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SOCIAL DIVISION OF LABOUR IN DISTRIBUTION AND THE GROWTH OF THE INDUSTRY

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Abstract

The impacts of the distribution structure on the growth of an industry are considered through the analysis of the development process of the Japanese and German consumer electronics industries which are supposed to be a typical example of the industry with increasing returns. Most of the theoretical challenges were focused on the technological innovation as an internal factor. For the development of the growth theory, however, we also have to focus on another externality; the market. A market process casts the way an industry grows, as it determines the way the demand expands, the technology changes, and the capital accumulates. The key concept argued is the "social division of labour," which evolves in the process the distribution system develops, and this is the way the market process, the absolute externality in the traditional economic theory, is transformed so that it brings profits to the industry.

I. *Introduction: Industry with Increasing Returns*

1. Growth of the industry and the Market

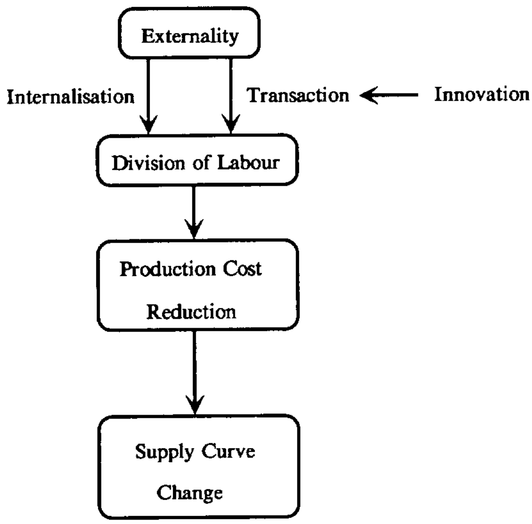
Alfred Marshall is supposed to be the first economist who really concerned about the logic of the growth of an industry. He paid attention on "the phenomena of increasing returns" and tried to explain that an industry can grow when increasing returns are realised.[1] However, he also concluded that the increase of marketing costs, which emerge as a result of the pursuit of increasing return, in turn limits the growth of the industry. When the increasing returns are expected in the production process, it is necessary at the same time that the market expansion is achieved. In order for a market to be expanded, consumers have to be well informed of the products through advertising and sales promotions, and the demand has to be aroused. This generates marketing costs, which can be so costly as to surpass the gains from decreasing costs. It is often the most effective strategy to reduce prices to attract the demand, but it is impossible as marketing costs increase.[2] Therefore, it is not possible to sustain the growth of the industry with increasing returns. This is the dilemma the industry inherently has.

Marshall seems to have had two types of externalities in mind. One is an externality in the technological change, and the other is an externality in the demand change. An

[1] See Murakami (1992)

[2] Marshall (1890)

FIGURE 1. TECHNOLOGICAL EXTERNALITY



externality in the technological change is a source of a change in production costs that is beyond control of the firm. An externality in demand change is a source of a change in demand that is beyond control of the firm. The technological change could take place as a result of internalising or transacting an externality and therefore reduces production costs of the firm, and demand change could occur also as a result of internalising or transacting the externality therefore reduces marketing costs of the firm.

Marshall's dilemma clears up the problem of externalitities to the growth of an industry.[3] When the costs either to transact or internalise an externality exceed the profits gained as a result of the acquisition of the externality, the growth of an industry is suppressed. This disabled him from constructing the theory of the growth of an industry. However, if we just take his logic carefully into consideration, it is not the existence of externalities itself, but the costs to internalise or transact it, which limits the growth of an industry. An industry facing the Marshall's dilemma can cease to grow because of the externality, but also can choose to grow also because of the externality. This is where the boundary of the activities of the firm has to be taken into account. What really is an externality for a firm? What is the logic of the way the externality is transacted or internalised? This arouses the question on the generation of divisions of labour. For example, retailers' sales promotion is supposed to be an external factor for manufacturers, but they can either internalise the retailers by acquiring them or transacting the sales promotion by rewarding it.[4]

What we also have to think about is the delicate relationship between the extrernalities to a firm and those to an industry. How does the acquisition of the externalities by a firm influence the growth of the industry?

