THE EMERGENCE AND GROWTH OF HOSIERY INDUSTRY THROUGH VARIOUS FORMS OF PRODUCTION
CHAPTER IV

THE EMERGENCE AND GROWTH OF HOSIERY INDUSTRY AT LUDHIANA THROUGH VARIOUS FORMS OF PRODUCTION

The analysis in the previous chapter has shown that some of the traditional industries of Punjab which were household based have generally experienced ruination. The exception have been certain artisan production which have transformed into small workshop type manufacturies or small scale Factory type units owing to the entrepreneurial initiative of Ramgarhia Community. Other traditional industries in the urban centres such as textile, woodworks, metal works etc. are of small-scale nature and run by small independent capitalists. The hosiery industry have grown with greater impetus than other traditional industries contributing to 2/5 of the total workforce of the small -scale and 1/4 of the large-scale industries in general in the district. The major thrust in this chapter is to examine the emergence and growth of the forms of production organization in Ludhiana hosiery industry during the British and post-Independence periods.

The specific objectives to be examined in this chapter are the following:

(1) The role of trading capital in the transformation of the hosiery industry from the state of natural economy to market economy during last half of the 19th century. In this context it will be examined as to whether the
trading capital has taken the path of dadni system on all India pattern or the putting-out system as in the case of British Hosiery Industry.

(2) The role played by factors such as market demand, induction of improved instruments of labour etc. in transforming the early forms of capitalist production to the workshop type of production during early part of the 20th century.

In this context it is hypothesised that:

(i) the role of trading capital would have taken the form of dadni system rather than putting-out system in the process of transition to early forms of capitalist development;

(ii) the expansion of the market and the manufacturing of machinery at the local level would be associated with the predominance of the workshop type production rather than the domestic form of production.

As a background to the examination of these two objectives and hypotheses, it is desirable that an understanding of the forms of production organizations as it evolved in the British Hosiery Industry and the Hosiery Industry in India is explored. It is followed by the examination of the objectives and the hypotheses with reference to Ludhiana hosiery industry.
Early History of Knitting in British Hosiery Industry

Knitting by hand came into popular use by 14th and the 15th centuries in Scotland and England. There were two systems of hand-knitting evolved over the period. One was knitting with two or more needles and the other was by knitting on pegs placed either in a single or double row, or in a circle. Hand knitting was so slow that a hand knitter must be satisfied to produce a hundred loops per minute, as compared with a million loops produced by a 'machine' operator.

William Lee invented a stocking frame in 1589 in England whose speed of knitting was much higher. But he was not given patent in England because of the fear of rendering many hands unemployed with the popularity of frame-knitting. It was this fear that the frame knitting could not flourish until about 1750. Improvements in the original frame and invention of new frames continued from then onwards.

By 1695, England had already been established as the hosiery centre of the world. It was estimated that nearly 1500 frames were active in and around London by the end of the 17th century. However, knitting came to United States in 1689 only. The first hosiery knitting-frame was brought to U.S. illegally from England and produced the first pair of stockings in 1822.
In Japan the knitting industry started only in 1870 when a hose-knitting 'machine' was imported from America. But the development was so quick that by 1875 Japan had started exporting hoses to China. In 1880 Japan began to manufacture knitting "machines" itself. Successive wars - Sino-Japanese War in 1894-95, Russo-Japanese War of 1904-05 and two World Wars - gave a further boost to the Japanese hosiery industry.

Though in 1769 an Englishman, named Wizz, worked the knitting frames on power belts, the real revolution took place only when a first power driven machine was made in Cohoes, New York, in 1832. From then onwards hosiery started to enter into a new stage, i.e. Factory form of production. Historical development of Hosiery Industry in England through various forms of production

The invention of knitting frame by Lee in 1589, drew the attention of traders in textile to the new productive powers of workers enhanced by the new frame. It was the period when original guilds were breaking and the big trading companies, especially in the textile industry, were progressively controlling the domestic workers through advancing them raw material. If necessary instruments of labour were also rented out to the domestic workers. Therefore, at the time when frame knitting started to spread in England, the prevalent system of production in textile industry was
In the hosiery industry, by 1657, a big trading company established its monopolistic control over the frame knitting and was charted as a proper guild. The company had complete control over the frame knitting domestic workers and the workers had to rent-in the frames from the company at very high rates.

Therefore, the company not only earned profits from exporting hosiery goods to other countries but also benefitted from high frame rents. The monopolistic hold over the renting-out frames was so strong that the worker who happened to own his own frame was starved of work. But such a hold could not last long and the workers started to leave London for other places such as Leicestershire, Nottinghamshire or Derbyshire. The new manufacturers started to emerge from below at new centres, and the monopolistic control of merchant capital over production started to lessen. In Nottingham, by the middle of 18th century there were fifty manufacturers, known as 'putters-out' who employed 1200 frames (Lipson, 1948: 108-09).

Production Organization: In Leicester and the larger Leicestershire villages master hosiers often put-out only single process to stockingers home; one would do only legs,
another tops, still another feet. The materials would be advanced from a warehouse and the stockingers would return the finished articles to that warehouse. The hosier would inspect the work and pay the stockingers. The master-hosier would often have a room in his warehouse in which women would be employed on seaming and other finished operations. Sometimes this work was also put-out. In addition, there were preparatory tasks for framework knitting, such as winding the yarn and keeping the shuttles filled, which were usually done by the stockingers' children.

Besides putting-out raw materials, master hosiers also put-out frames and charged frame-rent. By the end of 18th century it was rare for a stockinger to have his own frame. For the hosier, besides getting surplus from hosiery, frame rent was also another source of income, irrespective of the hosiery market fluctuations. This contributed to the extreme wretchedness of stockingers when trade stagnated between 1819 to 1850. The conditions of workers in the countryside were still worse owing to the parasitic role played by the intermediaries between the urban master hosier and the scattered rural domestic workers.

