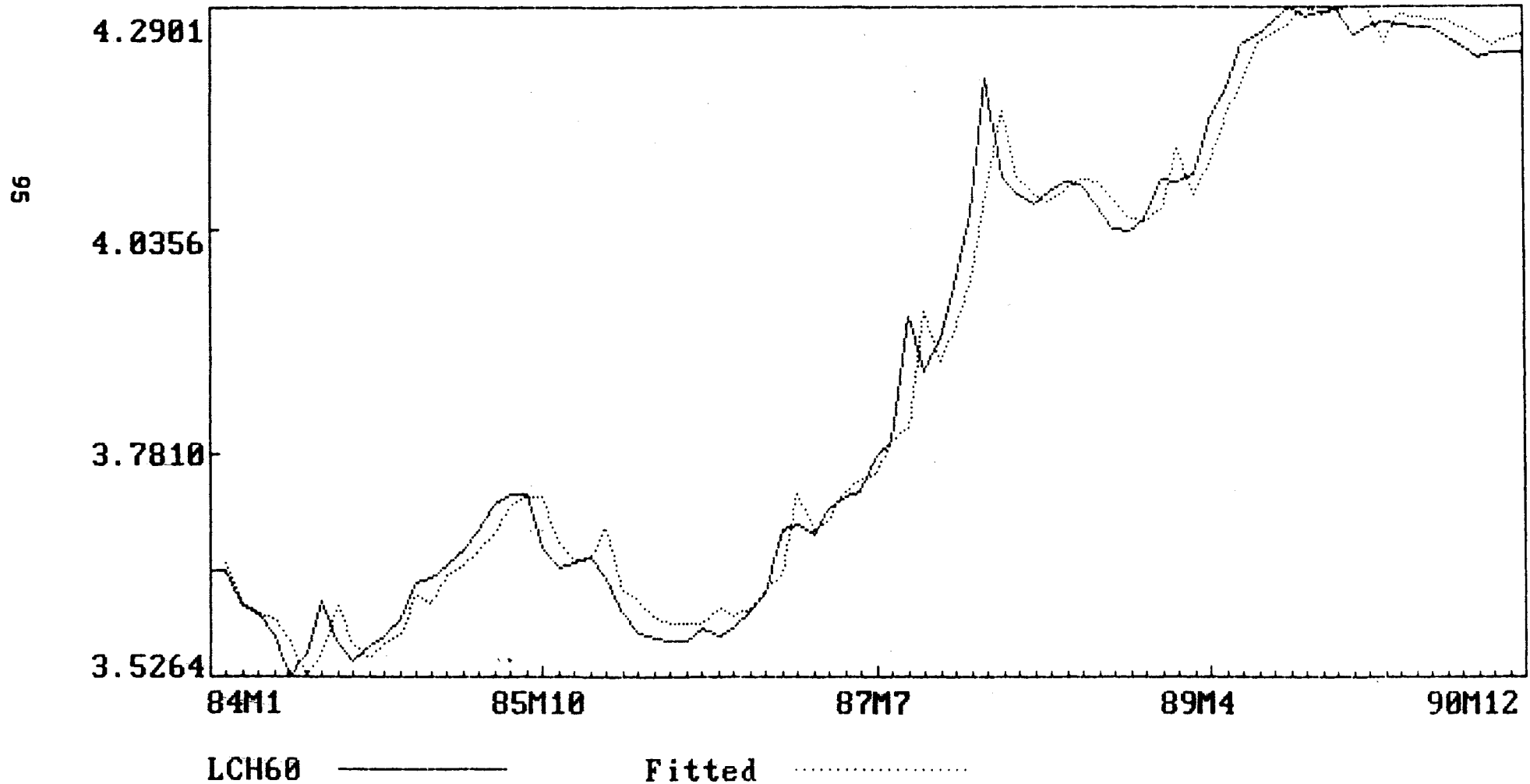
Figure 3.6

Monthly Prices of Hank Yarn, Count 80s

(January, 1984 - December, 1990)

(LCH = Log of Prices of Hank Yarn, Count 80s)

Plot of Actual and Fitted Values

LCH80 ———————— Fitted ···················
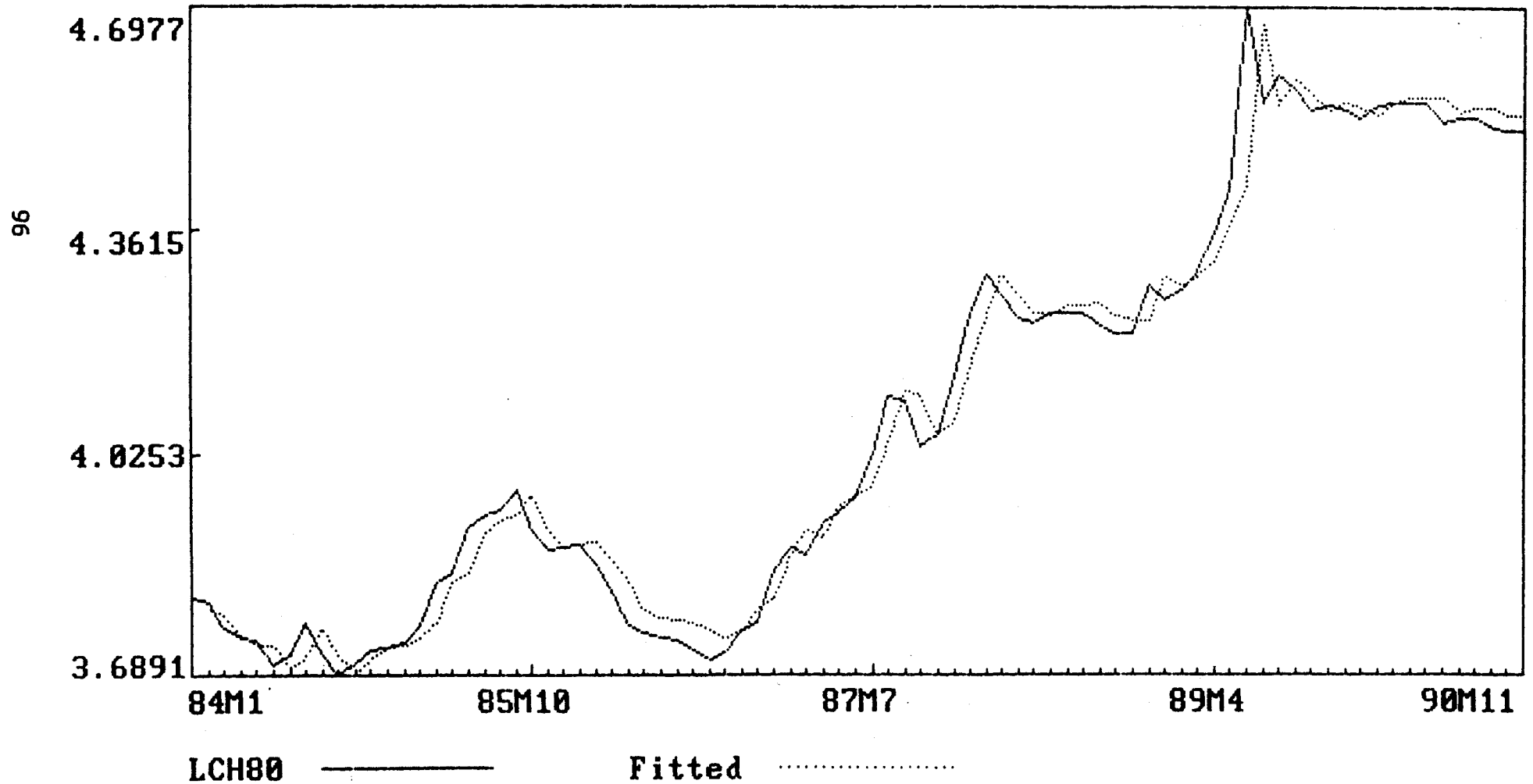
3.3 Factors Influencing Yarn Prices

3.3.0   In reality a number of factors tend to have some
influence on yarn prices, operating from demand and supply sides
of the yarn market. On the supply side, price fluctuations can
be caused by factors such as:

1. Cotton availability taking into account cotton crop
   production, imports and exports policy.

2. Yarn distribution mechanism and transport costs that
   cause differences in retail prices, state-wise.

3. Yarn stocks and credit availability to traders and
   weavers.

4. Yarn export policy.

On the demand side, one should take note of changes in the
pattern of consumer demand for cloth, price changes of cloth,
vis-a-vis cotton yarn, seasonality due to festival demand,
monsoon and other random factors like tax raids of wholesale yarn
trade, etc.

3.3.1 Cotton Crop and Availability: India suffered a setback in
cotton production in 1987-88 due to a severe drought in several
States, witnessing a steep rise in cotton prices throughout the
cotton year 1987-88. This had resulted in an abnormally high
cost of cotton for spinning mills, which in turn raised yarn
prices. For hank yarn, the price rise in 1987-88 over its
previous year was as high as 43 per cent for coarse counts such
as 10s, 20s, 2/20s; and as much as 40 per cent for widely used
counts, 40s. The average prices of cone yarn were also up by 20
to 40 per cent for different counts, above the corresponding
prices in 1986-87. The peak witnessed in cotton yarn prices
during 1987-88 was mainly attributed to the surge in cotton
prices on account of drought and low availability of cotton.

3.3.2 Cotton Export Policy: In our survey, many yarn traders have complained against the ad hoc policies of the government in regard to cotton exports which have allegedly, had an adverse impact on yarn prices. As the cotton policy is changed every year and even sometimes within a year, the stability of yarn prices is adversely affected. Other things remaining constant, cotton exports have led to an increase in domestic prices which, in turn, influenced traders' future expectations about yarn prices in the domestic market. It is not difficult to see that, since more than sixty per cent of yarn cost is accounted for by cotton, scarcity created by cotton exports is directly transmitted into cotton yarn prices in the domestic market. Yarn traders also tend to hold back the yarn stocks whenever yarn export quotas are announced by the Government of India, and later push up the prices.

3.3.3   In general, only good quality cotton is exported, while short staple cotton and other coarse varieties are used domestically. But, encouraged by a bumper crop of cotton in 1989-90, the Government of India released sizeable quotas of all categories for exports. The total quota released in 1989-90 was the highest at 14 lakh bales, mostly comprising staple cotton to the tune of 12.65 lakh bales, Bengal Desi (medium staple) 1 lakh bales and other varieties, 0.35 lakh bales. Thus domestic prices of yarn increased due to exports, but the increase was limited since home consumption of all varieties of cotton was not affected significantly by cotton export. However, the announcement effect of the export policy by the government is an immediate increase in cotton yarn prices by mills depending on mills' expectations about the likely availability of cotton in the domestic market after exports. As the outlook for cotton season 1990-91 suggested, the cotton production was estimated to exceed that of 1989-90. Taking into account the favourable

production signals, the government had decided to release an export quantity of 5 lakh bales of cotton for the 1990-91 season. But surprisingly, there was a steep rise in yarn prices during 1991, despite a bumper crop of cotton in the previous year[17]. Nevertheless, in order to maintain the stability of yarn prices, the export policy in respect of cotton must be based on a realistic estimate of cotton crop. In India cotton crop estimate is not made on a scientific basis, such as by the method of remote sensing, used in USA and other industrialised countries. In fact, as reported by knowledgeable persons in the yarn trade during the course of our survey, estimation errors have in the past led to wrong export decisions by the government, resulting in scarcity and a steep price increase of cotton and cotton yarn.

3.3.4   Another important dimension is the time when export policy is announced.   For instance, in September, 1990, the Government of India announced a cotton export target of 5 lakh bales for 1991-92.   The decision was made a month before the cotton crop actually arrived in the market.   Later, the actual crop production was found to be less as compared with the estimated production. This resulted in a rise of domestic prices of cotton as also of yarn.   Thus, exports of cotton have partly been responsible for scarcity, and hence the increase in prices of cotton and yarn.   Thus, a complete and correct knowledge about the crop position can give useful signals to arrive at proper export decisions which is possible only by December every year. Alternatively, it may be possible to tackle the yarn export decision problem in a smoother way by creating the buffer stocks of cotton as can be done by the Cotton Corporation of India (CCI).   The involvement of CCI could bring about greater improvement in making cotton export policy decisions, which may eventually result in the stability of yarn price.

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17.   This appears to be due to yarn export as also the increasing domestic demand for cloth.

3.3.5 Yarn Distribution: As hank yarn is distributed from the main production centres in Coimbatore to far off places in West Bengal, Orissa, Rajasthan, Delhi, Bombay, etc., a need arises for traders, especially those located in distant places, to stock yarn. The amount of yarn stocked directly depends on the size of working capital held by them and may influence yarn prices upwards or downwards. Generally, in a market which is not perfectly competitive, yarn traders could always keep the price upward. This may not however, be true for such yarn traders who are situated nearer the spinning mills as revealed by our interviews with some traders in Coimbatore. They stated that yarn stocks need not be maintained by traders for more than a month or two, as production order of an average size undertaken by mills is generally executed within a week. The production lag may however vary depending on the capacity of the mill as well as the size of the production order. Mills in general, maintain the required cotton stocks sufficient to produce yarn for a month, or two, according to the seasonal demand for cloth. Usually cotton is procured by mills in bulk during cotton harvesting and auction time. Moreover, there are a number of spinning mills in Coimbatore who are ready to undertake production upon order. Hence the traders located in the Coimbatore region do not find it necessary to maintain yarn stocks equivalent to what can be produced by mills on order having more than a week's time.

3.3.6 Transport Costs and Inter-State variation in Retail Prices of Hank Yarn. During the course of our survey in different States, we have collected data on retail prices of hank yarn of popular counts from local yarn traders. These price data have been organised count-wise and month-wise in a comparable manner to examine inter-State price variation at a point of time. It is obvious that retail prices could vary for the same month from State to State on account of differences in transport cost, traders' margin and local monopolies, if any. As shown in Table

3.10, we have considered the average price of hank yarn across a sample of traders, in a State, for a given count. A national average of retail prices is worked out over States as also the coefficient of price variation across them. The inter-State variation shows the degree of price difference that prevailed over States at a given point of time.