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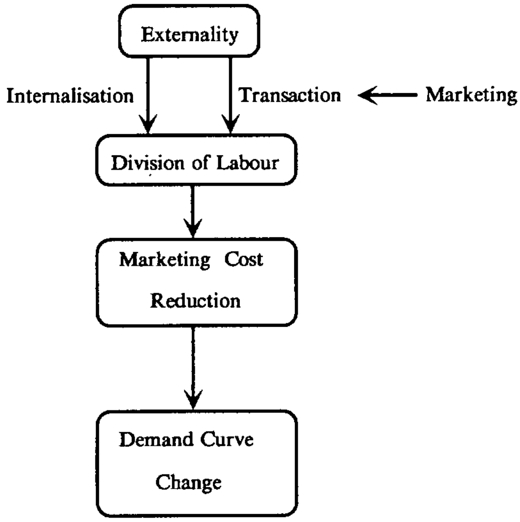
[3] See for example, Stigler (1951)

[4] Itoh, Matsushima and Yanagawa (1991)

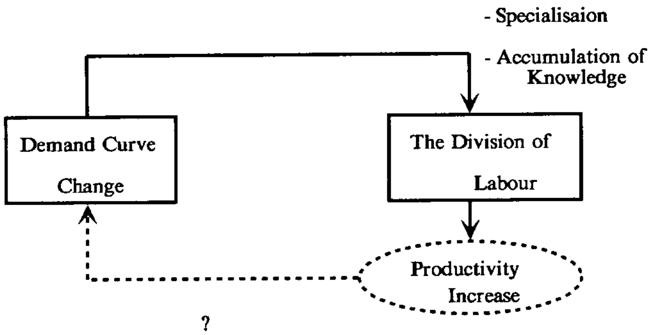
FIGURE 2. MARKET EXTERNALITY



2. Division of Labour and the Growth of an industry

Marshall's dilemma sheds light on the missing logic of the famous theorem of Adam Smith; "The Division of Labour is Limited by the Extent of the Market." If the market size is large, it could afford production expansion, which then urges the specialisation, and accumulation of knowledge thus evolves the division of labour. This is to make production costs lower and productivity higher. The assumption this logic might implicitly contain would probably be that the productivity increase followed by price decrease makes the market expand. However, this does not seem to attract much of attention of Adam Smith, whose interest was rather focused on the static explanation of the link between the size of the industry and the division of labour. Marshall's dilemma questions this assumption; "what then determines the extent of the market?" Is it given or somehow controllable by an effort to enlarge the demand? Marshall's answer to it was that the extent of the externality of the market determines the extent of the market. What then determines the extent of the externality of the market? As we have seen, it is not the existence of externalities itself, but the costs to internalise or externalise them, which limits the extent of the market. When an industry could evolve the division of labour so that the gain from the production cost decrease surpasses the increased marketing costs by way of expanding the size of the market, the industry can sustain the growth. So what we might be able to learn from Marshall is; the extent of the market is limited by the division of labour. We might also very implicitly learn from Smith's and Marshall's theorem that the concept of the markets which those two great economists implicitly assumed are probably different. Adam Smith in the eighteenth century could assume that a market is a static extent of exchanges and the division of labour was so constructed that it served this given market. Whereas for Marshall, who lived in the nineteenth century, when the matured industrial growth fully took place after the industrial innovation, a market has become a very dynamic entity and an object to be operated, independent of the extent of