Under such atomised conditions of production it was very difficult to bring the workers under Factories Act. Till 1862, out of 1,20,000 workers employed in the industry, only 4063 could be brought under the Factories Act. Also the
manufacturers were not interested to switch over to Factory production as abundant cheap labour was available. It was towards the last part of the 19th century that small manufacturers started to set up Factories, often renting space in a larger manufacturer's building. The major impetus to this change came from the legal restrictions placed on the employment of children and their compulsory education. Another Act, namely, The Truck Act of 1874, also contributed to this change by declaring frame-rent and other fixed charges along with the truck (food) as illegal. Due to the relative low division of labour in the hosiery industry, the small firms continued to survive for long; and under such conditions, the door for entry and exit in the hosiery industry was very easy. Due to the scattered nature of the workforce and excess supply of labour, trade unions in hosiery could not exert much influence for a long time.

Japan also has similar history of the organization of production in hosiery during its early period of introduction of frame knitting since 1870. The methods of control over the scattered domestic workers by the big trading companies under 'putting-out' system has been very ably analysed by Dobb (1978:146). He has rightly pointed out that in the case of Framework Knitters it was the growing complexity and expense of the instruments of labour that was responsible for craftsmen's dependence while in other indus-
tries where fixed capital was unimportant, control over the raw material was the main factor of the dominance of capital over domestic industry. In Japan also there emerged a big association at Tokyo, owning a large number of hosiery "machines" which were rented out to the framers or other workers living in the villages, who produced according to the specifications issued from their offices in the town. The cottage workers in the village worked on a definite plan and on a fixed pattern. After completion they send it to the head office where it used to be graded. Before despatching the produce to the market, the articles were branded with the trade mark which carried the guarantee of the association.

Another example is from China. The hosiery industry in China before revolution, was carried on mainly as a cottage industry. A number of large hosiery firms which were situated in big towns generally leased-out knitting and other 'machines' to the cottage workers living in the villages. They also supplied them with the raw materials and later on collected the manufactured goods. But the final finishing and packing was carried out by themselves within the premises of the firm. It was estimated that in the year of 1941 seven to eight thousand hosiery 'machines' were distributed in the surrounding villages in a town of Punghu.

The three examples from England, Japan and China show close resemblance in the nature of production organization in
The pattern of renting-out knitting frames as a means to exert control over the produce of the domestic workers which initiated in England by the middle of 17th century continued as a predominant form of production till late 19th century. While this phenomenon of 'putting-Out' was gradually coming to an end in England and was being replaced by the Factory system towards the later part of the 19th century, it was just beginning in Japan on the same lines as it was initiated over two centuries back in Britain. The example of China is still of more recent one. In China the renting-out frames to the village domestic workers by the urban based "manufacturing" companies was in vogue until the 40's of the present century. With this background of the historical experiences of the hosiery industry in the above three countries it is appropriate to appraise the emergence and growth of the Indian hosiery industry over the period.

Emergence and Growth of the Indian Hosiery Industry

The production of hosiery goods in India dates back to some 150 years. Frame-knitting in hosiery started in 1890 which was soon followed by power driven machines for cotton hosiery knitting. The main centres of hosiery production in India have been West Bengal, Punjab, Uttar Pradesh, and Tamil Nadu, Bombay and Mysore.
The first unit of hosiery in Bengal for producing socks and stockings was set up in 1890 at Kidderpore (Calcutta) with only four knitting frames. A few power-driven machines were added soon and the unit was converted into a Factory. In 1893 the Factory was floated as a limited company. This newly born company had to be closed down in 1905 due to severe foreign competition. The Swadeshi Movement which followed in the wake of World War I gave a fresh impetus to the industry and several units sprang up all over West Bengal. The production was mainly of cotton vests. Attempts were also made for woollen hosiery production in 1925 in Bengal but competition from Punjab and Uttar Pradesh frustrated those attempts. Cotton hosiery, however, continued to flourish, both technically and in the varieties of production. In 1937-38, there were in Bengal, 36 medium sized hosiery units and a large number of small units. According to official estimates, Rs 37 lakhs were invested in the industry providing employment to 4600 persons; the annual sales exceeded Rs 60 lakhs.

At about the same time as of Bengal the first hosiery unit was established in Uttar Pradesh at Lucknow in 1904. By 1914, there were 200 circular "machines" and 30 flat "machines" working in Lucknow and Kanpur. In Belgaum (Mysore), hosiery industry was started in 1920 by a lady who established first sock knitting unit. Industry grew here at a sluggish pace which took a big momentum during World War II owing to the military demand for hosiery and the decline of the competition
from abroad. The emergence of Tiruppur (Tamil Nadu) as another centre of cotton hosiery is a post-Independence phenomenon. The latest centre of hosiery is Bombay which emerged during early 60's and the nature of hosiery is of synthetic fibre.

Thus the growth of various types of hosiery at different centres of India is mainly the 20th century phenomenon, when frame-knitting, first operated with hands and then with power, entered into a big way into the industry. Hosiery industry, as a part of larger economy of India, also faced crises and booms at different points of time. The slump which followed World War I hit the industry adversely. The prices of finished goods fell by 25 to 33 per cent as against 15 per cent fall in the price of yarn. The depreciation of the Japanese 'Yen' strengthened the competitive power of hosiery goods from Japan into the Indian markets.

The revenue duty of 30 per cent levied on imports from Japan did not give much protection to the Indian hosiery industry. The industry sought fresh protection, but it was refused. It was the Tariff Amendment Act 1934 which afforded adequate protection. The indigenous hosiery industry received a fillip during World War II as a result of the stoppage of imports. However, the industry was unable to meet the entire civil and military demands for hosiery, on account of shortage
of needles, yarn and machine parts which were imported from abroad. The main suppliers of hosiery machine needles prior to World War II were, Japan (70%), Germany (16%), U.K. (8%) and China (6%). The prices of needles in 1940 were exhorbitant ranging from Rs 200 to 250 per 1000 needles. Imports from Japan and China ceased and supplies from U.K. were too small to meet the requirements of the industry. The prices of hosiery yarns increased 2½ to 4 times and many qualities became practically inaccessible as the war progressed.