3.3.7   A careful look at the last column of Table 3.10 reveals that retail prices varied considerably in the case of certain coarse counts of hank yarn. For example, the variation for 6s DHCR was about 25 per cent, for 10s DHCR, 12.9 per cent, for 20s SHPR, 7.8 per cent, and for 2/20s SHPR, over 7 per cent. The inter-State variation in yarn prices appears to have partly been due to differences in transport costs incurred by wholesale and retail traders in the course of distribution and, to the number of distribution stages involved between wholesale and retail (Final) points, as also the trader's margin at each stage. In some cases the difference could be due to monopoly rents locally created by hoarding by the traders. The monopoly rent seems to have been due to excess local demand for a specific count of yarn.   A large price difference was noticed , for example, in the case of count 6s DHCR in September-October 1990, when its, retail price was as high as Rs.49.56 per kg. in West Bengal, Rs.29 per kg. in Karnataka, and was around Rs 31.70 per kg. in Uttar Pradesh. Thereby, the coefficient of price variation among these three States was high at about 25 per cent. There was a price difference of Rs.20.50 per kg. between West Bengal and Karnataka. This variation cannot necessarily be attributed to inter-temporal nature of transport costs alone.   In this analysis, as we have considered retail prices prevailing more or less at the same time, the observed price variation is not inter-temporal in nature. The price at which, for instance, the West Bengal trader sold yarn to weavers depended on the source of the trader's own purchase price and time. These factors in

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Table 3.10

An Inter-State Comparison of Retail Hank Yarn Prices as Quoted by Traders During 1990 and 1991

Counts	States	Comparative prices (Price/kg.)	Period	National Average (Rs./kg.)	Period	Coef. of Variation (inter-state)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2s SHPR	Karnataka	17.18	Oct'90			2.63
	Maharashtra	16.30	Oct'90			
6s DHCR	Karnataka	29.07	Sep'90			24.74
	Uttar Pradesh	31.72	Oct'90			
	West Bengal	49.56	Sep'90			
6s SHPR	Karnataka	30.29 (Avg)	Oct'90			6.81
	Maharashtra	26.43	Oct'90			
10s DHCR	Andhra Pradesh	29.07	Nov'90	29.42	Aug'90	12.81
	Uttar Pradesh	37.67	Sep'90			
17s SHPR	Orissa	39.00	Sep'90			2.19
	West Bengal	40.75	Sep'90			
20s DHCR	Andhra Pradesh	36.67	Jan'90			4.33
	West Bengal	34.36	Feb'90			
	Andhra Pradesh	38.55	Oct'90	38.44	Aug'90	
	Karnataka	37.89	Oct'90			
20s SHPR	Orissa	36.34 (Avg)	Oct'90			7.85
	Karnataka	35.90 (Avg)	Oct'90			
	Karnataka	30.4[?]	Nov'90			
	West Bengal	37.55 (Avg)	Sep'90			
2/20s SHPR	Andhra Pradesh	44.04	Oct'90	42.41	Aug'90	7.25
	Karnataka	37.60	Oct'90			
	Maharashtra	44.05	Oct'90			
24s DHCR	Maharashtra	41.85	Oct'90			3.67
	Karnataka	41.85	Oct'90			
	Maharashtra	45.15	June'91			
	Uttar Pradesh	44.05	June'91			
	Uttar Pradesh	46.26	Apr'91			
	Uttar Pradesh	44.05	Jul'91			

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Table 3.10 Contd...

(1)	(2)	(3)	(4)	(5)	(6)	(7)
26s SHPR	Orissa	38.77	Oct'90			3.40
	West Bengal	42.36	Sep'90			
	Maharashtra	41.85	Sep'90			
	Maharashtra	40.53	Nov'90			
32s DHCR	West Bengal	48.63	Sep'90			5.44
	Karnataka	43.61	Oct'90			
40s DHCR	Andhra Pradesh	54.79	Aug'90	52.06	Aug'90	5.17
	West Bengal	51.43	Sep'90			
	Karnataka	58.37	Oct'90			
40s SHPR	Karnataka	53.96	Oct'90			2.81
	Orissa	51.76	Oct'90			
	West Bengal	49.56	Sep'90			
	Maharashtra	52.86	Sep'90			
	Maharashtra	51.76	Aug'90			
2/40s SHPR	Andhra Pradesh	58.37	Nov'90			2.57
	Maharashtra	56.17	Nov'90			
	Andhra Pradesh	60.13	Oct'90			
	Maharashtra	59.47	Oct'90			
60s DHCR	Karnataka	73.79	Oct'90			16.59
	Andhra Pradesh	103.14	Sep'90			
60s SHPR	Karnataka	68.72	Oct'90	69.38	Aug'90	5.02
	Maharashtra	75.99	Sep'90			
2/60s SHPR	Andhra Pradesh	83.26	Sep'90			4.38
	Maharashtra	80.40	Oct'90			
	Karnataka	73.79	Sep'90			
	Orissa	78.19	Oct'90			
80s SHPR	Karnataka	85.46	Oct'90			5.13
	Maharashtra	94.71	Aug'90			
100s DHCR	Karnataka	110.13	Oct'90			14.53
	Andhra Pradesh	147.58	Oct'90			

Note: SHPR = Single Hank Plain Reel;
      DHCR = Double Hank Cross Reel

Source: Based on Traders Survey Data

general, vary considerably from trader to trader in each State as also from State to State, and, thus cannot be the same for traders in Karnataka or Uttar Pradesh. Thus, some differences in inter-State price variations are always likely and call for more disaggregated analysis. It cannot therefore, be attributed to individual factors and quantified with any precision. In the absence of more detailed information, it may be concluded that, by and large, inter-State price variations are not uniform across yarn counts, they are relatively high in the case of coarse counts (below 40s) than others. In a majority of cases, however, the price variation, as shown in Table 3.10, is around 5 per cent which may be due to differences in the trader's margin and distribution costs across retail depots all over India.

3.3.8 Credit Availability to Traders and Weavers: Availability of credit and future expectations about prices have an important influence on yarn prices. It has been observed that yarn prices fluctuated perceptibly depending on the market supply and demand situation. When prices fall due to scant demand, dealers tend to hold up stocks for a month or two in anticipation of future price rise, although it entails some storage costs. To that extent, a possible fall in yarn price is restricted by traders. Thus price fluctuation can also be avoided by deliberate actions of traders. However, overstocking for prolonged periods would have resulted in higher storage cost and therefore, an abnormal increase in yarn prices. To counter such unwanted price rise, the intervention of a government agency seems necessary. Its main role would be to maintain buffer stocks of hank yarn and release those to the market at an opportune time so as to reduce social costs and high yarn prices. In a situation of financial crunch, as generally faced by weavers or master weavers, dealers were found to extend credit to weavers for the purchase of yarn at a market rate of interest which is usually higher than the concessional bank rate. Our field experience suggests that this

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was often the case when prices generally ruled higher than normal. Dealers in general, have showed a tendency to release more stocks to the market when prices were not expected to rise further in that season and have held stocks when prices were likely to rise in the future. It is worth examining if any empirical relation exists between interest rate and cotton yarn stocks held by traders. But the non-availability of stock information with traders has precluded such a possibility.

3.3.9 Yarn Exports: India has set up a huge spinning capacity to produce cotton yarn. Indian cotton yarn commands a good image in the international market. India's yarn prices compare favourably with those of its competitors namely, Germany, Brazil, USA, and South Korea. However, handloom and powerloom manufacturers have obvious fears against yarn exports. It is generally argued that export of yarn might lead to scarcity in the domestic market. Yarn traders, unlike cotton traders, reportedly, have not played any significant role in influencing yarn export policy. As stated earlier, in the long-run, domestic prices of cotton yarn may be stabilised in a desirable manner, if adequate cotton stocks are maintained. As the export profitability is attractive, selected counts of yarn can be exported by such mills having sufficient spinning capacity. Moreover, with short production lags, mills can produce yarn at a short notice. Export of yarn, unlike that of cotton may not, however, influence domestic prices significantly because of quotas on yarn exports. No doubt that, within quota limits, a mill may choose to either produce for domestic market or for export markets depending on whether or not foreign prices increase more than domestic prices (i.e. export profitability is higher than domestic profitability). Even though mostly yarn of super fine counts is exported, because of the mills' decisions to concentrate on exports of superfine varieties, supply bottlenecks do sometimes arise for the coarse

counts. Thus, yarn exports of even super fine counts may also have some influence on the domestic prices of the coarser counts[18] . The degree of impact would depend on the extent to which temporary shortages are absorbed by the release of yarn stocks by traders into the market.

3.3.10 <u>Tax Raids</u>: During the field work, it was brought to our notice that yarn market is dominated by some private traders who do not maintain proper books of accounts and evade taxes. Experiences in the past also showed that income tax raids on the premises of traders had been followed by a fall in yarn prices. It implies that due to tax-raids, the flow of credit was restricted from big traders which caused a slump in the prices of yarn. Similarly yarn prices fluctuated in the periods of transporters' strike or lock-outs of mills due to labour problems, etc. All these may be regarded as random shocks causing price fluctuations in yarn prices around their "normal" levels.

Demand Factors

3.3.11 <u>Count-wise Demand Pattern</u>: The problem of price fluctuation assumes greater relevance, if we consider the demand for yarns of different counts. Coarse varieties of yarn are used in janata cloth production for distribution to weaker sections of the society. In other cases, however, medium and super fine varieties of yarn are used according to the prevailing pattern of consumer demand. Usually, fine and superfine counts, viz., 40s, 60s, 80s, and 100s, are demanded by the richer sections of the society. Since consumer demand for cloth, by and large, translates itself into demand for yarn, it is useful to analyse price fluctuations of different counts of cotton yarn separately and examine whether price changes of handloom cloth were

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18.   This factor partly explains the relatively strong correlation in the prices of the coarse and super fine counts of yarn.

commensurate with those of hank yarn. In doing so, it is presumed that cloth prices give the appropriate signals of the changing cloth demand.

3.3.12 To facilitate a close comparison of prices of hank yarn and handloom cloth during the 1980's, the relevant data were compiled as given in Table 3.11. Using the price data, year-to-year price changes were worked out and are shown in the same table. The annual average prices of hank yarn of different counts as well as handloom cloth showed a considerable increase during the reference period. But the rate of increase has not been uniform in the case of yarn prices. The annual average the sub-period 1982-85 was at 119.6 (Base, 1980 = 100). The increase was relatively higher and more rapid during the later period, 1986-89, the average being 164.5. Interestingly, the coefficient of variation in the cloth prices as shown in Table 3.11, was also higher during 1986-89 (15.14 per cent) than during the earlier period 1982-85 (4.49 per cent). On the whole, the annual average prices of handloom cloth consistently increased during the 1980's, the year-to-year price rise being in the range of 4 to 16 per cent during the same period (see Fig 3.7).

3.3.13 In contrast, hank yarn prices have not been steady during the 1980s. All counts of hank yarn showed fluctuations from their respective average prices. In the sub period 1982-85, the fluctuations, as measured by the coefficient of variation (C.V.) were as high as 8.15 per cent for the coarse counts 20s. The C.V. was comparatively higher for the coarse counts than for fine and super fine counts. In the later period 1986-89, the fluctuations were far higher (the C.V. ranged from 20.8 per cent for the popular counts 40s, to 26.3 for super fine counts, 80s) as compared to the price variation witnessed by handloom cloth. The fact that hank yarn prices witnessed wider fluctuations is also evident from Figs. 3.7 to 3.10 which show a comparative

scenario of annual price changes in handloom cloth and hank yarn of different counts, during the period 1983-89. From these figures, it is evident that hank yarn prices, on an average, dipped in the years 1983, 1986 and 1988 for the coarser counts 20s and in the years 1984, 1986 and 1989 for other counts 40s, 60s and 80s. During the entire period, the prices of handloom cloth had never declined, but, showed an upward trend. On the other hand, for the coarser counts 20_s, yarn prices increased more than cloth prices in the years 1984, 1985, 1987 and 1988 and for other counts, in the years 1983, 1985, 1987 and 1988. For instance, in the case of coarser counts 20s, the price rise was higher by 10 per cent over the previous year, whereas, for handloom cloth, the price increase being only 5 per cent was not commensurate with that of hank yarn. A significant finding of this comparative price analysis is that the changes in the handloom cloth prices were not commensurate with those of hank yarn prices. An important reason for this can be found the from factors affecting the consumer demand, such as, monsoon and festivals which are explained below.

Table 3.11

A. Annual Averages & Percentages of Cotton Cloth & Hank Yarn

(Cloth price index, 1980 = 100, yarn prices in Rs./Kg.)

Year	Handloom cloth	Hank Yarn			
		20s	40s	60s	80
1982	112.90	22.47	28.10	34.36	47.36
1983	117.30	20.25	30.18	37.22	52.42
1984	120.60	22.70	27.36	36.17	42.36
1985	127.60	25.47	31.68	39.39	47.61
1986	135.00	20.43	28.63	36.32	43.51
1987	150.60	24.49	35.56	43.88	53.60
1988	171.10	33.14	44.62	57.99	67.83
1989	201.60	36.81	50.20	67.35	87.82
1982-85					
AVG	119.60	22.72	29.33	36.79	47.44
STD	5.37	1.85	1.71	1.82	3.56
CV	4.49	8.15	5.82	4.94	7.50
1986-89					
AVG	164.58	28.72	39.75	51.39	63.19
STD	24.92	6.55	8.28	12.06	16.64
CV	15.14	22.81	20.82	23.47	26.33

B. Annual Percentage Changes

Year	Handloom cloth	Hank yarn			
		20s	40s	60s	80s
1982	3.90	-9.88	7.40	8.32	10.68
1983	2.81	12.10	-9.34	-2.82	-19.19
1984	5.80	12.20	15.79	8.90	12.39
1985	5.80	-19.79	-9.63	-7.79	-8.61
1986	11.56	19.87	24.21	20.81	23.19
1987	13.61	35.32	25.48	32.16	26.55
1988	17.83	11.07	12.51	16.14	29.47

Source: Consumer Purchases of Textiles, Market Research Wing, Ministry of Textiles, Bombay (various issues).