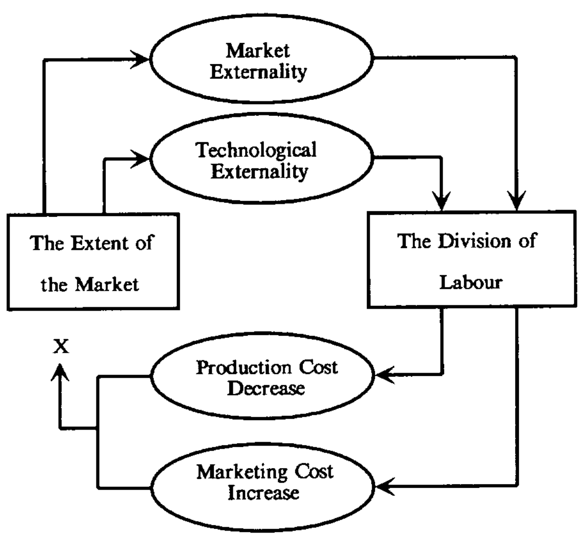
FIGURE 3. THE DIVISION OF LABOUR IS LIMITED BY THE EXTENT OF THE MARKET



division of labour in domestic production. This probably made him think of the idea of marketing costs, independent of production costs.

However, what we have experienced in twentieth century is that the innovation and marketing do not take place independently. Innovation takes place so that it can even change the demand curve to reduce the marketing costs, and marketing affects the way innovation and productions take place.[5] It seems the best way to investigate in how the division of labour is constructed in the industrial organisation which evolves by reorganising the way the externalities are taken in. The motive of this paper is to reconsider the Marshall's theorem, and is to reflect on how the division of labour contributed to expand the extent of the market.

FIGURE 4. MARSHALL'S DILEMMA



[5] Smith (1956), Robinson (1948), Yamashita (1995)

3. Competition with Increasing Returns

The growth of an industry with increasing returns is considered to be achieved, when it succeeds in sustaining (1) Market growth, (2) Technological innovation, and (3) Capital investment.

Market growth, as the first factor, has to be sustained in order for the firm to get the most of from the decreasing cost effects. Firms competing in an industry with increasing returns try to maximise the market share, so that they can achieve the highest cost reduction. However, whether if this competition of the individual firm results in the growth of the market is not self-evident. The competition often takes form of a very fierce price competition. This price competition, often called excessive competition, can destroy the industry by not succeeding in inducing the market growth as a whole. So there is also the case, the industry gets deteriorated because of the effects of decreasing costs. The investment, either to internalise or transact the externalities, not only contributes to the market expansion for the investing firm, but also contribute to the growth of the market as a whole. Thus competitors might be benefited by the market growth.

The second factor, technological innovation, has to be also taken into account, as the competitive process transforms the production function. Actually it is through the technological innovation increasing returns are realised. The competition to cut production cost is sustained, as this brings profits to a firm, which can achieve the lowest production cost faster than any other competitors. However, there is also a case, that the efforts of the individual firms to reduce costs do not necessary lead to continuous price reduction in the industry as a whole. When a monopoly or quasi-monopoly is achieved, either by differentiation or by segmentation thereby limiting the size of the market, the drive to cut costs can be weakened.

The third factor, capital investment, is also very crucial to the growth of the industry, as the initial and continuous investment is required for both for the expanding markets and for the technical innovation. Timing to invest is crucial to the competitive process, as the speed in technological innovation is what counts. The capital invested is the input factor for the competitive process by nature. However, the profits generated as outputs are also reinvested. Therefore, the efficiencies in generating profits have to be taken into consideration, as it casts the efficiency in capital investment. The efficiency in capital investment is influenced by the market process, namely by how selling, paying, and credit giving are made. The existence of the stock in the market process affects the way the profits are generated and therefore the way investment is made.