Underdevelopment of the hosiery machine manufacturing industry was a major bottleneck in the way of the growth of hosiery industry. There was no hosiery machine manufacturing industry in the country till the end of the World War I. The first sock knitting "machine" was built in India in 1920. The production of other types was taken up gradually. The non-sinker plain web machine, the six wheel jacquard machine, and Raschel loom were being produced in India before World War II, but they did not find much favour with hosiery manufacturers. The War, however, gave a fillip to hosiery machine production industry. The total amount of 'machinery' produced in the country was far below the requirement to meet the hosiery production targets. For instance, the Report of the Panel on Hosiery Industry, 1946, (page-4), recommended the production targets of 600 million pieces under wear, 100 million pieces outerwear and 50 million pieces footwear by the end of 1951. It was estimated that to meet the above
targets the number of knitting "machines" required was 16,500 of which about 15,500 "machines" were to be imported at a cost of nearly Rs 10 crore. By mid-fifties various kinds of flat and round 'machines' - both, power, and hand driven - were produced indigenously but the production continued to be below the requirements except the hand driven socks and stockings 'machines'. The value of 'machines' produced was estimated at Rs 55 to 60 lakhs; the total 'machines' requirements were valued at Rs 180 to Rs 190 lakhs. This made it imperative to import 'machinery' like flats, circular and warp-knitting machines.

In 1950-51 the highest production of cotton hosiery was in West Bengal (21 lakh lbs), followed by Madras (18 lakh lbs), Bombay (13 lakh lbs) and U.P. (13 lakh lbs). During the same period, i.e., in 1950-51, the import of the cotton hosiery into the country was of Rs 23 thousand only while the value of export was Rs 86 lakh. It clearly indicates that cotton hosiery had a place in the country's economy by early 50's not only to meet the internal demands but also to produce surplus for export. (I.G.S. 1968: see Hosiery)

There is a paucity of studies on the nature of hosiery industry at various centres of India in the past. In order to have an understanding on the form of production in Hosiery Industry, the hosiery units at Calcutta and Balgaum are being taken as illustrative cases.
During early 60's about half of the total cotton hosiery of India was produced in Calcutta (20 million lbs). Over 4000 power-knitting machines were operating with an estimated capital investment of about 2 crore. There were seven to eight thousand workers engaged in production. About 70 to 80 per cent of the total output in Calcutta was produced by smaller units which constituted 95 per cent of the total number of units working there. The fact that about 70 per cent of the finished goods were sold under the brand names of dealer-cum-fabricators was an evidence to the widespread prevalence of 'putting-out' system in Calcutta hosiery during early 60's.

The system of 'putting-out' work to the independent knitting or tailoring units was not there during early periods. The cotton hosiery industry in Calcutta during its early period started as composite units, i.e., the units where all the processes or steps involved were performed under the same roof. Such units were named as 'vertically integrated' units. After World War II a change in the production organization was witnessed under which each process or step started to emerge as an independent small unit, performing job work over the raw material advanced by 'merchant-manufacturers' for fixed charges.

A study of production and Distribution Pattern in cotton hosiery of Calcutta by Textile Committee, Bombay, in 1964 found the following pattern of production:
1 **Complete Units**: The units having both knitting and tailoring departments, with or without processing arrangements were called as complete units. The number of such units was 125.

2 **Knitting Units**: These were the units without tailoring departments. The knitting units were either producing hosiery cloth for independent sale to the merchant 'manufacturers' or simply performing job-work over the yarn supplied by other units for fixed charges.

3 **Tailoring Units**: The independent tailoring units were also performing job-work for fixed charges over the material supplied by other units or 'merchant-manufacturers'.

4 **Processing Units**: These were also independent units, performing job-work. They performed the job of bleaching and/or dyeing the fabrics or the garments on others accounts, mostly from 'merchant-manufacturers'.

5 **Merchant-manufacturers**: They did not own any instruments of labour. They were the whole-sale dealers in hosiery goods who also partly took the interest in production but kept themselves outside the actual labour-process. They started their role in production either from the stage of yarn or by buying hosiery cloth from the independent knitters. The rest of the steps such as cutting, tailoring, dyeing and bleaching were worked through the independent
units at piece-rate charges. Such an arrangement of production is akin to 'modern putting-out' or 'capitalist decentralised Factory system' because each step involved in the complete commodity production, already emerged as independent industries constituted by small Factory type units. The exact reasons of reversion from complete composite units under the same Factory premises to the 'hoax production' on the basis of 'putting-out' are not known. Yet it has important bearings upon the working class formation and their organization into trade unions. The attraction to such a reversion by the merchant class can be guessed from the fact that by early 60's, about 70 per cent of the finished goods were already reported to be sold under the brand names of 'merchant-manufacturers' (Textile Committee, 1964: 3).

The production of hosiery on the basis of 'modern putting-out' expanded further by the next decade and a half. The study of cotton hosiery of Calcutta by Basu (1977) (cf. Chapter I) amply demonstrates that the process of 'decentralisation' has further taken place in this industry, giving rise to the emergence of an independent sub-industry at the level of each step involved, within the overall production in the hosiery industry. For instance, knitting is first step in the final production of a complete hosiery
garment. There were about 500 independent units in the process of knitting engaging nearly 2000 workers. Therefore, knitting itself emerged as an independent 'sub-industry' where job-work was performed over the yarn supplies by the 'merchant-manufacturers' as per their specifications. The next steps were washing, cutting and tailoring. In washing there were about 100 units and in tailoring the number was 2000 while the cutting process was accomplished within the workshops of 'merchant-manufacturers' on piece-rate basis. Thus the 'merchant-manufacturers', who own little or no machinery, the cost of which was borne by the 'petty-capitalists', got hold over the produce by investing over the raw material only. In the small independent competing units at the level of each step, most of the instruments of labour were run by power. Such a system of production has been termed as 'Capitalist decentralised Factory system' of production.

It may be mentioned in brief that in Belgaum (Karnataka), another small centre of hosiery production, similar pattern of production was in vogue. There were about 100 units only, with an installed capacity of about 370 knitting 'machines', mostly flat 'machines'. The total number of workers employed during early 60's were between 1200 to 1400. The size of the units was so small that except 3 to 4 units which installed more than 20 'machines' each, other units had only 2 to 3 'machines' each. There were
24 complete units installing nearly half of the total 370 'machines' while the rest were scattered over 80 to 90 household units working as 'job-knitters' on behalf of either Committee Units or Cooperative Society and/or exclusively as members of the Cooperative Society. After the cloth was prepared in domestic knitting units, the other steps such as cutting, tailoring and washing etc., were completed by Society or 'Committee' itself. This brief description indicates that the 'putting-out' system was in progress in Belgaum also where the role of 'merchant-cum-manufacturers' was being taken up by the Cooperative Society or the 'Committee'.