Figure 3.7

Annual Price Changes, 1983–89

Handloom Cloth & Hank Yarn

□   Hank yarn 20's   +   Handloom Cloth
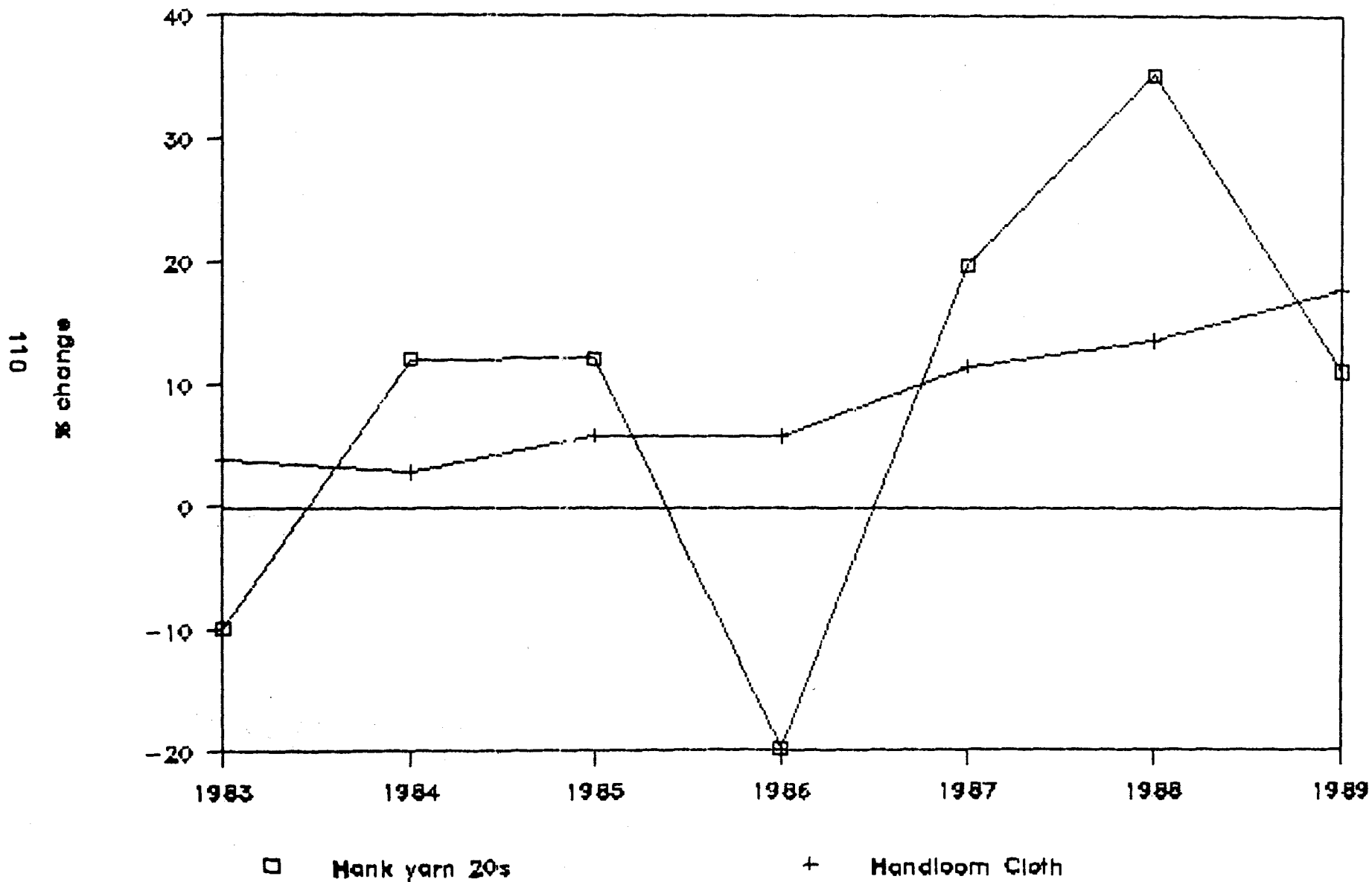
Figure 3.8

Annual Price Changes, 1983-89

Handloom Cloth & Hank Yarn

111

% change

| | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 |

□ Hank yarn 40s   + Handloom Cloth
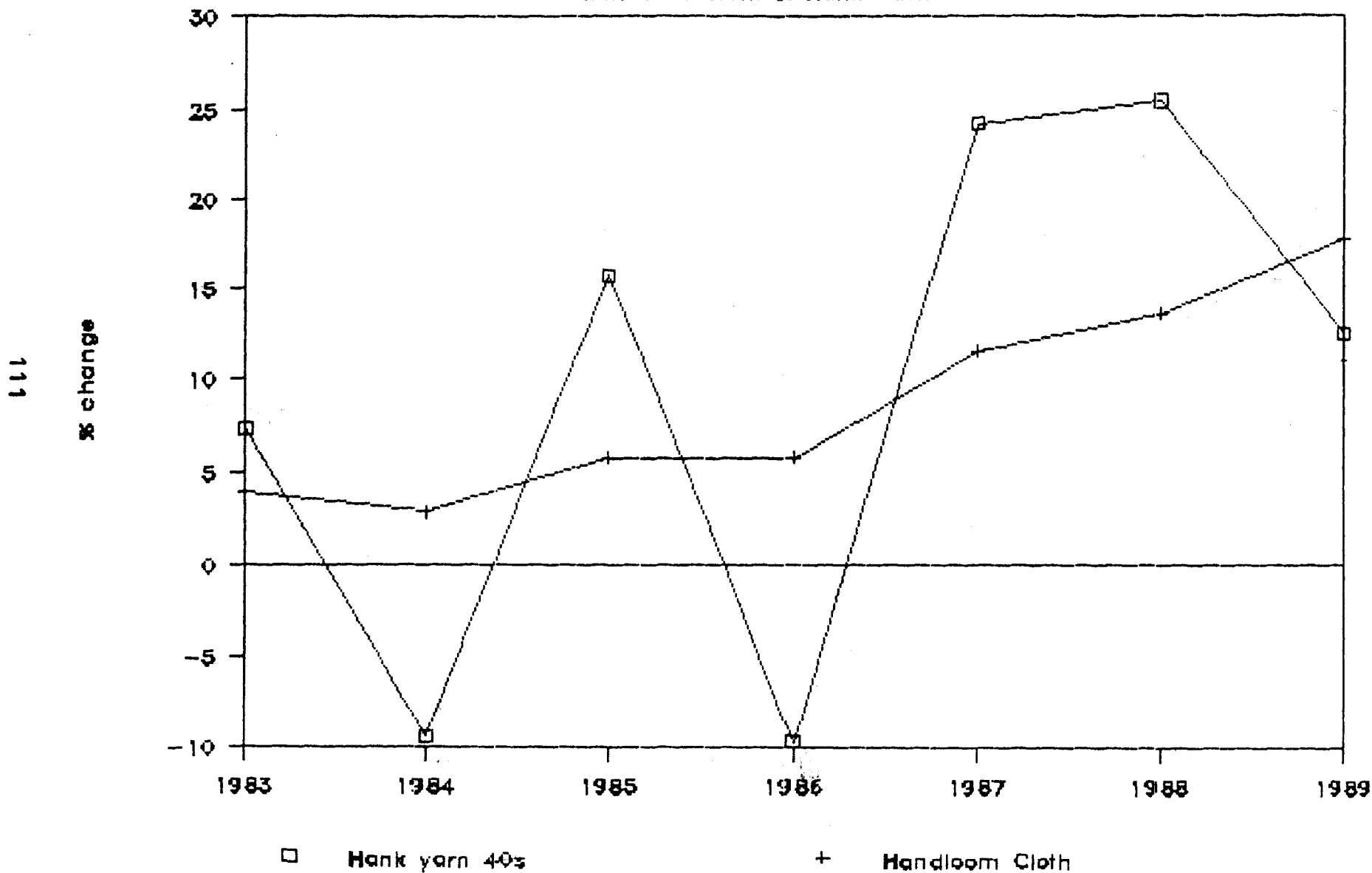
Figure 3.9

Annual Price Changes, 1983-89

Handloom Cloth & Hank Yarn

112

% change

35

30

25

20

15

10

5

0

-5

-10

1983 1984 1985 1986 1987 1988 1989

□   Hank yarn 60s   +   Handloom Cloth
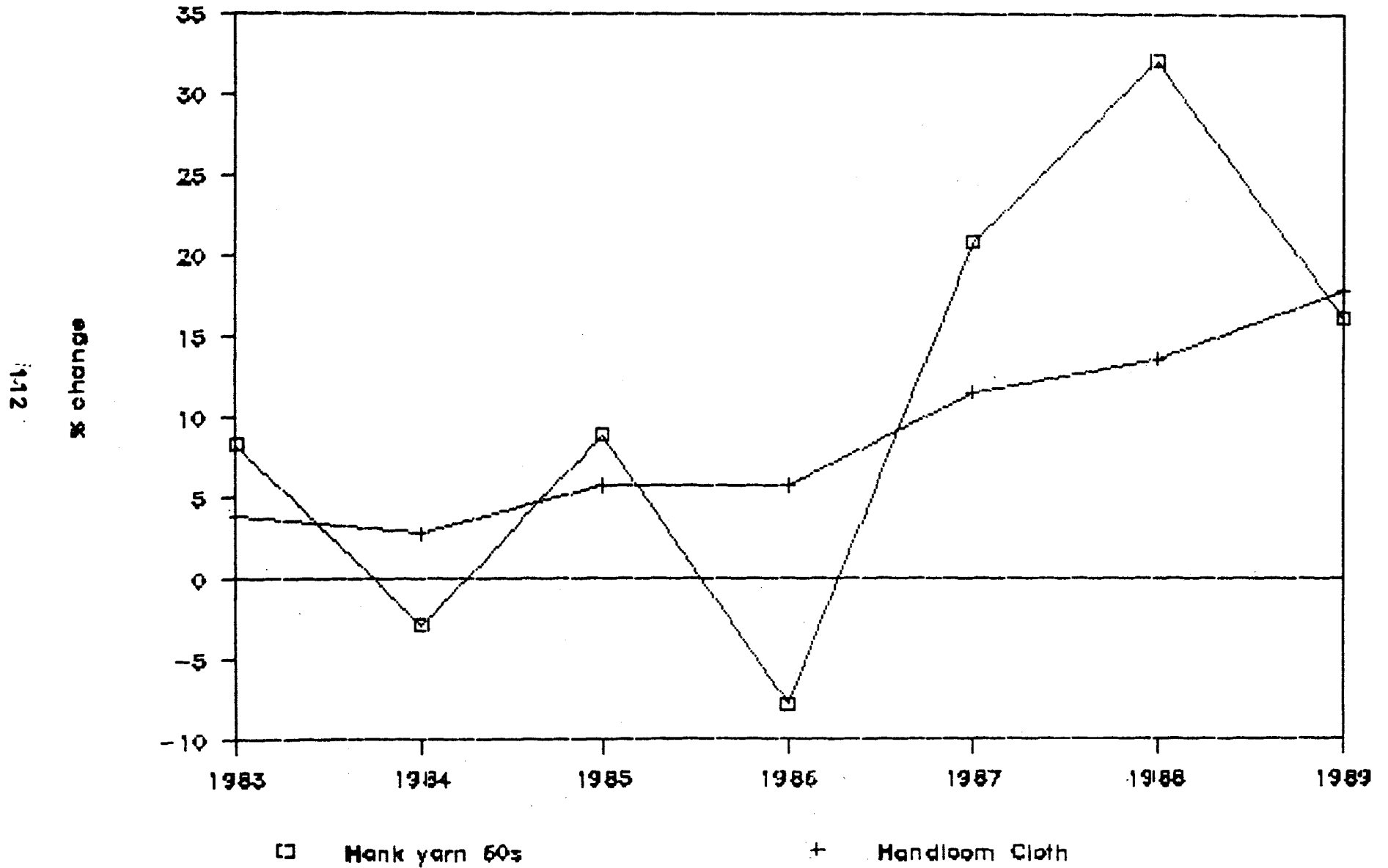
3.3.14 Monsoon: It is clear that consumer demand varies according to the level of consumer income, and a good monsoon in a year implies high rural incomes, which will, in turn, raise consumer demand for cloth in that year. Thus, following a good monsoon, a higher consumer demand for cloth will tend to raise the prices of yarn. However, on the supply side, in the years of good monsoon, cotton production is also high enough, resulting in a fall in yarn prices. Thus, the net effect of a good monsoon on yarn prices is somewhat uncertain. For example, during 1989-90 and 1990-91, due to a good monsoon, cotton prices fell to a considerable extent with a good crop yield, while, agricultural income increased and resulted in a good consumer demand for cloth, which in turn, pushed up the yarn prices. Depending on the magnitude of the net effect, the yarn prices moved, causing fluctuations[19].

3.3.15 Festivals: The demand for yarn varies seasonally according to festivals. Handloom and powerloom weavers have a typical work pattern. They, being village and cottage industries set up in huts and `kuchha' establishments, have little weaving work in rainy season. Our study team was told that they also laid off weaving work during the festival time, but were busy during a month or two before festivals. Thus, the demand for yarn goes down during the rainy season and also during the

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19. A rise in yarn demand resulted in higher yarn prices and lower cotton prices and hence, improved the profitability of spinning mills. But, the rate of profitability could not be sustained in the long run. The level of cotton production also depended on the prices received by cotton growers, and, in particular on the minimum support prices offered by the government for safeguarding the interests of cotton growers as also to ensure a minimum level of cotton production for meeting the cloth requirements of the home market. Thus, the support prices of cotton were increased, which had inflated the cost of production and adversely affected the profitability of the spinning mills.

festival time, but yarn demand tends to reach its maximum a month before festivals. Therefore, there may be a trough in yarn prices immediately after the festivals, following a peak before a festival. That is, yarn demand picks up a month before Diwali (say, August to September) every year and, therefore, yarn prices increase at this time.

3.3.16   Hank yarn prices rose steeply by about 20 per cent in 1987 and further by 31 per cent in 1988. Cloth prices also showed a tendency to rise considerably, but the increase in yarn price was far higher than that of cloth price. The buoyancy in yarn prioes has not only affected the plan schedule of weaving but also the survival of handloom workers, which was at stake, as they often lacked adequate credit facilities to purchase hank yarn at higher prices. More particularly in the case of master weavers than cooperative societies, the accessibility to credit was limited. Cloth prices did not increase commensurately enough to enable them to repay the debt at a high rate of interest. The rising material cost thus proved to be detrimental to weavers' employment, as it cut into their wage cost, to some extent.

3.3.17   It is also useful to consider the substitution effects between cotton cloth and non-cotton cloth (blends, synthetics, etc.). To do this, we compare the price trends of cotton textiles with those of non-cotton textiles using data on their prices (Rs./metre) as compiled in Table 3.12 for the period 1971 to 1988. A close look at this table and also Fig.3.1f reveals that the prices had moved in favour of non-cotton textiles during the period of drought in 1987. As expected during the drought, cotton cloth availability declined, thereby shifting the consumer demand towards non-cotton textiles. As a result, the prices of non-cotton textiles showed a steep rise in 1987 over 1986 but this increase was soon followed by a decline in 1988 with the improvement in cotton cloth availability. It is thus an indicator of change in consumer preferences towards non-cotton textiles. This partly explains, why the price rise of handloom cloth was not commensurate with that of hank yarn.