II. *Evolution of Japanese and German Distribution System*

1. Industrial Divide in the mid 60's

The Evolution of distribution structure in German and Japanese consumer electronics industry is reviewed in this section. In both countries the industry developed very rapidly in the 50's after the second world war. There was sufficient technological development during the war, and the demand was so huge to sustain the rapid industrial growth. The demand for radio equipment, followed by black and white television sets, was drastically enlarged, and the production capacity was expanded. In this process the speed of the production volume expansion was competed, and the production volume increased drastically. As the product diffusion rate increased, the market growth rate was reduced, generating excessive stocks.

The excessive stock pushed manufacturers to establish the control over distributors by giving various incentives by way of rebates and discounts so that they could achieve higher market shares than the competitors. Distributors were made to purchase in increased volume in order to acquire incentives to be price competitive against the competitors, which just caused the ownership shift of the excessive stocks from manufacturers to distributors. Grey markets are formed in order to risk hedge the increased financial risks which the distributors had to take by holding excessive stocks. Discount retailers who purchased at the grey markets free-ride the services, such as advisory explanation, delivery to the consumer, instalment and maintenance, offered by full-service retailers. At that time full-service retailers sold at prices set by manufacturers based on the fullcost-mark-up pricing policy. Market prices, however, were far below these prices. Price differences were so large between full-cost prices and market prices that the order of price formation process was under chaotic situation. This problem was called "dual price" in Japan and "Mondpreis" (moon price) in Germany, and big social dispute over the price order arose.

This turmoil in distribution weakened the financial capabilities of both manufacturers and distributors. Among others it was the wholesalers who suffered the largest damage, as they were to bear the enlarged risk to hold stocks. The financial backgrounds of the wholesalers were not large enough to bear the increased risk. Structural changes of the distribution system taken place around mid 60's both in Germany and Japan were at first hand emerged as solutions to this problem. Different ways of solutions designated the different development of the distribution system, which later affects the industrial growth.

2. Japanese solution

(1) Keiretsu System

In Japan, restructuring of the distribution system was initiated by manufactures. The systemisation of Keiretsu took place in 2 stages.[6]

During the first stage (1995-1965), manufacturers tried to integrate independent wholesalers as regional sales organisations (Dairiten) through capital holding, personnel participation and financial support. They also tried to integrate retailers by giving financial support and managerial advises in proportion to the sales amount of their products. Main focus of the systematisation of Keiretsu at that time was to establish the stable sales network to sell the increasing volume of products that was to be enlarged tremendously as the scale of production expanded. At this period of time, the conditions such as an exclusive dealing was not included in the contracts.

As the diffusion rates saturate, marketing costs to urge replacement demands or to promote more differentiated products were enlarged. Those costs were paid to retailers by way

[6] Niida and Mishima (1991)

of rebates. When the Japanese economy grew rapidly, it was not difficult to develop farther demands. However, problems arose when economy confronted with the depression period in 1965. The excessive stocks were transferred to distributors who were forced to accept them to get higher rebates. They needed to get as much rebates as possible to be price competitive. When they were not able to bear the stocks they just sold products through grey markets, which enabled the discount retailers to grow very rapidly. This brought a great confusion to price order, and most of distributors were exposed to the risks to go bankrupt. This is the situation when the second stage of Keiretsu systematisation took place. This time main focus was on the restructuring the payment practices.

(2) Payment Practices and Interfirm Credit

Until mid 60's it was a widely spread trade practices to make payments by commercial credit in Japan. The transactions between manufacturers, wholesalers and retailers were made between manufacturers, wholesalers and retailers were made with commercial bills. When the stocks went too large, the redemption terms were extended. Interest burdens were born mostly by manufacturers and wholesalers who were eager to expand sales outlets and to put a greater control on retailers. Financial conditions of the manufacturers and wholesalers went very bad, when their amounts of account receivable expanded as the redemption terms went longer and longer.