A brief description of the history of hosiery industry in India, shows that this industry grew mainly during the 20th century. During this short period of nearly eight decades, the industry witnessed booms and depressions at different points of time. During the two world wars, the industry flourished owing to the war orders but also faced crisis due to the short supply of 'machinery' from abroad and a sharp competition from the hosiery products from abroad, especially from Japan. During the post-Independence period both the limiting factors were controlled to a large extent as the indigenous hosiery machine manufacturing industry had taken sufficient roots by that time. At the same time major changes in the production system itself were taking
place during this period. From a centralized Factory-type composite units, the industry started to spread over a large number of small units competing among themselves. The burden of the instruments of labour was thrown over either to the petty-capitalist or to the grass-root workers themselves. The erstwhile industrial capitalist slowly started to withdraw himself from the direct control over the actual labour process. Under the new system, the indirect control through advancing raw material was more paying to the capitalist who was able to control a large share of the produce without having his own unit. With this change he made himself free from the cost to be incurred in the machinery, building, etc. He was also free from the expenses to be borne for the workers' welfare, wages and compensation to the workers during slack season.

During the past three to four decades such a system of production has become most widespread in the cotton hosiery industry of India as it is lucrative to the entrepreneur and detrimental to the workers. Under this 'decentralized' system of production workers can be made scapegoat easily as their organized power to resist weakens considerably.

It is clear by now that whether it was the hosiery industry of Britain, Japan or China, in all the three countries, the early form of production was 'putting-out' along with the prevalence of renting-out frames to the
workers. It was also found that in Britain the practice of renting-out frames to the workers came to an end with the large-scale use of power run machinery. It was also affected by the various legal restrictions over renting-out frames imposed by the British Government. However, in India, the hosiery did not switch over to the large sized Factory type units even after the introduction of power run machinery. Rather the process reversed. The unit which were earlier 'Vertically integrated', i.e., composite units, in which most of the processes were performed inside the unit, decomposed into the small Factory type units, performing each process in each individual unit. This practice was found widely prevalent in cotton hosiery. Therefore, the introduction of power run machines into the hosiery industry in India, unlike Britain, did not give rise to the large sized Factories with a greater concentration of workers, rather the process of disintegration of larger units into smaller ones gives a totally different picture. In the hosiery industry, therefore, the big traders get their goods manufactured by advancing raw material to the small independent units. This nature of production can best be characterised as the 'decentralized Factory system or 'modern putting-out' system of production. In this background, attempt has been made to understand the various forms of production in the hosiery industry of Ludhiana.
The Transition of the Hosiery Industry in Ludhiana from Natural Economy to Early Forms of Capitalist Production

There is absolute scarcity of materials to understand the nature of hosiery industry during the nineteenth and the earlier part of the twentieth century. The two important sources, namely, the District Gazetteer of Ludhiana and an unpublished dissertation (Passi, j. 1949), throw interesting light on the nature of this industry during its early form of evolution. The account of this industry in the nineteenth and early part of the twentieth century is thus mainly based on these two sources, and supplemented through other secondary sources such as Report of the Indian Tariff Board, 1935, etc. The emergence and growth of Ludhiana as an industrial centre is mainly a post-Independence phenomenon like other parts of Punjab. Within a short time it has achieved pre-eminent place as a big centre of small-scale industries in India. Ludhiana is also famous for its woollen hosiery industry as nearly 90 per cent of the woollen hosiery production of India is concentrated in this city only.

In order to know the factors which facilitated the transition of Ludhiana hosiery industry from natural economy to early forms of Capitalist production a brief history has been attempted in the following pages to analyse its development through various phases, i.e., from the traditional hand-needle knitting by domestic women to the present level of development. The role of trading capital, if any, during
its various phases of transformation is also highlighted.

Hosiery, as a commodity production, was initiated by the Kashmiri women who settled at Ludhiana during 1825-30 after the devastating effects of famine at Kashmir during that period. The yarn used was coarse and hand spun and the knitting was performed by hand-needles. Mainly the socks were produced. The hosiery continued to expand as petty-commodity until the middle of the last century.

In due course of time, hosiery knitting also found popularity among the local women. It expanded over a large number of households, scattered over suburbs and the surrounding villages. It became necessary to interconnect the scattered domestic workers from the suburbs and from the surrounding rural areas with the market situated in the town for two reasons: (a) for the supply of raw material from the town to the domestic workers, and (b) for the disposal of the produce into the town after collecting it from individual domestic workers. At this stage middlemen appeared on the scene out of the historical necessity of the situation. It was through them that the individual scattered workers could be linked up with the market. On the basis of his experience of the role played by middlemen - trading capital - during the early stages of commodity production in Russian traditional industries, Lenin wrote: "Under the commodity economy, the small and scattered domestic producers from
distant areas inevitably falls into dependence upon merchants' capital by virtue of the purely economic superiority of large, mass-scale marketing over the scattered petty-marketing. The appearance of the middlemen helped to further popularise the knitting among domestic workers as their profit was linked to the quantities they disposed from and to the market in the town. It also gave rise to a stable and regular market for the hosiery products, which was very essential for the further development of the industry.