Table 3.12

Estimated Average Prices of Cotton Textiles

(Rs. per metre)

	Cotton Textiles			Non-Cotton Textiles		
	Urban	Rural	All India	Urban	Rural	All India
1971	3.79	2.7	2.86	14.14	8.04	9.6
1972	4.09	2.93	3.13	14.52	7.25	9.17
1973	4.6	3.3	3.51	16.23	9.43	11.36
1974	5.74	4.5	4.78	18.85	12.7	14.62
1975	6.05	4.8	5.02	25.39	16.38	19.45
1976	6.24	4.57	4.61	23.8	17.65	21.17
1977	6.7	4.98	5.34	27.79	17.02	22.85
1978	7.33	5.55	5.96	26.72	19.62	23.61
1979	7.79	5.86	6.28	29.86	22.02	26.26
1980	9.42	7.27	7.78	32.61	24.57	28.64
1981	10.48	7.54	8.26	37.93	25.27	32.92
1982	11.24	8.04	8.82	41.36	28.4	35.51
1983	11.89	8.32	9.15	41.68	30.47	35.95
1984	12.35	8.71	9.54	43.12	31.83	37.13
1985	13.07	9.13	10.03	48.93	33.63	40.64
1986	14.02	9.73	10.8	48.39	36.09	41.64
1987	15.12	10.4	11.69	52.25	41.85	46.82
1988	15.41	11.73	12.66	55.12	44.46	49.75
1971-80						
STD	1.66	1.34	1.44	6.29	5.64	6.69
AVG	6.18	4.65	4.93	22.99	15.47	18.67
C.V.	26.84	28.78	29.31	27.37	36.45	35.85
1981-84						
STD	0.70	0.43	0.47	1.90	2.47	1.54
AVG	11.49	8.15	8.94	41.02	28.99	35.38
C.V.	6.13	5.23	5.25	4.64	8.53	4.35
1985-88						
STD	0.93	0.97	0.98	2.72	4.34	3.74
AVG	14.41	10.25	11.30	51.17	39.01	44.71
C.V.	6.45	9.43	8.70	5.31	11.12	8.36

Source: Consumer Purchases of Textiles, Ministry of Textiles, Government of India, Bombay.

Figure 3.11

Price Comparison of Cotton Cloth

and Non-cotton cloth

□ Cotton   + Non-cotton

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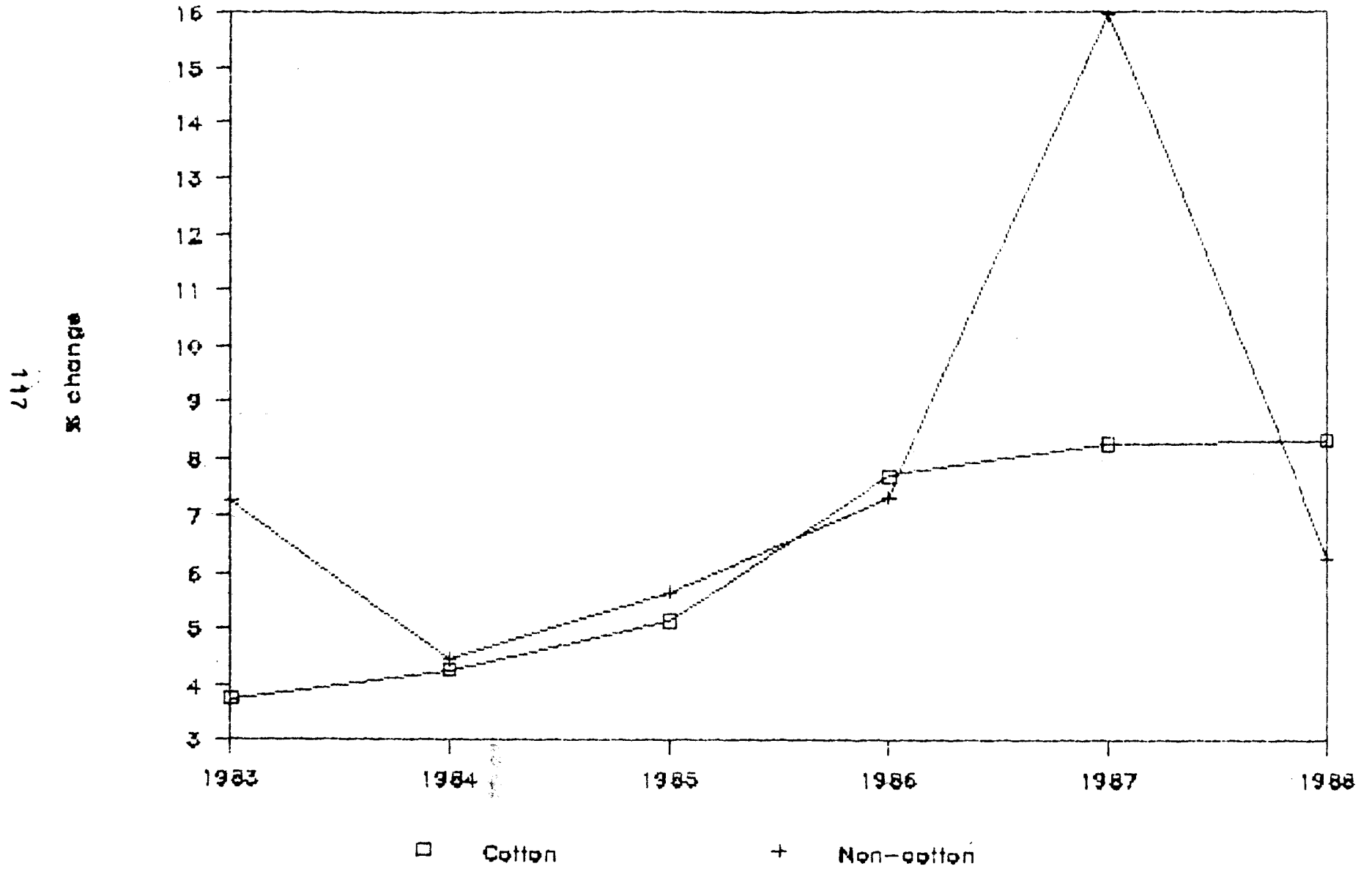
3.4 Summary

3.4.0   In this chapter, we have dealt with various supply and demand factors and estimated the trend and seasonality of hank yarn prices for the period 1984 to 1990. Among all, the major sources of price fluctuations were found to be the supply as well as demand constraints.   The trend was estimated to increase count-wise from 1 per cent a month for the coarse counts, 20s, to 1.4 per cent a month for super fine counts, 80s.

3.4.1   On the supply side, significant fluctuations were noticed in cotton prices.   More importantly there were high correlations between cotton and yarn prices when analysed count-wise, separately. Our survey data of retail yarn prices as quoted by traders have suggested that the inter-State variation in retail prices was considerable (25 per cent) only in the case of certain coarse counts , but, not high for other counts of yarn, in general. The retail prices varied across States from 5 to 8 per cent, with respect to the national average price. The degree of variation thus noticed may be treated `normal', given the State-wise differences in trader's margin and transport costs incurred in the course of yarn distribution. Thus, it can be concluded that fluctuations observed at the national level in the wholesale yarn price series, by and large, reflect the price fluctuations usually faced by handloom weavers at the retail level.

3.4.2   As regards exports of cotton and cotton yarn, it has been found that, yarn prices had suffered an adverse impact due to the government's export policy decisions in spite of the domestic cotton scarcity faced. Our survey has suggested that yarn prices were adversely affected more due to exports of cotton rather than cotton yarn. It cannot also be denied that tax-raids conducted on the premises of wholesale yarn traders have resulted in an immediate crash in the yarn prices, probably, due to credit crunch faced by stockists and traders.

3.4.3 On the demand side, we find that, although there was a steady increase in handloom cloth prices during the 1980s, it was not often commensurate with the price rise of hank yarn experienced by weavers. It therefore follows that handloom activity was badly affected by periodic fluctuations in hank yarn prices. Lack of adequate finance to purchase yarn has also contributed to the weavers' plight, to sustain their livelihood on weaving. Thus, there exists an urgent need for government intervention to stabilise yarn prices on a long term basis, as discussed in the next chapter.

4. Summary of Findings and Policy Suggestions

4.0 Summary of Main Findings

Basically, this study has addressed itself to three important issues, as per the terms of reference, namely, (1) hank yarn diversion to the powerloom sector, (2) price fluctuations of hank yarn and its underlying factors and lastly (3) the appropriate lines of reforms of excise duty structure and yarn distribution relating to the handloom industry. The major findings of the study in this regard are summarised as follows.

4.1 Hank yarn diversion

4.1.1 The study concludes that hank yarn is diverted and consumed substantially by the powerloom sector as against the general presumption that it is largely used by the handloom sector only. In terms of quantity, the estimates of diversion vary from 70 to 180 million kgs. in 1988-89 or as a proportion, about 22 to 52 per cent of the total availability (338 million kgs.) in the country. This estimate is based on the assumption in regard to cloth-to-yarn conversion ratio (10 meters of cloth produced from 1 kg. of hank yarn).

4.1.2 The cloth-to-yarn ratio assumed above is also used officially by the Ministry, but it does not reflect the improvements in machine and labour productivity and yarn quality. Thus, alternatively, a different assumption is used as suggested by SITRA studies in this regard, that is, 14 meters of cloth produced from 1 kg. of hank yarn. The estimate of diversion worked out on the basis of this assumption lies between 127 and 150 million kgs. in 1988-89, or about 37 to 45 percent of the

hank yarn availability in the country. In deriving these macro
level estimates, use was made of the secondary data on handloom/
powerloom cloth consumption, as are available from the Textile
Commissioner's reports on Consumer Purchases of Cotton Textiles,
and also data on exports from India.

4.1.3   This study has also derived micro level estimates of
diversion for selected powerloom concentrations in 6 different
States visited by the study team during 1990-91. The survey
shows that the extent of hank yarn diverted by the powerloom
units varied from one concentration to the other. As a
proportion of the availability in the respective States, the
micro estimates varied from 43 to 50 per cent for Bijapur in
Karnataka, from 30 to 35 per cent for Erode and Salem districts
of Tamil Nadu, from 23 to 31 per cent for the important
concentrations in U.P., namely ,Jalalpur, Meerut and Etawah.

4.1.4   In the course of our survey, the team collected some
relevant information about the number of unauthorised powerlooms
from the local Powerloom Associations and compared the same with
those available from the official Powerloom Censuses, conducted
by some States. A close comparison of these two sources of data
suggests that there is a considerable under-coverage of
unauthorised looms in the Powerloom Census. Our field survey
indicates that hank yarn is diverted on a large scale by the
unauthorised powerlooms. Under-coverage of looms has thus been
responsible for the lower estimate of diversion obtained,
according to the Powerloom Census.

4.2 Reasons for hank yarn diversion

4.2.1   As indicated in the Interim Report submitted earlier,
the study has identified five important diversion factors viz.,
i) easy-to-dye feature of hank yarn as well as the non-

availability of dyed cotton cone yarn (ii) ineffective handloom reservation policy (iii) low cost of conversion of hank yarn (iv) high duty difference between hank and cone yarn, which renders the process of conversion economically viable, and finally (v) certain loopholes in excise concessions.

4.2.2   Among others, the study team found during the field survey that automatic winding machines have since been developed to convert hank yarn into pirns and bobbins that are usable on powerlooms at a relatively low cost, as compared to a high price difference between hank and cone yarn including the excise duty. The average cost of conversion has varied across places.   In Nagpur region, it was observed to be in the range of Rs. 3 to 4 per kg. of yarn as against one rupee per kg. in Erode and Salem. It seems that cloth is produced cheaper from dyed hank yarn than by dyeing the fabric after producing grey cloth from cone yarn, in particular in those places where dyeing facilities are not available in the vicinity and therefore, entail high transportation costs. In situations, powerlooms have preferred to use hank yarn to cone yarn for producing yarn-dyed fabrics.

4.2.3   The yarn diversion can be minimised by keeping the price difference between hank and cone yarn at its minimum. This can be achieved by an appropriate levy of excise duties.   But, after the merger of fabric duty with the yarn duty in the 1990 budget, the duty differential between hank and cone yarn increased. It thus led to an increased diversion of hank yarn to the powerloom sector. The duty structure is also such that duty differential varied across different yarn counts, the differential being lower between hank and cone yarn of coarser counts than that for fine and superfine counts. Between 1988 and 1990 the duty difference increased more among the coarser counts.

It went up by about 50 per cent for the counts 25s, 49 per cent for the counts 35s, 34 per cent for 40s, 39 per cent for 60s, and 45 per cent for 100s, etc.,

4.2.4   The coarse counts of hank yarn are fully exempt from excise duty, if purchased by registered cooperative societies. But our study has found that duty free hank yarn is diverted to the powerloom sector by unscrupulous and fake societies, usually managed by the vested interest groups from the powerloom sector in connivance with the cooperative spinning mills.   Such malpractices were found in almost all places visited by our study team.   It cannot take place, but for the cost advantage gained by escaping excise duty payment on cone yarn.   It is obviously cheaper to buy hank yarn by such unfair means and reel it into pirns and bobbins for use on powerlooms.

4.3 Price fluctuations of hank yarn and underlying factors

4.3.1   **Time-series Analysis**: This study has made an attempt to track down analytically the fluctuations in hank yarn prices of popular counts namely, 20s, 40s, 60s and 80s, by fitting different time-series models to the price data over the period January 1984 to December 1990. The time-series analysis suggests that more than 97 per cent of price variation has been simply due to the time trend and seasonality in the data, while the remaining 3 per cent of fluctuation is due to random factors. As expected, seasonality has been an important source of price fluctuation.   It has varied for different counts and prices reached peak level and were found to be statistically significant in the month of February for the counts 40s and 60s, but insignificant for 20s and 80s. An important finding is that yarn prices of all counts tended to go up approximately in the range of 1 to 1.4 per cent a month, perhaps due to the general rise in prices in the country. Furthermore, prices of all varieties of

yarn have, in general, shown some decline in the months of November and December every year, but the price decline is not statistically significant for any of the popular counts examined during the period 1984 to 1990.

4.3.2 **Supply Factors**: As regards the causal factors on the supply side, the study has made an attempt to explain price fluctuations by considering all important factors qualitatively. An attempt has been made to test empirically different hypotheses relating to the demand-supply factors that influence yarn prices. On the supply side, this study has found that there exists a noticeable correlation between cotton and yarn prices charged by different spinning mills even for the same count, in the same region and at the same time. Based on the survey data of retail prices, it was found that there has been an inter-State retail price variation to the extent of 5 per cent approximately of national average price in the case of many counts of hank yarn except the coarse counts (20s) for which it exceeded 25 per cent. Thus, it is evident that there was an acute shortage felt of certain counts of yarn in some States. The price fluctuations thus seem to be partly caused by cotton prices prevailing and which in turn, were adversely influenced by the domestic scarcity on account of inappropriate decisions taken for cotton exports.

4.3.3 **Demand Factors**: The consumer demand for handlooms has become more price elastic over time in rural India due to the availability of relatively more durable and cheaper powerloom cloth as also due to the growing severe competition from mill-made synthetics and other non-cotton textiles. The available consumption figures (latest available upto 1988 only) suggest that aggregate consumption of handloom cotton cloth had declined in all India at the rate of 1.45 per cent a year on an average, whereas, the rate of consumption of cotton cloth produced by organised mills had increased by 2.92%, decentralised

powerlooms by 10.5% and hosiery by 4.2%. In urban India, in particular, the consumption of powerloom and mill cloth increased substantially between 1982 and 1988. We do not have adequate data on cloth consumption for the subsequent years, for which, we can only draw broad conclusions based on cloth production in the mill sector.