The transactions with commercial bills create the interfirm credits by institutionalising the moratorium, and can be regarded as one form of corporate financing independent of financial institutions. This way of creating credit could contribute to the economic growth when the economy is at the growing stage and is in short of cash. However, at the stagnation or depression stage, it might cause a chain bankrupt.[7]

When we now look at the turnover of sales credit against sales amount of Japanese industries in total, the turnover of sales credit got especially long during 1961 and 1963. Generally credit terms get longer at the beginning of recession period. Normally the credit term is adjusted, when the economy is out of recession. However, after 1957 they were not adjusted even after the recession period, and they got longer accumulatively every time the recession came. One of the reasons for this is the over investment in the production sector which was followed by the over supply. Under the execcive supply, a manufacturer as a seller tries to promote sales by way of giving credit to distributors. Retailers began then instalment selling to end consumers, which made the redemption terms longer for manufacturers.

In order for the redemption terms to be prolonged, sound financial background of the credit giving firms are required. For this either the cash deposit is to be enlarged, or the capability for the bank loan has to be enlarged. In the 60's when the investments in the production facilities were fully made, the demand for the capital was reduced, and potentialities of the banks to give credit were enlarged. Banks saw it desirable to finance large scale manufacturers. Credit loan given by banks to manufacturers enables manufacturers to give credit to distributors. Interfirm credit, therefore, enabled small retailers who can not get credit by banks easily to get credit from larger firms, like manufacturers or wholesalers.

Now let us take the sales credit bond/sales ratio and deposit/sales ratio as indicators to show the amount of interfirm credit and corporate liquidity respectively. Generally, when the

[7] Saiton (1967)

interfirm credit increases, liquidity is to increase accordingly, surpasses it and then the interfirm credit is to decrease again.[8] However, between 1961 and 1963, when the credit terms went especially longer, the growth rate of the liquidity did not reach that of interfirm credit. Interfirm credit increases the capability of the credited firm to raise funds. And crediting firm can use it as the means to urge sales promotions. As long as the sales growth continues, a credited firm can get farther credit by farther expanding sales. Once the sales growth stagnates fund-raising becomes very difficult for the credited firm.

Interfirm credits between manufacturers and distributors were in fact extended to credit relations between distributors and end consumers by way of instalment payment as consumer credit. It was the diffusion of instalment payment that enabled the rapid market growth to absorb the expanding production. After 1956 when the first instalment payment system was introduced in consumer electronics market by Matsushita the number of the consumer who bought by instalmeut payment increased rapidly. In 1959 among the group of non-agricultural households, 39.3% of the TV was bought by instalment buying, which reached 47.8% in 1960, 55.9% in 1961, 52.1% in 1962, and 55.4% in 1963.[9] This overlaps the time period when the interfirm credit terms were prolonged. That is, manufacturers gave credit to distributors and then distributors to consumers. Through this credit chain, the demand to absorb the excessive stocks were aroused. As the usage ratio of the instalment buying increased, however, the extent of the instalment buyer was enlarged. The percentage of the fulfilment of the payment was decreased. In the 60's, the more the instalment selling was made, the business became less profitable. The performance of the business between 1961 and 1964 went seriously bad although the sales grew 62.1%. The profit decreased 99.5%. The dead loan ratio reached 0.7% in 1964.[10]

Distribution system not only moulds the way the products flow physically, but also cast the way the money flows. The reform of distribution system taken place around 1965 was drastic in nature in that it is principally to do with the reformation of money flow. After the completion of this reformation, Keiretsu distribution system was accomplished. It is through this reformation the financial status of the manufacturers was drastically improved and the international competitiveness of the Japanese manufacturers was stabilised.

(3) Matsushita's New Sales Organisation

In consumer electronics industry, the drastic reformation took place to change transaction by credit to transaction by cash.[11] It was Matsushita who invented the renewal programme by introducing what they called "New Sales Organisation" programme. System reformations included in the programme were multifaceted, but the central concern was to reform the payment practices.