The modus operandi of a middleman was that at the end of each winter he would go round the villages and distribute yarn among the villagers. After a few weeks he would revisit those villages and collect the finished products, mostly the socks. He did not settle wages with the village women in advance. Often the terms offered by the middlemen were accepted by the women worker. They made a good fortune out of their pivotal role between the workers and the distant market. Uneducated women of villages were paid very little and the produce were sold at a very high rate in the town to the retailers and whole-sale dealers. Such a practice continued till the end of the last century. Exactly the same role of middleman was played by the 'bagman' in the history of British hosiery. He was called 'bagman' because he used bag for taking raw material from
the city to the village domestic workers and again for collecting knitted articles.\textsuperscript{12}

The appearance of the middlemen, in the role of trading capital, had qualitatively changed the relations of production. The erstwhile petty-commodity production based on the family labour and their direct sale into the market, had now been transformed into the commodity production where the family workers were reduced to the wage workers. The workers were selling their labour-power and not the fruits of their labour. This paved way for the emergence of the early form of capitalist domestic industry which had features similar to the 'putting-out system'. As the instruments of labour, i.e., hand-needles, were simple, the control of the middlemen over domestic workers could be exerted through the control over the raw material which was a scarce commodity.

Hence, the prevalence of hand needle-knitting in Ludhiana hosiery till the end of the last century was indicative of the backwardness of the technique of production vis-a-vis the British hosiery. The needle knitting in Britain had already started to be replaced by the frame-knitting since the mid 17th century. Therefore, the 'putting-out' system of hosiery production and the use of hand needles as the instruments of labour by domestic workers at Ludhiana, was comparable with the similar system of earlier production in countries like Britain in 16th century.
The foregoing analysis clearly reveals that the Ludhiana hosiery industry had transformed from a state of 'natural economy' to 'capitalist domestic industry' during the course of half a century starting from the second quarter to the last quarter of the 19th century. The role of middleman in the form of 'merchant-manufacturers' was crucial to this process of transition. He was the primary link between the domestic producer and the market. However, unlike the other traditional industries of India of the same period, in hosiery, dadni system of production did not flourish. The reason seems to be the lack of availability of the raw material locally to the domestic workers, for which they were dependent upon the middlemen, who supplied raw material from the distant markets and paid fixed charges for knitting.

This substantiate the hypothesis that the hosiery industry in Ludhiana was accompanied with the process of transition from the state of natural economy to capitalist domestic industry in which the role of trading capital assumed primary importance.

Transformation to the Workshop Type Production

The next phase of the hosiery industry at Ludhiana reflects a transition from the elementary form of 'Capitalist domestic Industry' to the emergence of small workshop type manufacturies alongwith the 'putting-out' system. The introduction of frame-knitting was instrumental
in this shift as would be evinced from the accounts to follow.

The frame-knitting in Ludhiana started in 1883, after the import of a sock-knitting frame from England. These frames were hand-operated and mainly the cotton yarn was used, though at the elementary level woollen and silken yarn was also used. By 1901, there were 25 knitting frames working at Ludhiana, mostly for sock-knitting. At that stage, Hosiery Industry was still at low level of technology as the investment over the ordinary sock-knitting frame was to the tune of Rs 115/- only. The basic constraint in the fast spread of the industry among domestic workers was the non-availability of the frame locally. All such frames were to be imported from abroad. Consequently, at the early stage, the hosiery was either limited into the small manufacturing form of workshops with 5-10 frames or like handloom industry, it was also spreading at the household level with the installation of one or two 'frames' in each house. In the case of workshop type small manufacturies the capital required was managed by the traders themselves and they sold their produce in the market without any constraint. An example of the manufacturing form of unit from Wazirabad (British Punjab) would help to clarify the nature of production organization during early part of the 20th century:
"At Wazirabad, there is a hosiery factory with ten sock making and two vest-making machines. It employs ten trained workers at ₹ 12 to 15 per month and twenty indentured apprentices, besides giving job work to some fifteen females in their own homes. There are also a dyer at ₹ 20 and a mechanic at ₹ 25 per mensem on the staff".  

Therefore, during early part of the 20th century, the introduction of frame knitting by the trading capital gave rise to the birth of workshop production and the role of hand-needle knitting by women from rural areas diminished. The hosiery started to emerge as an urban centered phenomenon.

Like the prevalence of 'putting-out' in hosiery industry of Britain, Japan and China, under which the 'merchant-manufacturers' advanced raw material alongwith the renting-out knitting frames to the workers, the practice of renting-out frames to the workers at Ludhiana came into vogue during the first quarter of the present century. The frames were rented-out either by the small manufacturers -men- or by the erstwhile 'middle' who also supplied the raw material to the workers. Alongwith the workers working over hired frames, there also existed some workers who had their own frames. However, such workers had a dependency relation with merchants for the raw material and the market.
World War I had a booming effect upon the hosiery industry at Ludhiana as the supply of woollen goods from abroad was disrupted. It was at this stage that the woollen hosiery also started to spread in the Ludhiana hosiery industry. Till this time the industry was largely dependent upon other countries, especially Japan, for procuring the hosiery knitting frames and other spares. However, this dependency for instruments of labour on import was soon diminished with the beginning of the production of small knitting frames by the local artisans by early 20's. By this time the hosiery industry was either of small workshop type manufacturies or scattered among the domestic workers. By late 20's, there were nearly 900 frames working in Ludhiana, out of which two were power driven. Therefore, the introduction of power driven machinery into civil hosiery was an indicator of the future course of the civil hosiery that was going to take shape.

Two processes were simultaneously working in the hosiery industry during late 20's and early 30's. On the one hand, the hosiery was spreading over a large number of households as the knitting frames manufactured locally were cheaper and did not require much space for their installation. On the other hand, a small number of manufacturies, installed with capital intensive 'machinery' imported from abroad also continued to grow. Import of different types of hosiery 'machinery' and their simultaneous manufacture at
Ludhiana, were the twin factors which gave the real boost to the industry at Ludhiana. The increased induction of 'machinery' in the hosiery industry towards the end of 30's could be evinced from the following figures.