4.3.4 Inconsistent Production Trends: Unfortunately, handlooms and powerlooms being decentralised, the statistical data on their cloth production are not based on actual production but derived from yarn deliveries by spinning mills. There has since been a significant diversion of hank yarn to the powerloom sector, as this study has also revealed. The production figures thus derived from hank yarn deliveries cannot be accurate. The available handloom production statistics should, therefore, be used with caution for future policy purposes. For this reason, probably, handloom production worked out on the basis of yarn deliveries showed an increasing trend, while, in the same period the handloom cloth consumption remained constant in urban India and significantly fell in rural India.

4.3.5 Comparison of Yarn Prices with Cloth Prices: In the light of the above findings, it is understandable that hank yarn prices increased but to that extent handloom cloth prices did not rise during the period from 1982 to 1988. The consumption demand for the handloom cloth declined or remained stagnant while the demand for the powerloom cloth increased during this period. It seems that hank yarn prices were influenced upwards by increasing demand from the powerloom sector, which consumes both cone and hank yarn in considerable quantities. Our survey has revealed a growing number of unauthorised powerlooms, which were found using hank yarn, mostly located in Uttar Pradesh, Tamil Nadu, Andhra

Pradesh and Karnataka. Because of hank yarn diversion by the unauthorised powerlooms, the demand exceeded supply, which eventually led to its scarcity and therefore, price rise.

4.3.6   As also revealed during our survey, a number of handloom weavers' societies faced a financial crunch and an irregular flow of credit from cooperative banks. They also faced problems largely due to inadequate market demand for their cloth including institutional purchases of `janata' cloth in almost all the States visited.   The exceptions are however, Tamil Nadu, Orissa and West Bengal where the cooperative societies are functioning comparatively better than elsewhere in the country.

4.3.7   The lack of institutional finance has not only impeded the success of cooperativisation but also adversely affected the handloom production itself, weakening the demand for hank yarn. But on the contrary, a growing demand for powerloom cloth, as mentioned earlier, led to a mushroom growth of unauthorised powerlooms, who in turn, pitched a higher demand for hank yarn in an unplanned way and shot up hank prices. Thus the remedy for the problem of price increase seems to lie in (a) controlling unplanned mushrooming of unauthorised powerlooms and (b) improving the distribution channels backed by a well organised net-work.

4.4 Past Policies and Recommendations

4.4.1   Tracing back the policy recommendations, one is reminded of the suggestions made by the famous Sivaraman Committee (Government of India, 1974).   As early as 1974 the Sivaraman Committee identified the problems faced by the handloom weavers in regard to hank yarn and the need for providing them working capital assistance for the purchase of yarn.   In

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addition, the problem of hank yarn diversion to powerloom sector and the resultant scarcity felt by the handloom weavers was also recognised as one of the key problems. Thus the Committee noted,

> The powerloom sector has been creating certain problems to the handlooms. Policy makers have realised that certain protection from the powerlooms is necessary for the handloom sector and this has been provided by limiting the number of powerlooms that can be introduced during a period and reserving certain varieties of cloth for production by the handloom sector alone. In spite of this, it has been reported with substantial evidence that powerlooms have flouted the licensing laws and large number of unlicensed powerlooms are operating in the country competing for the yarn which should have rightly gone to the handloom sector. Secondly, there is also substantial evidence that the powerlooms are making a number of varieties which have been reserved only for the handlooms and not only that, there are also reports that powerloom cloth is camouflaged in the shape of handloom varieties in order to capture the market which is open only to handlooms as a consumer preference sector (para 1.7, p.5).

4.4.2 In this context, reference may be made to the diversion estimates made in a study conducted by the Planning Commission (1975). This study found that as much as 50 million kgs. of hank yarn was diverted to powerlooms in the reference year, and the amount works out to as much as 21.1 per cent of the total availability (237 million kgs.) in 1975. According to a recent study by Jain (1983, p.1519), the quantity of hank yarn diverted to the powerloom sector was estimated at 84 million kgs. or 32.1 per cent of the total availability (252 million kgs.) in 1983. Thus, it appears that the problem of hank yarn diversion has worsened over time, though the estimates, based as they were on different methods, are not strictly comparable. Sivaraman Committee made it clear that the yarn packed in straight hank plain reel form (SHPR) should be made available to the handloom sector under the presumption that powerlooms do not use plain hank yarn. Following this presumption, the yarn packed in

straight hank form has since been fully exempted from the payment of excise duty without any end-use restrictions. The Committee noted,

> "Though a high yarn duty on powerloom yarn can tempt producers to try and prepare cones out of straight hank form, we have recommended stringent measures against it so that it is ensured that straight hank yarn will be utilised only by the handlooms. (para 5.5, p.29)".

4.4.3   In 1984, another expert committee[20] was set up to review the problems faced by the Textile industry and to suggest measures for its proper development in the future. In the context of the harmonious development of the three sectors of textiles, the Committee envisaged an important role for handlooms, recommended that a continued protection be given to handlooms and suggested that

> "the Central Government and State Governments should take all necessary steps to enforce the provisions of the Handloom Reservation Act" (para 2.8, p.3)".

4.4.4   As regards fiscal levy, the Committee recommended for (i) shifting of a substantial part of the excise duty on fabrics, in stages to yarn and (ii) exemption of double hank cross reel (DHCR) yarn from duty without any stipulations although DHCR yarn is used by both powerlooms and handlooms.

4.4.5   In regard to yarn prices, the Committee recognised the need for reducing fluctuations of cotton prices and felt that it was a necessary pre-requisite to achieve stabilisation in yarn prices.   For this purpose the Committee felt that Cotton Corporation of India (CCI) had a crucial role to play in maintaining buffer stocks of cotton and the price stability through its active intervention in the market.

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20. Government of India, Ministry of Supply and Textiles, (Chairman S.S. Varma) `Report of the Expert Committee on the Textile Industry', April 1985.

4.4.6   In regard to the supply of hank yarn, the Committee entrusted a greater responsibility to the National Handloom Development Corporation (NHDC) and the state level handloom agencies for ensuring the hank yarn supply in time to the handloom weavers at reasonable prices.

4.4.7   In regard to promoting handlooms in the economy, the Varma Committee, following the Kanungo Committee (1952) recommendations, suggested that over time handlooms be converted to powerlooms. The Committee observed in this connection:

> "However, efforts made to provide powerlooms to convert handlooms have not succeeded and only a few of the new powerlooms have been set up by the handloom weavers. The progress made in this regard to the provision of powerlooms for Handloom Weaver Cooperative Societies under the Plan has also not been satisfactory due to several reasons". (para 4.7, p.23)

4.4.8   Surprisingly, the Varma Committee did not give the reasons for encouraging handlooms to be converted into powerlooms. Unlike the Sivaraman Committee, which pleaded for continued support to this industry, the Varma Committee wanted a gradual withering away of the handloom sector.

4.4.9   While reviewing the progress of the 1985 Textile Policy implementation, the Abid Hussain Committee (1990) recognised the main problems facing the handloom industry, including the problems of diversion of hank yarn to powerlooms, of a mismatch between the kind of yarn required by handlooms and that which is supplied, as also of the abnormal increases and fluctuations in the price of hank yarn. For controlling the diversion problem, the Abid Hussain Committee suggested

> "to organise the reeling of hank yarn at decentralised locations nearer the handloom weavers' cooperatives . Cone yarn would then be supplied to weavers,

cooperatives, for example, at lower cost, and then reeled by the weavers' cooperatives or associations. This procedure would also help in raising rural employment, and because of lower rural wages, the delivered hank yarn would also be cheaper. The handloom weavers would also have better flexibility in procuring the yarn suitable for their needs".(para 3.14, p.11)

4.4.10   Regarding the diversion of yarn to the powerloom sector, the Committee was of the view that only such hank yarn which is sold to registered handloom societies should be exempted from excise duty, and, hank yarn sold to others may be charged to duty. However, care will have to be taken to ensure the availability of duty free hank yarn to all handloom weavers, whether they are members of cooperatives or not. The authorised organisations which receive the duty exempted hank yarn under the scheme suggested above, will have to ensure that all handloom weavers have access to the duty free yarn. An appropriate system for identification of handloom weavers will also have to be devised. Even after the new arrangements are made, there should be a system of excise duty drawback for those handloom weavers who end up buying hank yarn which has not been exempted from duty".(para 3.17, p.12)

4.4.11   For achieving the stability in hank yarn prices, the Abid Hussain Committee recommended measures for maintaining the stability in cotton prices. In addition, it envisaged a greater role for NHDC and the State level HDCs, Apex handloom societies and other organisations down to the level of handloom societies in villages.   In this regard, it lauded the work done by the Price Fixation Committee, especially in Tamil Nadu, Andhra Pradesh and Orissa and advised other States to adopt similar mechanism for achieving the price stability and supply of hank yarn to the weavers.

4.4.12   In considering a new policy package for the handloom industry, it may be useful to note the policies, the government has already adopted. Some of the major policy instruments for providing protection to handlooms are:

i.   Supply of hank yarn to weavers at reasonable prices is sought to be achieved by imposing a hank yarn obligation scheme on all spinning mills. But currently, this obligation is allowed transferable from one mill to another with certain restrictions.

ii. Provision of budgetary support to set up cooperative spinning mills through subsidy to the weavers in equity participation.

iii. Credit through NABARD to cooperative societies at a subsidised interest rate of 12.5% p.a. as against the normal rate of up to 20% p.a. There has been a severe imbalance in the supply of credit across regions. One reason for this seems to be the high degree of cooperativisation in a few States viz., Tamil Nadu and Andhra Pradesh which facilitated credit flows.

iv. As far as cotton hank yarn is concerned, fiscal concessions are in the form of (1) full exemption of excise duty on plain reel hank yarn and (2) 50 per cent concessional rates of duty on DHCR yarn above certain coarse counts, if purchased by registered handloom societies, etc. These provisions are currently found to be misused as there is considerable diversion of hank yarn to powerlooms. The reason is that the duty differential between hank and cone yarn widened by 1990 budgetary changes, that is, by the shifting of excise duty from the cloth to the yarn stage.

4.5 Policy Suggestions for the Future

4.5.1 Under the current policy environment, the emphasis should be on market solutions to economic problems rather than on quantitative and administrative control. Our recommendations for tackling the problems faced by the handloom sector are also based on the principle of operating through the market.

4.5.2 As regards government controls and subsidies for the handloom industry, it is suggested that the attainment of social objectives such as protection to the handloom industry and generation of employment opportunities for the handloom weavers may be sought within the framework of a market economy. The government objective of supply of hank yarn to the handloom weavers at reasonable prices is certainly a laudable objective from the view point of social justice, but, since a major chunk (95 per cent) of hank yarn distribution is in the hands of private trade and industry, the implementation of any scheme for achieving this purpose is extremely difficult. Thus, any government regulation on distribution of yarn would be very costly and burdensome to the exchequer. Any government agency created to counter the market mechanism and control yarn prices would, therefore, need substantial finance and also large marketing network of yarn distribution outlets. Centralised government intervention in this regard is a costly proposition and needs large capital outlays.

4.5.3 It is also imperative to recall whether or not supply bottlenecks have really existed. If so, have they operated at the production point in mills or at the distribution point in the yarn market? As a matter of fact, mills do not take much time to produce yarn once a supply order is placed. The wholesale yarn traders are the main intermediaries and stockists of yarn. Thus

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the requirement of yarn of coarse counts in particular, should be reflected by the demand raised by yarn traders with the spinning mills. The argument of spinning mills is that they are willing to produce yarn and meet the statutory obligation as mentioned above, if there is a ready demand at the ruling price. The yarn traders, therefore, act as a catalyst to generate the demand and supply. It transmits demand messages from weavers (master weavers) to the spinning mills. In response yarn stocks are maintained and supply released to the market at a price which is profitable to traders.

4.5.4   In the long run promotion of handlooms should not be attained through statutory obligation on mills. What is required basically is the marketing support for handloom products. Fortunately, there are no price controls by the government at present in the yarn market, although, warning signals were issued from time to time to trade and industry for reducing yarn prices. In this context, the government should provide institutional support and preferably budgetary provisions be made to increase consumer awareness and demand for handloom products through advertisements.

4.5.5 Policy Options for Reducing Hank Yarn Diversion:As far as excise duty concessions are concerned, it may be recalled that not all forms or all counts of hank yarn are fully exempt from duty. At present, plain hank yarn is completely exempted from duty without any end-use restrictions and monitoring. This concession is perhaps meant to facilitate the availability of plain hank yarn to all types of handloom weavers whether or not covered by cooperatives or master weavers. However, this has also resulted in the diversion of hank yarn to powerlooms, who, in fact, are not restricted legally from using plain hank yarn. Full duty exemption of plain hank yarn is thus availed of, both by powerlooms and handlooms. It, therefore, follows that through

full duty exemption, it cannot be ensured that the intended benefits reach only the targeted groups, namely, handloom weavers.

4.5.6 An important impediment to the implementation of government measures is, as the Abid Hussain Committee suggested, lack of effective cooperativisation. In spite of various governmental promotional measures by the government since independence, more than 70 per cent of the handloom weavers still remains outside the cooperative fold. The supply of hank yarn through NHDC can, at the most, meet the needs of only 25 per cent of weavers while the rest would have to rely on market supply through traders' retail outlets. Thus, it does not seem to be effective to continue duty concessions to the handloom industry on end-use basis.

4.5.7 A large number of handlooms, as we have noted, are outside the cooperative fold and cannot receive yarn supplies, credit and marketing support from the government. The sector covered by master weavers is largely dependent on money lenders and petty dealers in the semi-urban markets. Thus, the cooperative sector as also the master weavers' sector and the independent weavers need specific measures of support for the effective development of handlooms. Yarn scarcity felt by all categories of handloom weavers can probably be reduced if the existing fiscal concessions are modified in order to prevent the substitution of hank yarn for cone yarn by powerloom units. If the duty on cone yarn is reduced, the tendency towards diversion of hank yarn to powerlooms will be reduced. But there was a revenue loss to the exchequer which has to be neutralised by some other means.

4.5.8   In the light of our study, we suggest the following measures in order to reduce hank yarn diversion to the powerloom sector:

a)   Since plain hank yarn is also used by the powerloom industry, a small duty on plain hank yarn is necessary. It is therefore recommended that the government may levy 1 to 2 per cent of duty on plain hank yarn, which may work out to 50 paise to one rupee per kg.

b)   Reduction in the duty differential between cone and hank yarn, especially in lower counts, would bring down substantially the diversion of hank yarn to powerloom units. This can be achieved by either increasing the hank yarn duty or reducing the cone yarn duty from the present level. It is better to reduce the cone duty and make it equivalent to that on hank yarn because powerloom cloth is also consumed by lower and middle income groups of society.

c)   Since plain hank will also be subjected to excise duty under the proposed scheme, it would yield some additional revenue from the decentralised sector. It is suggested that, the additional revenue thus raised may be transferred to the handloom industry in the form of subsidy or duty drawback. The Office of the Development Commissioner of Handlooms may be entrusted with the administration of duty refund system. For this purpose, a weaver identification through the State Handloom Directorates should first be devised and an all-industry drawback rate be announced every year depending on the rate of input duty. The input duty refunded would improve the price competitiveness of handlooms and enhance the demand for handloom products and thereby, expand employment opportunities to handloom weavers.

This policy would promote handlooms without interfering with the producers' choice of inputs in the handloom and powerloom sectors.

d)   In the interim till a weaver identification system is developed, the handloom industry should be provided subsidy equivalent to the amount of additional revenue raised, for market promotion so as to influence the consumer preferences for and increase the market demand for handloom products.

e)   An alternative policy option for revenue mobilisation is to levy duty on cotton fabrics in the organised mill sector and allow them a set-off against cone duty under the MODVAT scheme. It appears that such an arrangement can only distribute the total duty burden between the cloth and yarn stages in proportion to the value-added at each stage. But at present, it is possible only in the case of the organised mill sector.

f)   It will be extremely difficult to collect duties on fabrics produced by powerlooms which belong to the unorganised sector which have mushroomed in a number of areas defying government regulations. The powerloom sector can also be brought under MODVAT scheme gradually, provided excise duty is levied on powerloom fabrics on a turnover basis i.e. on a `forfait' system and MODVAT is allowed for the yarn duty paid by them. Under this flat rate system, duty is levied at some rate on the fabric and set-off is allowed for yarn duty paid by them at the earlier stage either on the basis of a fixed proportion of output or on submission of documentary evidence. In any case, in order to reduce the degree of hank yarn diversion and increase hank yarn availability to the handloom sector, the excise duty structure needs to be revamped through a reduction in the duty differential between hank yarn and cone yarn.

4.5.9 <u>Policy Options for Yarn Price Stability</u>: As far as hank yarn prices are concernod, this study has identified some relevant factors influencing the short term fluctuations, but the conclusions are of a qualitative nature. The factors relevant in this context are: (a) availability of credit in the hands of handloom weavers for the purchase of hank yarn, (b) demand for hank yarn from unauthorised powerloom weavers, (c) count-wise mismatch between the hank yarn required and that supplied by the traders due to market imperfections with regard to the flow of information, and (d) lower production of hank yarn as compared to cone yarn. It appears that, there was a lack of demand for hank yarn from handloom weavers due to shortage of credit. The private handloom weavers have faced an acute shortage of credit, which might have resulted in a fall in the demand and hence, stock piling of yarn by traders. Thus, to that extent, we noticed yarn availability in physical terms with traders, but prices were quoted high. Thus the weavers' working capital seem to be the main problem for purchasing yarn at higher price. With the credit flowing more evenly into the hands of the weavers, yarn demand can be financed and yarn supplies can be made available at appropriate times in desired count groups. Further, if supply adjustment is also smooth enough to meet the demand for hank yarn from unauthorised powerlooms price fluctuations may be avoided to a considerable extent.

4.5.10 Since a major part of hank yarn distribution is in the hands of yarn traders, sometimes local monopolies tend to arise in some places e.g., in the far Eastern sector of the country where yarn deficit has often occurred. State intervention, therefore, seems necessary to regulate hank yarn prices in a socially desirable manner. To facilitate such intervention, the government may purchase some targeted quantity of hank yarn to maintain buffer stocks. These can be released into the market during a price rise when demand overshoots the supply and the

intervening agency can lift yarn stocks from the mills in a situation of falling prices. Basically, the government should act as a trader and run a stock agency entirely on a commercial basis without any recurring drain on the exchequer, except for the capital advanced for initiating the scheme. Since certain mills complained that lack of demand was the reason for their non-compliance of handloom obligation order, creation of a buffer stock agency would help to enforce the government order more effectively. As NHDC is already in the business of hank yarn trading, its capital base may be further strengthened to undertake this additional task of buffer stock maintenance.

4.5.11   On lines similar to the buffer stocks of cotton maintained by Cotton Corporation of India, buffer stocks of cotton hank yarn may also be operated by NHDC for stabilizing yarn prices. To finance the buffer stocks, the Government may provide necessary seed capital to NHDC.

4.5.12   To sum up, this study has dwelled at length on the urgent measures needed for rationalisation of the excise duty structure as also for extending protection to the handloom industry. The package of recommendations suggested, include inter alia:

    (a) a nominal ad valorem levy of excise duty of 1 or 2 per cent on plain hank yarn, which was witherto fully exempted,

    (b) narrowing of excise differential between cone and hank forms of yarn,

    (c) a uniform rate of duty across different counts of cotton yarn,

(d) creation of a buffer stock mechanism to regulate hank yarn supply to the market for achieving price stabilisation through NHDC,

(e) introduction of weaver identification system, duty drawback mechanism of excise duties to handloom industry both to be operated by the Office of the Development Commissioner with the help of State Directorates of Handlooms, or, transfer the additional revenue from the levy of input duty to the handloom industry for increasing marketing assistance to handloom agencies so as to enhance handloom demand.

It is hoped, that these remedial measures would go in a long way to benefit the handloom industry.

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QUESTIONNAIRE FOR HOUSEHOLD WEAVERS

1. IDENTIFICATION PARTICULARS

1.1 State   1.2 District

1.3 Block   1.4 Town/Village

1.5 Respondent's Name & Address

1.6 Educational Status of Weavers

	Number of weavers who have completed		
Illiterates No schooling	Primary Edn. Upto 5th Std.	Secondary Edn. Upto 10th Std.	Higher Edn. Above 10th Std

No. of
Weavers

---

2. ESTABLISHMENT PARTICULARS

	HANDLOOMS	POWERLOOMS
2.1 Total no. of looms installed	_____	_____
2.2 Number of looms used in a day	_____	_____
2.3 What types of looms are used? Name them.		
2.4 Number of idle looms	_____	_____
2.5 Number of defective looms	_____	_____

2.6 Number of weavers
    a) in the family   _____   _____
    b) outside the family

2.7 Wages paid to the outside weavers
    per month   Rs._____   _____

3. OUTPUT PARTICULARS

3.1 Average production during the last year

Item name	Total no. produced	Production in metres/thans	Cost of production Rs. per piece

3.2 Average consumption of yarn

Counts	Plane Hank yarn used (bundle per day)	Counts	Cross reel hank yarn used (bundles per day)	Counts	Cone yarn used (bundles per day)

4. INPUT AVAILABILITY

4.1 Indicate the main sources of yarn supply. (please tick below)

    a) Co-operative society ( ) b) Private traders   ( )

    b) Spinning mills   ( ) d) Govt. yarn depots   ( )

    e) Govt. corporations ( ) f) Others, if any, specify ( )

4.2 If you are a member of the co-operative society, how is yarn supplied by your society? If yarn is procured on the job work basis, then what is the payment made by the society (on an average) per unit of cloth woven?

4.3 Have you faced any delay in receiving payment? Explain.

4.4 If yarn is purchased from traders directly, what was the average price of yarn paid recently?

Counts	Cotton/Silk/ Blends	Price (Rs. per bundle) of hank yarn	Remarks Specify Plane/ Cross reel

4.5 If yarn is procured on cash or credit basis, what were the prices paid?

	Price per bundle	Counts	Remarks Specify Plane/ Cross reel
a) Cash basis			
b) Credit basis			

4.6 Specify the range of fluctuation in yarn price and period

Counts	Price range (Rs.per bundle)	Daily/weekly/ monthly	Remarks mention Plane/ Cross reel

4.7 In which months of the last year were yarn prices highest or lowest?

	Months	Prices	Counts
a) Highest			
b) Lowest			

4.8 Please specify the type of yarn used and the % of total consumption.

    a) Cotton   ( )   b) Silk   ( )

    b) Blended yarn   ( )   d) Others, specify if any ( )

4.9 Have you found yarn scarcity in the previous year? Yes/No

    a) If yes, in which month and of what counts in general?

Scarcity period	Counts	Specify Plane/ Cross reel	Reasons

    b)   In view of the scarcity, have you planned to stock yarn in advance?   Yes/No

c)   If yes, did you stock yarn last year?

d)   Do you need working capital assistance from the government for stocking yarn in your own premises? Yes/No

e)   If yes, how much amount would you need per year? Rs.___

f)   Would you also need warehouse facilities for stocking input/output?

4.10 What are the other factors affecting the yarn supply and its prices?

4.11.Have you faced any problem in getting other inputs like dyes, chemicals etc. at reasonable prices? If yes, please explain.

5.   POWERLOOM DETAILS

5.1 Do you use hank yarn on powerlooms? If yes, whether Plane/ Cross reel? and how many bundles are used per day?

5.2. How much dyed hank yarn is used on powerlooms approximately per day? Also mention if Plane/Cross reel hank yarn is used.

5.3 Give the composition of Hank vs Cone yarn consumed by you last month.

a)   50 : 50   (   )

b)   Hank yarn used is less than 50% of the total   (   )

c)   Hank yarn used is more than 50% of the total   (   )

d)   100% hank yarn is used   (   )

e)   Plane hank yarn used is more than 50% of the
     total   (   )

f)   Cross reel hank yarn is used is more than 50%
     of the total   (   )

5.4 For producing dyed cloth on powerlooms, mention the average wages paid to

Rs.per month

a) Weavers   _____

b) Reeling assistants & others   _____

5.5 To whom do you sell your cloth most? Please tick below.

a) Co-operative society ( )   b) Govt. corporations ( )

c) Private traders   ( )   d) Others   ( )

5.6 Sales details

Name of the	Specify cotton/ silk/blends	Price (Rs. per piece/metre/than	Credit or cash

6. **MISCELLANEOUS**

6.1 What types of benefits are expected by you from the government or other agencies? Explain.

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QUESTIONNAIRE FOR CO-OPERATIVE SOCIETIES

1. IDENTIFICATION PARTICULARS

1.1 State   1.2 District

1.3 Block   1.4 Town/Village

1.5 Respondent's Name/Designation

1.6 Name of the Society and Address

1.7 No. of members in the society

2. OUTPUT PARTICULARS

2.1 Items produced and average cost of production in recent
period

Article name and counts (specify if cotton/silk/blend)	Remunerations paid to weavers per piece than/metre	Sale price of cloth per piece/ than/metre

3. INPUT AVAILABILITY

3.1 Indicate your main sources of yarn supply and please tick below.

a) Private traders ( ) b) Spinning mills ( )

c) Govt. yarn depots ( ) d) Govt. Corporations ( )

f) Other, specify if any ( )

3.2 Give an few addresses of private yarn traders.

3.3 Price of yarn when purchased last.

Counts   Price per bundle   Period   Remarks
                                            mention hank/cone
                                            plane/cross reel

3.4 What is the price difference of yarn as purchased from government depots and private traders in general? Please give details countwise.

3.5 In your opinion, what are the different reasons for fluctuations in the price?

3.6 Please tick below the type of yarn consumed and what is the % of the total consumption?

a) Cotton ( ) b) Silk ( )

c) Blend ( ) d) Others (specify) ( )

3.7   Countwise yarn being supplied to weavers.

Counts	No. of bundles per day	Specify if hank/ cone and plane/ cross reel

---

3.8   How much of yarn is generally used for dyeing purpose?

Counts	Approximate no. of bundles dyed in a month

3.9   Have you found hank yarn scarcity in the previous year?
      Yes/No

a) If yes, in which month and of which count in general?

Scarcity period	Counts	Plane/cross reel	Reasons

---

b)   In view of the scarcity, have you planned to stock yarn in
      advance? Yes/No.

c)   If yes, specify the amount of monthly stock of yarn
      maintained last year.

d)   Do you need working capital assistance or godown facility
      from the government for stocking input/output in your
      premises?

e)   Have you faced any problems in getting yarn from government
      depots? If so, explain the nature of the difficulty.

4. MISCELLANEOUS

4.1 Recently, the government has increased excise duty on cone yarn by shifting it from the fabric stage, while exempting hank yarn from excise as before. As a result, differential duty incidence as between cone and hank yarn increased. Is the supply of hank yarn adversely affected due to this recent policy change?

4.2 If yes, how? Explain.

4.3 What are the other factors affecting the yarn supply and its price?

4.4 Have you faced problems in getting other inputs like dyes, chemicals etc.? If yes, pleas explain.

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QUESTIONNAIRE FOR YARN TRADERS

1. Name of the yarn trader   :

2.   Address & Phone No.(if any)   :

3. Changes in the price of hank yarn of counts most demanded in
   the last month.

Specify cotton/ silk/blends	Selected Counts	Specify Plane/Cross Reel	Price (Rs.per bundle	Period

---

4. Changes in the price of juta yarn of counts most demanded in
   the last month.

Specify cotton/ silk/blends	Selected Counts	Price (Rs.per cone)	Period

---

Appendix A.1

Details of Sample Survey

1.0   The handloom study was aimed at estimating the quantum of hank yarn diversion to the powerloom sector.   For this purpose, a small sample survey was considered necessary.   Thus, the study team planned visits to the weavers' concentrations of both handlooms and powerlooms in the country, where hank yarn is used considerably. Basically, three types of respondents were included in the sample namely (a) household weaver units (b) cooperative societies and (c) yarn traders, and they were selected following a stratified random sampling procedure.

1.1 Sample Size and Selection: Under the first stage, districts having handloom-powerloom concentrations were selected on the basis of State-wide handloom population, available from the Census of Handlooms in India, 1987 (NCAER, 1987) as well as from various studies on powerloom industry conducted by Textile Research Associations (ATIRA, et. al, 1987).   From the Handloom Census, it is clear that more than 80 per cent handlooms are concentrated in different States and the Union Territory of Delhi as shown in Table A.1.1 and these States accounted for more than 75 per cent of the total handloom cloth production in the country.   In terms of employment (see Table A.1.2), they accounted for 64 per cent of the full time handloom weavers in the country.   From the seven States and one Union Territory, as listed below

1. Andhra Pradesh
2. Delhi (UT)

3. Karnataka
4. Maharashtra
5. Orissa and
6. Tamil Nadu
7. Uttar Pradesh
8. West Bengal

specific districts of handloom-powerloom concentrations were chosen on the basis of district-wise loom statistics as are available from the Handloom Census, 1987.