Before World War II, i.e., in 1939, the tools and 'machines' used in the industry were the following:

TABLE 4.1

The Nature of Tools and Machines used in Ludhiana hosiery industry in 1939

<table>
<thead>
<tr>
<th>Name</th>
<th>Local</th>
<th>Foreign</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Round circular for Sweaters</td>
<td>942</td>
<td>93</td>
<td>1043</td>
</tr>
<tr>
<td>2  Circular for sock-knitting</td>
<td>144</td>
<td>195</td>
<td>339</td>
</tr>
<tr>
<td>3  Flat</td>
<td>-</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>4  Jacograph</td>
<td>-</td>
<td>109</td>
<td>109</td>
</tr>
<tr>
<td>5  Circular for Caps</td>
<td>33</td>
<td>-</td>
<td>33</td>
</tr>
<tr>
<td>6  Raschel</td>
<td>-</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>7  Drum</td>
<td>8</td>
<td>31</td>
<td>39</td>
</tr>
<tr>
<td>8  Sinker</td>
<td>24</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td>9  Non-Sinker</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>10  Warper</td>
<td>40</td>
<td>-</td>
<td>40</td>
</tr>
<tr>
<td>11  Overlock stockings</td>
<td>15</td>
<td>63</td>
<td>78</td>
</tr>
<tr>
<td>12  Bereparatus</td>
<td>10</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>13  Interlocks</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>14  Winder</td>
<td>-</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>15  Mixture</td>
<td>6</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>16  Calendering</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>1195</td>
<td>686</td>
<td>1881</td>
</tr>
</tbody>
</table>

### TABLE 4.2

<table>
<thead>
<tr>
<th>Name of the country</th>
<th>Number of 'machines' imported</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Japan</td>
<td>131</td>
</tr>
<tr>
<td>2 Germany</td>
<td>313</td>
</tr>
<tr>
<td>3 England</td>
<td>189</td>
</tr>
<tr>
<td>4 U.S.A.</td>
<td>42</td>
</tr>
<tr>
<td>5 Switzerland</td>
<td>8</td>
</tr>
<tr>
<td>6 Sweden</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>686</strong></td>
</tr>
</tbody>
</table>

Source: Passi, J. (1949): op.cit..

During World War II the industry witnessed a boom again in response to the huge orders for military. The import of hosiery goods during war was restricted together with the stoppage of yarn and machinery. This restriction gave a stimulus not only to the hosiery production but also to the hosiery machine production at Ludhiana.

From the preceding analysis it is clear that Ludhiana hosiery industry made a major headway in several aspects between the close of the last century and on the eve of Independence. The size of the industry and its complexity
showed significant growth from the point of view of the induction of knitting frames, the level of capital investment and production, and the workers strength. The production was not only confined to cotton but also made severe dent into the production of woollen hosiery. There was considerable expansion in the market which extended even beyond the confines of the state. One of the major breakthrough was in respect of severing the dependence on imported machinery as it was now locally manufactured. Similarly, the dependence on foreign countries for woollen yarn was minimised as it was now made available inside the country from the places like Calcutta and Bombay. Another strength to the hosiery industry was received from the growth of other allied industries in Ludhiana itself, such as, sewing machine, dyeing industry, washing and finishing and so on. The process was gradually initiated after World War I and showed significant advance subsequently.

With respect to the form of production in hosiery industry, it can be concluded that the putting-out system of hosiery production, along with the practice of renting-out frames to the workers, was also spreading to a large number of workers. The putters-out were either manufacturers or the traders from the hosiery industry. Middlemen were also indispensable either to perform a liaison work between the domestic workers and the principal employer (i.e. putter-out) or to act as a carrier of produce from and
raw material to the domestic workers and sell it to the dealers in the city. Such a system of putting-out was not limited only to hosiery but was also found in textile weaving industry at Ludhiana which was also of the nature of either small domestic industry or of the nature of small workshop.

The effect of partition over the hosiery industry was not as severe as was in the border districts. Out of the total workforce engaged in hosiery at Ludhiana 60 per cent were Muslims. After the migration of the Muslim population to Pakistan, the decrease in the workforce was, however, partially compensated by the skilled workers who migrated from Pakistan to Ludhiana. Therefore, the actual decrease registered in the workforce after partition was 24 per cent. However, Punjab lost a good market for the hosiery as 1/3 of the total hosiery produced at Ludhiana was consumed in the areas which went to Pakistan. After partition, Ludhiana emerged not only as a biggest centre of hosiery production in Punjab but also as a major centre for the growth of other industries.

In 1951, out of the total 805 units, only 56 (6.95%) were registered under the 'Factories Act'. Of these registered units only 45 per cent were using electric power i.e., nearly 3% of the total units. At that time the woollen hosiery was seasonal in nature, functioning from
July to December, employing 20,000 workers directly and an equal number was engaged as domestic workers, mostly women. The domestic women workers were engaged into the processes such as winding, linking, tailoring, etc. By this time not only the hosiery but also the supportive industry such as dyeing and the hosiery 'machine manufacturing' industry witnessed substantial expansion. Spinning mills were also added in order to meet the demand of woollen yarn locally. The actual state of the structure of hosiery industry at Ludhiana during mid-fifties could be evinced from a report on the 'Industrial Survey of Ludhiana District' by the Directorate of industries, Punjab. The following picture emerges on the basis of this survey.

Ludhiana had established monopoly over the 90 per cent supply of the country's woollen hosiery. The industry had a complex structure, made up of units of various sizes ranging from single hand units to those employing hundreds of workers. By 1955-56 there were 901 units comprising of all sizes, producing hosiery worth ₹ 3.5 crore (SISI, 1975:7).

There were two types of units, namely, self-sale and fabricating units. Fabricating units comprised more than 25 per cent of the total units which were generally small in size and were run mostly at the homes of the workers themselves or by the small entrepreneurs employing a few workers. These units were performing job-work over the raw material advanced either by big units or by small sale agents. In
turn, fabricators were getting only wages/fabrication charges for the goods manufactured under their shade and care. Such a system of production reminds the British 'putting-out' system of production, widely prevalent in textile industry during 18th century or in certain industries, such as lace industry, even during early 19th century.