1.2   In the second stage of sampling the final list of respondent units, namely household weavers, primary cooperative societies and yarn traders were selected at random, in consultation with the officials of concerned State Directorates of Handloom and Powerloom Textiles. Keeping the resource constraint in mind, a sample of nearly 15 to 20 household weaver units, 5 cooperative societies and 4 yarn traders were selected at random from each district for conducting a questionnaire survey. The details of actual sample size used are given in Table A.1.3. Three types of questionnaires were used in the survey as shown at Annexures 1 to 3.

Table A.1.1

State-Wise Production of Handloom Cloth in 1987-88
(NCAER - Census Data)

	State	% in all India	Production (in Mil. mtrs)
1.	Andhra Pradesh	(7.2)	286
2.	Tamil Nadu	(12.7)	500
3.	Uttar Pradesh	(18.6)	734
4.	West Bengal	(20.0)	788
5.	Delhi	(8.5)	336
6.	Maharashtra	(3.9	154
7.	Karnataka	(2.8)	110
8.	Orissa	(4.8)	189
	Grand Total of all States and U.T.s	(78.4)	3948
	Country Total (incl. others)	100.00	

Source: Census of Handlooms 1987-88, NCAER.

Table A.1.2

Employment of Weavers in Handloom Industry,
Census Data 1987-88

(Number in '000)

	Major States & U.T.	Urban	Rural	Total	% in Weavers in total
		(full time)			
(1)	(2)	(3)	(4)	(5)	(6)
1.	Andhra Pradesh	57	162	219	9.8
2.	Karnataka	37	46	83	3.7
3.	Tamil Nadu	111	288	399	17.8
4.	Maharashtra	50	16	66	2.9
5.	Orissa	5	83	88	3.9
6.	Uttar Pradesh	100	170	270	12.0
7.	Delhi (U.T.)	6	2	8	0.3
8	West Bengal	35	270	305	13.6
	Total of above	401	1037	1438	64.1
	% Share of above States in total	80.4	59.0	64.1	100.0
	Total number of weavers in the country	499	1744	2243	

Source: Census of Handlooms 1987-88, NCAER.

Table A.1.3

Number of Respondents Participated in the Handloom Questionnaire Survey

S.No.	State/District	Number of Respondents		
		Households	Cooperatives	Traders
(1)	(2)	(3)	(4)	(5)
1.	Orissa			
	1. Puri	9	5	-
	2. Ganjam	11	5	3
	3. Sambalpur	15	5	3
	4. Balangir	15	5	3
	Total	50	20	9
2.	West Bengal			
	1. Hugli	6	5	-
	2. Nadia	25	7	-
	3. Bardhawan	23	5	3
	4. 24 Paraganas			
	Total	54	17	3
3.	Karnataka			
	1. Bijapur	9	4	3
	2. Belgaum	13	2	3
	3. Dharwar	9	2	3
	Total	31	8	9
4.	Maharashtra			
	1. Solapur	5	4	-
	2. Nagpur	19	6	3
	Total	24	10	3

Table A.1.3 (Contd.)

(1)	(2)	(3)	(4)	(5)
5.	Andhra Pradesh			
	1. Kurnool	9	3	3
	2. Cuddapah	20	2	3
	3. Mahboob Nagar	16	2	–
	4. Guntur	12	3	3
	5. East Godavari	15	2	3
	Total	72	12	12
6.	Tamil Nadu			
	1. Coimbatore	14	5	3
	2. Periyar	13	4	3
	3. Salem	14	3	3
		41	12	9
7.	Uttar Pradesh			
	1. Varanasi	13	5	3
	2. Gazipur	20	5	3
	3. Meerut	12	5	3
	4. Faizabad	24	2	3
	5. Etawah	20	5	3
	Total	89	22	15
	Sample total	361	101	60

Source: Government of West Bengal, Economic Review 1989-90.

Appendix A.2

Micro Level Estimates of Hank Yarn Diversion

2.1 Andhra Pradesh

2.1.1   In Andhra Pradesh,powerlooms are largely concentrated in two locations namely, Nagari and Karimnagar. At the time of our survey, as many as 8,000 unregistered powerlooms were reported to be in operation in Nagari alone. Almost all of them, were found to use hank yarn in the production of lungis (check pattern),   at the rate of a bundle (4.5 kg.) per day on an average. Assuming the capacity utilisation to be 55 per cent per annum as reported in AIFCOSPIN (1990, p.69) and the number of man days worked in a year to be 300 (on a 2 shift basis), the quantity of hank yarn diverted to powerlooms was worked out as follows:

$$55/100 \text{ X } 8000 \text{ X } 4.5 \text{ kg. X } 300 \text{ days } = 5.94 \text{ million kgs.}$$

2.1.2   As the total quantity of hank yarn available in Andhra Pradesh during 1989 was 54.2 mil. kgs., diversion of hank yarn as a proportion of availability works out to 11.0 per cent during 1989-90.

2.2 Karnataka

2.2.1   In Karnataka, in some places of Bijapur and Belgaum districts, our field survey has revealed a few malpractices and misuse of excise exemptions granted to registered handloom societies. Details are given in Annexure 2.1. It was found that in Bijapur district about 7000 unauthorised powerlooms were

reported to be in operation and almost all of them used hank yarn in both wefting and warping operations for producing dyed cloth. Assuming that (i) the average consumption of hank yarn is 4 to 4.5 kg. per loom per day, (ii) the number of effective days worked to be 300 in a year and (iii) capacity utilisation 55 per cent, the quantity of hank yarn consumed in Bijapur district is estimated in the range of 4.6 to 5.2 million kgs. in 1990 as per the following calculation.

$$\text{(i)} \quad 7000 \times 4 \text{ kg} \times 300 \times \frac{55}{100} = 4.6 \text{ million kgs.}$$

$$\text{(ii)} \quad 7000 \times 4.5 \text{ kg} \times 300 \times \frac{55}{100} = 5.2 \text{ million kgs.}$$

As a proportion of the total quantity of hank yarn available in Karnataka (10.5 mil. kgs.) in 1989-90, the estimate of yarn consumption by powerlooms lies between 43.8 and 49.5 per cent.

2.3 Maharashtra

2.3.1 In Maharashtra, powerlooms are concentrated mostly in 7 places, namely Bhiwandi with an installed capacity of 53,350 units, Malegaon with a capacity of 22,071 units, Solapur with 4,750 units, Ichalkaranji with 22,916 units, Vita with 2,340 units and Nagpur with 2,119 units in 1989. This was brought out by the Census of Powerlooms carried out by M/s. Kirloskar Limited for the Directorate of Textiles, Government of Maharashtra in 1989. However, from our survey in Nagpur and Solapur areas and from our discussions with the Director of Textiles, Government of Maharashtra and other officials, the following points emerged in regard to the diversion of hank yarn to powerlooms:

2.3.2   As per the records of the Directorate of Textiles, Government of Maharashtra, the total number of looms in operation was 42,547 in Malegaon area and 4,449 in the Nagpur region in 1989.

2.3.3   In Malegaon area about 25 per cent of powerlooms normally produce yarn-dyed colour sarees using hank yarn because dyeing facilities do not seem to be available in the vicinity of powerloom centres for processing grey cloth. In Kamptee town of Nagpur region, almost all powerlooms utilise hank yarn for producing colour cloth for similar reasons. It was found that mostly plain hank yarn, which is duty free and generally meant for handlooms is used on powerlooms in this region.

2.3.4   As per the available technical information, it appears that as much as 4 kgs. of plain hank yarn is required per loom per day on a 12-hour shift basis.   On the basis of past performance, it is understood that these powerlooms run, on an average, for 300 days in a year.

2.3.5   Field visits of the study team and the experience of knowledgeable persons interviewed by the study team indicated that as much as one-fourth of looms installed in Malegaon (of about 42,550) and all powerlooms in the Nagpur region use plain hank yarn. Assuming that the capacity utilisation was only 55 percent, it is estimated that about 8.6 million kgs. of hank yarn was used by powerlooms in both these regions. The basis of arriving at these estimates is given in Table A.2.1.

Table A.2.1

Quantity of Hank Yarn Used on Powerlooms in Malegaon and Nagpur, Maharashtra

Item	Malegaon	Nagpur
Total number of looms (Nos.) (as per Powerloom Census)	42,547	4,449
Number of looms using hank yarn (Nos.)	10,637 (1/4 of above)	2,425 (Kamptee town of Nagpur region)
Average consumption of hank yarn per loom per day	4 Kg.	4 Kg.
Effective number of working days in a year	300	300
Average capacity utilisation (National average by assumption)	55%	55%
Quantity of plain hank yarn diverted to powerloom units in lakh kgs. in a year	70.2	16.0
Total hank yarn diverted to powerloom units in the above two places	86.2 lakh kgs. or 8.62 million kgs.	
Total hank yarn available in Maharashtra in 1989	15 million kgs.	
Estimate of yarn diversion as % of total availability	57.5%	

Source: Field visits.

2.3.6   The total quantity of hank yarn available to the decentralised sector in Maharashtra was found to be 15 mil. kgs. for the year 1989-90.   It comprises (i) SIMA's deliveries of hank yarn in Maharashtra by 9.3 million kgs., (ii) deliveries of co-operative spinning mills in Maharashtra by 4 million kgs. in 1990 and (iii)   deliveries of private spinning mills other than SIMA by 1.3 million kgs. (Of the total hank yarn deliveries to Maharashtra, SIMA accounted for 60 per cent while the other private spinning mills in the country contributed the balance 40 per cent).   The quantity of hank yarn used by powerloom units was estimated at 8.6 million kgs., which works out to as much as 57.5 per cent of the total availability in the State.

2.4. Orissa

2.4.1.   A powerloom census was conducted by the Directorate of Textiles in 1988 and information was collected for the calendar year 1987.   On the basis of this information, a rough estimate of hank yarn use on powerlooms was worked out in a slightly different way. In this State, it was found that hank yarn is generally used for wefting, while a limited quantity of hank yarn is used for warping. To be on the conservative side it is assumed that hank yarn is used only for wefting. The Powerloom Census provides details about raw material consumption of yarn by powerlooms in Orissa in 1987, as shown in Table A.2.2.

Table A.2.2

Consumption of Hank Yarn on Powerlooms in Orissa in 1987

(Kgs.)

Items	Source of supply		
	Pvt. Mills	Open market	Coop. mills
	1	2	3
Cotton yarn for wefting	183394	595621	302040
Others (borders)	4342	125336	62200
Total of above	187736	720957	364240

Total consumption of cotton yarn = 12.73 lakh kgs.
from all sources.

Source: Government of Orissa, Ministry of Textiles, Powerloom Census Report, 1987.

2.4.2. SIMA provides an estimate of hank yarn availability for Orissa to be equal to 108 lakh kgs. (or 10.8 million kgs.) for 1988. We assume that the same degree of diversion continued in both 1987 and 1988. Thus, the hank yarn diversion to powerlooms as the percentage of availability works out to about 12 per cent in 1988.

2.5. Tamil Nadu State

2.5.1 On the basis of our field visits to Tamil Nadu, it has been found that hank yarn is used on powerlooms to a considerable extent mainly in the following districts,

1. Periyar
2. Salem
3. Coimbatore and
4. Madurai

2.5.2   Hank yarn is consumed largely by unauthorised powerlooms. A Powerloom Census conducted by the Directorate of Handlooms and Textiles at the instance of the Textile Commissioner, Bombay in 1989, covered both authorised and unauthorised powerlooms. However, field investigations with Powerloom Associations in these areas indicated that there is a significant divergence between the loomage reported in the two sources for the same year viz., our Field Surveys with Powerloom Associations and the Powerloom Census. The former reported a higher coverage of unauthorised looms than the latter. For instance, as per the Census, in the Erode Bock of Periyar district, the total number of authorised and unauthorised powerlooms together was 4448, whereas, in Veerappanchatram, a place within the Erode Bock, there were as many as 5000 powerlooms reportedly registered with the local Powerloom Owners Association. For the Periyar district as a whole, the Association recorded a total loomage capacity of 50,000, while, the Census reported a loomage capacity of 18,000 only. Perhaps, the divergence in the statistics can be attributed to the growing number of unauthorised looms, concentrated in the following places (see Table A.2.3 for details).

1.   Veerappanchatram (Erode Taluk)
2.   Vellakoil (Kangayam Taluk)
3.   Chennimalai (Berundurai Taluk)
4.   Thavittupalayam (Bhavani Taluk)

Table A.2.3

Details of Powerlooms in Periyar District (Erode Circle), 1989

Sl. No.	Name of the Taluk	No. of House-holds	Autho-rised	Un-autho-rised	Total looms	Idle looms	Tota loom
1	Erode	665	3937	488	4425	33	4458
2.	Gobi	118	322	81	403	49	452
3.	Dharapuram	119	446	27	473	41	514
4.	Perundurai	1348	4146	1417	5563	102	5665
5.	Bhavani	531	3538	327	3865	14	3879
6.	Kangayam	819	2375	256	2631	7	2638
7.	Sathy	68	293	57	350	23	373
	Total	3668	15057	2653	17710	269	17979

Source: Powerloom Census, Tamil Nadu, 1989.

2.5.3. For the Salem district also there is a considerable divergence between Census data and the Association data, the latter being far higher than the former. For example, according to the Powerloom Census the total number of authorised and unauthorised looms together was about 20,000, whereas, in Kumarapalayam and Pallipalayam, two small townships within the Salem district, the Powerloom Association registered as many as 40,000 powerlooms. In addition, a considerable number of powerlooms exists in other places namely, Yellayampalli, Attayampatti, and Salem Guhai (all within Salem district). These details are provided in Table A.2.4.

Table A.2.4

Details of Powerlooms in Salem and Dharampuri Districts

A. Salem District

Sl.No.	Name of the Taluk	No. of House holds	Authorised looms	Un-authorised looms	Total looms	Idle looms	Total looms
1.	Salem Taluk	3755	8555	5252	13807	170	13637
2.	Omalur Taluk	564	967	917	1884	57	1827
3.	Mettur Taluk	1169	2747	1582	4329	72	4257
	Total	5488	12269	7751	20020	299	19721

B. Dharampuri District

Sl.No.	Name	No. of House holds	Authorised looms	Un-authorised looms	Total looms	Idle looms	Total looms
1.	Denkanikottai	18	82	1	33	--	33
2.	Hosur	57	440	--	440	28	412
3.	Krishnagiri	5	4	4	8	1	7
4.	Dharampuri	238	536	103	639	26	613
5.	Pennagaram	--	--	--	--	--	--
6.	Harur	9	33	7	40	--	40
7.	Palacode	1	--	1	1	--	1
	Total	328	1045	116	1161	55	1106

Source: Powerloom Census, Tamil Nadu, 1989.

2.5.4.   The number of powerlooms not registered with the Handloom Directorate may even go up to five times the number recorded in the Powerloom Census. These two districts of Periyar and Salem alone account for a high concentration of unregistered powerlooms, believed to be using hank yarn in the production of powerloom cloth. Usually cotton hank yarn is used to produce such items as bedsheets, towels and check pattern shirting as per the following details.