The British' capitalist domestic industries' or the 'putting-out' system marked a definite stage in the industrialisation process. However, the system of production in hosiery at Ludhiana during mid-50's was rather complex. There were units which had applied motive-power for the running of machines while the others were at the level of manufactures only.25 Again there were units which were predominantly relying on the inside production, while the others upon 'putting-out' the work either to the small manufacturers or to the industrial domestic workers. Regarding the ownership of frames, both types of practices were there. These were either owned by the manufacturers or even by the domestic workers or rented out to the workers, irrespective of the place of work. Again the size of the 'self-sale' units, i.e., manufacturing units, and the fabricators, working for others, varied from the registered units under the Factories Act to the small family level units. The following table depicts the size of the two types of units in the district during 1955-56.
TABLE 4.3

Size of the Units Among 'Manufacturers' and Fabricators

<table>
<thead>
<tr>
<th>Nature of ownership</th>
<th>Size of Units</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Registered</td>
<td>Unregistered</td>
</tr>
<tr>
<td>'Manufacturers'</td>
<td>72</td>
<td>470</td>
</tr>
<tr>
<td>Fabricators</td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>73 (8.11%)</td>
<td>530 (58.82%)</td>
</tr>
</tbody>
</table>


The above account of the nature of the ownership pattern and the size of the hosiery units vividly demonstrates that the hosiery industry continued to be constituted by the small units which were scattered over a large area. One-third of the total 901 units were family based only, mostly working over the raw material advanced by others. A sizable number of the units, i.e., 58.82 per cent, were still 'unregistered' as the number of workers employed were very small. Fabrication, either by the small 'unregistered' units or by the family units, was an important feature of the hosiery industry through which the trading/manufacturing capital was getting their job done on the basis of 'putting-out' system.
The foregoing analysis clearly brings to the fore that the expansion of the hosiery market, the greater use of the improved instruments of labour, their increasing production and the availability at the local level, created favourable conditions for the predominance of the workshop type hosiery production organization in Ludhiana. This is also evident from the figures in Table 4.3 that of the total 901 hosiery units in the district during 1955-56, 235 (26.08%) were family based working upon the others' raw material, that is, akin to capitalist domestic industry and 603 (66.92%) had acquired predominantly 'workshop' type production organization. Another 63 (7.00%) family level units were of the nature of petty-commodity producers. This amply demonstrates that by the mid 50's the character of the hosiery industry had come to the stage of institutionalized form of workshop type production organization. The trading capital as also the industrial capital had played a major role in this process of transformation. This substantiate the second hypothesis that the expansion of the market and manufacturing of machinery at the local level triggered the process of the transformation from the early form of capitalist production to 'workshop' type production.

Until the eve of Independence the hosiery produced in Ludhiana was mainly catering to the civil and defence requirements. The beginning of 50's was marked by an impetus to the hosiery industry when it gradually started producing for the foreign markets. Once initiated, the
process continued unabated and the widening of the export market was also associated with the overall expansion of this industry.

By mid 50's a third type of the hosiery, namely export hosiery, was also growing at Ludhiana. Out of the total production 59 per cent was consumed in the civil market, 25 per cent was produced for the defence personnel and 16 per cent was exported to other countries (District Industrial Survey, 1956: 7-8). However, the following brief account of the hosiery machinery, which was in use in 1961, demonstrates the low level of technology used in hosiery production as the bulk of it is operated manually.

**TABLE 4.4**

<table>
<thead>
<tr>
<th>Type of the Machine/Tool</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat frames</td>
<td>1500</td>
</tr>
<tr>
<td>Hand driven circular frames</td>
<td>2000</td>
</tr>
<tr>
<td>Power driven machines</td>
<td>1500</td>
</tr>
<tr>
<td>Hand-operated sock frames</td>
<td>2500</td>
</tr>
<tr>
<td>Raschel</td>
<td>80</td>
</tr>
<tr>
<td>Jacquard</td>
<td>70</td>
</tr>
<tr>
<td>Others</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7700</strong></td>
</tr>
</tbody>
</table>

The above account of the 'machinery' indicates that though the number of knitting frames or machines have increased more than 4 times over the past two decades, yet the level of technology continued to be low. Of the total 7700 knitting frames/machines more than three-fourth of them were hand-operated. This clearly shows that the hosiery industry by 1961 continued to be pre-dominantly of manufacturing form of production. This was in contrast to the British hosiery industry where the manufacturing form of production had already been transformed in a major way to machinofacture since the last part of the 19th century (Friedman,1977: 166).

By early 60's the hosiery exporters from Ludhiana started to export the woollen hosiery goods to socialist countries, especially to Russia. The total value of woollen hosiery exported to various countries during 1960-61 was only Rs 1.55 million. Within the next decade, it rose to Rs 119.45 million; out of which Russia alone imported the woollen hosiery goods worth Rs 105.48 millions, i.e., 88.30 per cent of the total export from Ludhiana. It contributed to the general expansion of the hosiery at Ludhiana and also the nature of the growth of the hosiery industry itself. The very first factor which affected the organization of hosiery production was embedded in the terms of trade with Russia which included that the goods would be bought by Russia by weight. The woollen goods with heavy weight can be knitted only on the knitting frames which are operated
manually. Therefore, though the export to socialist countries, mainly to Russia, has increased nearly 10 times over the past one and a half decade, there is not much change in the technology of knitting which would be discussed in detail in the next chapter. The same old fashioned flat knitting frames, which is the major instrument of labour in this industry, are operated manually. The important consequence of this terms of trade is that the export hosiery industry at Ludhiana has engaged a large number of manual workers.

The trade policy of the Russian trading teams still have another important structural bearing upon the emergence and growth of export hosiery industry at Ludhiana. Russian trading teams do not entertain any other exporter except the 18 exporters who were recognized by them by 1972-73. After that no new hosiery manufacture has been given order though the size of the hosiery export during this period has increased almost ten times. Consequently, the same 18 exporters have developed a monopoly control over the woollen hosiery export industry at Ludhiana. Consequently the knitting technology is stagnant and on the other, orders for export through the same exporters are enriching them year after year. The exporters find it easy to sub-let these export orders to fabricators and get the goods manufactured on contract.
The boom in Ludhiana hosiery industry due to the growth in their export market and consequent expansion of the industry has its implications on the forms of production which is the major thrust of the Chapter V and VI.

Resume

The review of the history of growth of the hosiery industry in various parts of the world, especially in Britain, Japan and China, shows close resemblance in their early organization of production. The practice of renting-out knitting frames to the domestic workers by the urban based 'merchant-manufacturers' was prevalent in all the above three countries, in spite of the fact that this practice was initiated in England by the middle of 17th century which found its way to Japan only towards the last part of the 19th century. However, the practice of renting-out frames and the system of 'putting-out' was in vogue in China as late as 40's of the present century.

In India, Calcutta has emerged out as the biggest centre of cotton hosiery industry. It was found that during the early part of the 20th century machines were introduced into this industry for knitting cotton hosiery. There came up some composite units of hosiery, in which most of the processes were performed inside the units. These units were comparable to the early Factory form of production in
Britain during the last quarter of the 19th century. However, during the post-Independence period a reversal process was witnessed in the form of production organization. The big hosiery producers started to rely heavily on the 'outside' work. Consequently, instead of further concentration of workers under one roof, each individual process has emerged as an independent industry constituted by the small manufacture or Factory type units, supported by the domestic workers. Under this arrangement of production, the instruments of labour are either owned by the owner of the small workshop type units or by the workers. Raw material is supplied by the 'merchant-manufacturers'. This system can at best be termed as 'modern outting-out' as it has some resemblance to the classical putting-out.

The hosiery industry at Ludhiana, which was a part of natural economy during the first quarter of the 19th century, slowly transformed to the commodity production with the introduction of intermediaries between the market and the domestic workers. The instruments of labour used were the hand needles and the production was organized on the form of classical putting-out. This form of production could be characterised as early form of capitalist domestic industry. However, the technique of production was two centuries backward vis-à-vis the Britain where needle knitting was replaced by frame-knitting by the middle of the 17th century.
The introduction of frame-knitting during the close of the last century, started to concentrate hosiery production into small workshop type units, which diminished the role of hand needle knitting. At the same time the practice of renting-out frames and 'putting-out' work to the domestic workers also started to take importance, especially after the beginning of the hosiery 'machine - manufacturing' locally at Ludhiana. With the expansion in hosiery production the size of the workshop type units also started to increase alongwith the growth of a large number of small family type units.

The analysis of the production organization of hosiery industry during mid 50's provide sufficient evidence to the existence of a large number of small sized workshop type units and also the family based units alongwith the existence of a small number of a relatively larger units. The major chunk of the small family sized units were working over the raw material advanced by other larger units. This production organization was typical to the manufacturing form of production which was also found in Russia by Lenin (1977*443).

The boost to the woollen hosiery export during the past two and a half decades have brought the export
hosiery to the fore leaving the other two types of hosiery, i.e., civil and defence, far behind. The export increased to Rs 100 crore by 1984-85. However, the basic structure of the production organization have not altered much during this period owing to the nature of the demand for export and the abundant supply of the cheap labour. Machines have been introduced in certain processes, yet the major work of knitting is carried out manually. The details of the present production organization and its effects upon the working class formation have been discussed in the next chapter.
The earliest known knitted fabrics have been traced to ancient Egyptian times. Sir William Petrie, the English Egyptologist, found a pair of thick hand-knitted wool socks in a tomb which probably dated back to the 4th century, B.C. (From Encyclopaedia Americana).

Hosiery and Textile Journal, April, 1983.

Most of the evidences relating to the English hosiery have been cited from the book 'Industry and Labour' by Friedman, A.L. (1977), Macmillan, London, pp. 159-78.

The knitting speed of a worker with the introduction of the frame increased 10 to 15 times over the earlier practice of needle or peg knitting.


According to 'Indian Hosiery Journal', Sept. 1952, the first hosiery unit was established in 1884 with sock-knitting frames at Ludhiana, under the name 'R.J. Chopra Hosiery Factory'. However, in "Wealth of India", CSRI, New Delhi, 1957, the beginning of frame-knitting in India has been dated from 1890.

S Gupta, B. (1940), "Department of Industries, Bengal", No. 87, 13.

Information from the Development Wing, Ministry of Commerce and Industry, Government of India.

For the characterisation of hosiery at Calcutta and Belgaum (Mysore) considerable material have been cited from the study, "Cotton Hosiery Industry: A Study of Production and Distribution Pattern," Textile Committee, Bombay, 1964.

Historically, Ludhiana city has been unimportant because it was neither a capital of any feudatory estate nor was known for any traditional industry. Ludhiana district as a whole had been relatively backward in agriculture in history, and also poor in traditional industries. Therefore, Ludhiana, which is now popularly known as "small scale industrial Capital of India", does not have very long history for its present fame. (District Gazetteer, Ludhiana).
The modus operandi of the domestic system of production is also partly explicit from one of the demands of the 'Hosiery Workmen's Association' put forward during 1943. It indicates that whether the worker worked in the employer's workshop or at his own home, the knitting frames were supplied by the employers, merchants or middlemen on rent @ Rs 3/- per month and the workers was held responsible for any damage done to the frame and needles (Passi, J.(1949), op.cit., (Unpublished)).

The first sock-knitting 'machine' was locally fabricated by Kalsi Mechanial Works in 1920. The beginning of the hosiery 'machine manufacturing' industry at Ludhiana with the initiative of traditional artisan community of Ramgarhias was another guarantee to the future success of hosiery at Ludhiana.

The first unit of hosiery at Ludhiana was registered under the Factories Act in 1905 and prior to the World War I there were only two registered units in total. (A registered unit under the Factories Act was a concern where at least 10 persons were employed on any normal working day in the two months between the 14th of March and 14th of May of a year (Shah,K.T., 1941).

In 1927 Shri Hans Raj Dhanda, introduced 'Raschel loom' from Germany which was run with power. The price of this new machine was between Rs 5000 to Rs 5500. It was not only the increased amount of capital which required to install such this machine, the technical skill for its operation was also lacking at Ludhiana. The proprietor of the machine himself visited Germany in order to learn the skill of handling the machine.
Prior to 1949, the yarn had to be obtained from outside the state. To overcome this difficulty, some of the larger hosiery manufacturers added spinning mills to their hosiery units. The first worsted spinning mill came into existence in 1949. By 1956 their number increased to six with the total spindlage of 7768. (Report of the Industrial Survey of Ludhiana District, Directorate of Industries, Punjab, 1958). By 1983-84, out of the 15 exporters, 12 had already added their own spinning units.

There were 112 (12.43%) hosiery units installed with motive power (Industrial Survey of Ludhiana District, op.cit.,).