Yarn Counts used	Product
2/20	Bedsheets
2/70s	Towels
2/40s	Lungi & dhoti
2/60s	Lungi, dhoti, shirting cloth for exports
2/80s	Dhoti, shirting cloth for exports
2/100s	Shirting cloth for exports

2.5.5   The interviews conducted by our team members with the Powerloom Associations in Veerappanchatram, (Periyar district) Pallipalayam, Kumarapalayam (Salem district) suggest that almost all unauthorised powerlooms in Periyar and Salem districts use hank yarn in both warping and wefting operations. Our interviews revealed the following features about their loom capacity and weaving.

2.5.6   Under normal conditions, powerlooms work on a 12 hour shift on an average and consume about 3 warp beams per month.

    a.   In preparing one warp beam about 50 kg. of hank yarn is used.

b. In wefting operations also hank yarn is used to the extent of 2/3 of quantity of yarn consumed in one warp beam or about 35 kg. per beam.

c. It is further assumed that the capacity utilisation of powerlooms is about 55 percent.

2.5.7   Using the above, one may place the quantity of hank yarn consumption on powerlooms at about 140 kg. per month or 1399 kgs. per 300 man days in a year.   This implies an average consumption of 4.6 kgs. of hank yarn per powerloom per day. Powerlooms in Salem and Erode districts together account for about 85 percent of total powerlooms in Tamil Nadu State.   The total quantity of hank yarn used in this area is shown in Table A.2.5.

2.6. Uttar Pradesh

2.6.1   In Uttar Pradesh, our survey team visited 3 important powerloom concentrations namely Meerut, Jalalpur (Faizabad district) and Etawah and interviewed a number of Powerloom Associations and knowledgeable persons in regard to the use of hank yarn by powerloom units.   It has been found beyond doubt that hank yarn is extensively used by powerloom units in Uttar Pradesh both in warp and wefting operations in the production of yarn-dyed fabrics such as check pattern shirts, towels, bedsheets, chaddar, sarees, napkins, colour sarees and lungis. We have collected important data with regard to loomage, daily average consumption of hank yarn on powerlooms, effective number of man-days in a year and rate of capacity utilisation etc., from the field interviews. Mostly unauthorised powerlooms were found to consume hank yarn. It was found that the same person who owned unauthorised looms happened to be the owner of some authorised looms which were conveniently located in different places. This was mainly done to camouflage the production operation on

Table A.2.5

**Estimated Consumption of Hank Yarn on Powerlooms
in Tamil Nadu, 1990-91**

No. of unauthorised powerlooms	Census	Field Survey
Erode	2653	7959
Salem	7751	23253
Dharampur	116	-
	11520	31212
Average quantity of hank yarn consumption per day (12 hours work shift) per loom	4 to 4.5 kgs.	4 to 4.5 kgs.
No. of effective days in a year	300	300
Average capacity utilisation	55%	55%
Average rate of consumption of hank yarn in a year by powerloom units	7.6 million kgs. to 8.5 million kgs.	20.6 million kgs to 23.2 million kg
Total quantity of hank yarn available in Tamil Nadu[1] (as per SIMA) in 1990-91	66.6 million kgs.	
Estimate of hank yarn consumption (Salem and Periyar districts) by Powerloom sector as % of total availability in Tamil Nadu State in 1990-91	11.4% to 12.8%	30.9% to 34.8%

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1.   Total quantity of hank yarn available in Tamil Nadu was obtained from:

   a)   Total SIMA mill deliveries in 1990-91, which was about 57.6 mil. kgs. and
   b)   Total deliveries of Cooperative Spinning Mills in Tamil Nadu in that year, which was about 9 mil. kgs. The sum of (a) and (b) works out to 66.6. mil. kgs.

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unauthorised looms under the possible connivance with the detecting authorities. This is also, partly due to a relatively weak enforcement of the handloom reservation policy itself. Under this policy, powerlooms are restricted from producing certain specified items reserved for handlooms. In addition, it is economic to use plain reel hank yarn, which is exempted from duty. Although the duty benefit is intended largely for handlooms, unauthorised powerlooms seem to take advantage of such duty exemptions.

2.6.2. The extent of hank yarn used by the powerloom sector can be gauged from the details given in Table A.2.6. In this table we have provided two scenarios, one based on Powerloom Census and the other on the field survey conducted by our study team. According to the Powerloom Census conducted by the State Directorate of Textiles, there were as many as 17,300 powerlooms installed in Meerut, 1,327 in Etawah in 1989. Out of these, the number of cotton looms was 14,064 in Meerut, 1,327 (100% of looms produce cotton cloth) in Etawah. In Jalalpur, a place in Faizabad district visited by the study team, the number of cotton looms was 2,826 according to the Census in 1989. As against this, our interviews with the Powerloom Associations in these places indicated that the Census information suffers from a considerable under-coverage due to reporting bias by powerloom units with regard to the unauthorised loomage. According to Powerloom Associations, the total number of looms installed was very high at 25,000 in Meerut, 8,000 in Jalalpur and 3,900 in Etawah in 1990; of which, the number of cotton looms was 21,250 in Meerut, 7,600 in Jalalpur and 3,900 in Etawah.

2.6.3   The average consumption of hank yarn by these looms is
estimated to be in the range of 3.5 kgs. to 4.5 kgs. per loom per
day on the basis of field information. We also assume that these
looms effectively worked for about 250 man-days in a year on a
two-shift basis (2 X 8 hours per day) after taking into account
the mill closure due to power cuts, communal disturbances, etc.,
in these locations. The rate of capacity utilisation was found
to be 55 per cent (AIFCOSPIN Annual, 1989, p.66, 1990, p.69).

2.6.4   The quantity of hank yarn consumption was calculated as
follows. The number of cotton looms using hank yarn was first
worked out on the basis of our interviews with various Powerloom
Associations in the three locations mentioned above.   As a
proportion of total looms, it varied from 70 per cent for Meerut
to 95 per cent each for Jalalpur and Etawah. Given the number of
looms put to hank yarn use, the average rate of yarn consumption
per loom per day, the number of man-days in a year, and the rate
of capacity utilisation, we have estimated the quantity of hank
yarn used by powerlooms to fall in the range of 12 - 16 million
kgs. in 1990 for all the three powerloom concentrations combined.
The details are given in Table A.2.6. For 1989, the information
about yarn consumption per loom per day, the rate of utilisation
etc., was taken from the field survey. The estimate of hank yarn
use by powerlooms works out to be lower between 6 and 9 million
kgs. according to the Census in 1989. However, to make them
comparable, we have worked out the diversion as a proportion of
the total availability in Uttar Pradesh. The total availability
of hank yarn in Uttar Pradesh was about 52 million kgs. at the
end of 1989. Thus the estimate as a proportion of the total
availability was placed between 23 and 31% as per the field
information, and between 12 and 17% as per the Census
information.

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Hank Yarn Consumption on Powerlooms in Selected Concentrations in Uttar Pradesh

Description	Meerut Information from		Jalalpur Information from		Etawah Information from	
	Field	Census	Field	Census	Field	Census
	1989	1990	1989	1990	1989	1990
1. Total No.of looms installed (Nos.)	25000	17301	8000	N.A.	3900	1327
2. Total no. of cotton looms (Nos.)	21250	14064	7600	2826	3900	1327
3. Total number of cotton looms (Nos.) using hank yarn	14875	9844	7220	2684	3705	1260
4. Average consumption of hank yarn per day/per loom (in kgs.)	3.5-4.5	3.5-4.5	3.5-4.5	3.5-4.5	3.5-4.5	3.5-4.5
5. Effective working days per annum(Nos.)	250	250	250	250	250	250
6. Capacity utilisation (%)	55	55	55	55	55	55
7. Quantity of hank yarn consumed on powerlooms annually (in mil. kgs.) (Range)	7.16-9.29	4.74-6.09	4.47-4.51	1.29-1.66	1.78-2.31	0.61-0.78

	Field survey	Powerloom census
8. Total consumption in three concentrations (in mil. kgs.)		
a. Using 3.5 kgs. of hank yarn per day	12.41	6.64
b. Using 4.5 kgs. of hank yarn per day	16.11	8.53
9. Hank yarn availability in U.P. as on 31.12.89 (in mil. kgs.)	52.20	
10 Use of hank yarn by powerloom sector as % of hank yarn availability in U.P.	23.77-30.86	12.72-16.34

Source: Field visits.

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Appendix A.3

3. A Note on Handloom Industry in West Bengal

3.1   West Bengal has a very large and thriving handloom sector. According to a survey carried out in the mid eighties, there were about 2.50 lakh handlooms in West Bengal. About a quarter of these have facilities for weaving fancy cloth and superfine sarees for which the Bengal handlooms have found a niche all over the country. The `tante' saree with intricate borders and design has helped the hand weaving sector withstand the competition from the mill and powerloom sector. In addition, about 13,000 handlooms produce silk fabrics and are concentrated in Murshidabad and Midnapur.   But this success should not distract our attention from the 'fact that the bulk of handlooms produce coarse cloth of cheaper varieties and face competition from powerloom cloth from Bengal and other centres.

3.2   According to the 1987 Census of Handlooms, there were 2.67 lakh looms in the State giving direct employment to 3 lakh artisans. The basic strategy of the State Government in the handloom sector has been to bring the economically weaker sections of individual artisans into the co-operative fold so as to ensure better organisation of weavers and make the industry economically viable.

3.3   The salient features of the handloom industry in West Bengal are shown in Table A.3.1.

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Table A.3.1

Salient Features of Handloom Industry in West Bengal, 1986-89

		1986-87	1987-88	1988-89
a.	Production in Handloom Industry (in million metres)	383	390	399
b.	Number of cooperatives in handloom Industry	1429	1510	1623
c.	Production under co-operative fold (in million metres)	162.2	173.74	188.45
d.	Number of viable societies	280	290	316
e.	Number of potentially viable societies	618	675	676
f.	Number of societies involving marginal weavers (cumulative)	110	113	113
g.	Number of societies of loomless weavers (cumulative)	40	45	50

Source: Directorate of Handloom Textiles, Government of West Bengal, Calcutta

3.4   As can be seen from the above table, the emphasis on the formation of the co-operatives has led to a consistent increase in the production of the handloom industry. In 1988-89, production of the handloom industry in the State has touched 399 million metres against 390 million metres in 1987-88. In 1988-89, about 47 per cent of the total production in the handloom industry was under the cooperative fold against 45 per cent in 1986-87. The production of `janata cloth' by the handloom industry has also shown a rising trend. In 1988-89, 46.6 million sq. metres of `janata cloth' was produced against the production of 43.02 million sq. metres in 1987-88.

3.5   One of the major problems faced by the weavers in the handloom industry has been the procurement of yarn at a competitive rate. The State government has ensured the supply of yarn to the co-operative societies through the West Bengal Handloom and Powerloom Development Corporation Limited and West Bengal State Handloom Weavers' Co-operative Society Limited. The supply of yarn to the handloom industry by these two organisations has been significant as can be seen in Table A.3.2.

3.6   Further, in order to ensure easy availability of yarn within the State, the Government has been funding the expansion programme of the West Bengal Co-operative Spinning Mills Limited which is the main supplier of hank yarn to WBHPDC and apex societies. In 1988-89, the State Government sanctioned Rs. 50 lakh to these mills. Moreover, to ease the supply position of yarn the State Government financed two more spinning mills, one in Bankura and the other in Midnapur district.

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Table A.3.2

Supply of Yarn to Handloom Industry

	1987-88	1988-89
a. West Bengal Handloom and Powerloom		
Development Corporation Limited (WBHPDC)		
i. up to 40 count (in bales)	2541	3880
ii. above 40 count (in bales)	760 .	890
b. West Bengal State Handloom Weavers		
Co-operative Society Limited (WBSHWCS)		
i. up to 40 count (in bales)	7295	10000
ii. above 40 count (")	2963	4804
iii. polyester (in kgs.)	70596	49963

Source: Directorate of Handloom & Textiles, Government of West Bengal, Calcutta.

3.7   Apart from the supply of inputs, the State organises marketing handloom products through WBHPDC and an apex society. As can be seen in Table A.3.3 the number of showrooms of these two organisations and the sales turnover increased.

Table A.3.3

Marketing Outlets and Sales Turnover of
'Tontusree and Tantuja'

	1986-87	1987-88	1988-89
Number of showrooms (cumulative)			
a. Tontusree	71	75	85
b. Tantuja	130	140	150
Sales Turnover (Rs. crores)			
a. Tontusree	12.50	13.91	17.00
b. Tantuja	41.00	41.50	45.00

Source: .Directorate of Handlooms and Textiles, Government of West Bengal, Calcutta.

3.8   Apart from supplying inputs and organising marketing, the State Government has a programme for modernisation of looms in order to improve the efficiency of the handloom industry. Till 1988, 22,544 looms had been modernised. On the financial side, the cash-credit limit sanctioned under NABARD scheme for Weavers' co-operatives increased to Rs. 29.75 crores in 1988-89 from Rs. 26.11 crores in 1987-88.

3.9   The State Government also operates a number of welfare schemes for the handloom weavers in the State. Upto 1988-89, 8,081 weavers were covered by the provident fund and thrift fund schemes. Under a scheme for house-cum-workshed, poor weavers were provided 2826 units up to 1988-89. Finally, under a scheme for medical facilities and supply of spectacles to weavers, 7,233 weavers were covered up to 1988-89. All these embracing measures have led to the economic improvement of the handloom sector in general and, more specifically, the poor weavers in the State.

3.10 Limitations

3.10.1   The government marketing agencies were not found making their payment (cash and credit) regularly. They made 50 per cent of payment in cash and 50 per cent in kind i.e., in the form of yarn to the co-operative societies. It became a practice by the marketing agencies and mills, not to pay money regularly. As societies depend upon the marketing agencies for their finances, weavers suffered from irregular payment. Apart from this, sometimes it has been observed that the yarn provided by the Government Corporations was not of good quality.

3.10.2   Medical facilities, provident fund, housing facilities are provided to weavers and the society staff.

3.10.3   In Dhatrigram of Bardhawan district, it has been observed that societies were run by individual members. There was no management, nor any official work/process done. Actually the traditional `Mahajani System' has been in practice under the umbrella of `Society'. Weavers are underpaid in these societies. But at least payment is regular. Actually a maximum number of weavers live below the subsistence level. It has been observed that performance of some societies was however very good. But these are few in number. It has been reported by the management that sometimes yarn, which is supplied by the Government was not of standard quality.

3.10.4   Provided these drawbacks are remedied, and essential facilities rendered to the weavers in time, the handloom industry can generate a potentially high level of employment to the rural artisans.