The central reform was the introduction of the new payment system. Matsushita asked the distributors to pay not by credit bond but by cash. Practically the distributors were asked to make money transfer by the fixed date, such as the end of month. Rebate systems were restructured so that more emphasis would be given to pay by cash. This was faced with the dis-

[8] Ibid
[9] Kameda (1967)
[10] Yamada (1967)
[11] Matsushita Co.

comforts of the distributors for whom the paying terms were enormously shortened. Matsushita introduced other reformation packages to persuade distributors.

The new credit firm for the instalment selling was established so that it could take over the activities that were formally accomplished by retailers. Formally bills were collected by the retailers who sold the products. However, as the instalment selling increased, the amount of account receivable increased beyond the financial capabilities of retailers. Beyond this the activities that accompany the instalment selling such as account receivable control, money collection, credibility check became too much costly. In the new instalment selling programme money collecting function was transferred from retailers to credit firm. When a product is sold on credit, a credit bond is exchanged between a consumer and a retailer. This credit bond is then sold to the credit firm in exchange with the check payable that corresponds to the wholesale price. Retailers receive commissions from the credit firm and cash rebates from the manufacturer's wholesale subsidiary (Hansha). The credit firm was in charge of credibility check and collecting money.

The other side of the reform was to do with the reduction of stock. When the amount of stocks is to increase, it is very difficult to make payment term shorter. In order to avoid the risks to hold the stocks, it is necessary to reduce the total amount of stocks. So just-in-time like distribution system was established to reduce stocks marginally to zero. For this objective is to be realised, it is necessary to systematise the logistics that enables ordering and delivering in small lots. The programme introduced was the territory system (itichiiki-itihansha-sei, namely one dealer per one district principle). At that time, several Hanshas were competing serving same markets especially in large cities like Tokyo, disabling manufacturers to control the physical flows of the products. To rationalise the logistics, the supply routes had to be under the control of the manufacturer. The information such as the amount of order, sales volume and stock volume became simultaneousy available to manufacturers in that they concentrate the ordering and delivering activities to Hansha.

In this process the raison d'etre of independent wholesalers such as manufacturers' representative (Dairiten) was essentially reduced. Manufacturers required the representative dealership by acquiring the ownership of such wholesalers and replace them with the 100% subsidiary sales organisation (Hansha). Improvement of the stock turnover as the result of the just-in-time like distribution process co-ordination contributes to the improvement of the paying terms. Or vice versa.

After the introduction of the New Sales Organisation system as a whole, the credit redemption term for the Hansha was rapidly improved from 109 days in 1966 to 75 days in 1966, payment terms 161 days to 61 days.

Manufacturers heavily invested to establish the technical service centre to give maintain service. Retailers were also equipped to repair, but the most products with problems are sent to the technical service centre and repaired there by manufacturers. Parts that are needed for the repair are also controlled by manufacturers. Retailers who give also repair service are paid special rebates. Through the completion of maintenance facilities, manufacturers have acquired a greater power against retailers. While the establishment and maintenance of the technical service center are costly, however the cost per unit repair can be reduced. Because of the centralisation of the repair service activities, retailers are released from the burden to invest on repair facilities. This enabled the expansion of the number of retail outlets.

3. German Solution

(1) Evolution of Large Scale Retailers

In Germany, it was not the manufacturers who took initiatives to reform the distribution system, but the retailers who made the great expansion by taking greater risks to hold stocks.[12] Large scale retailers purchase in large volume, get larger volume discounts, storage in their own warehouse, and rationalise the logistics by controlling inventory and delivery. For this, lager financial background was needed, as the risks to hold stock got much bigger.

(2) Establishment of Buying Groups

The small and medium sized retailers who could not afford the financial risks were to be screened out. So were the wholesalers. Wholesalers began to establish buying groups, (Einkaufskooperationen) by organising small and medium sized retailers. There is also a buying organisation, which is organised by retailers themselves. The buying groups were the solution to take over the functions which wholesalers fulfilled before, excluding the inventory management. There are buying groups that own the warehouses, but they are for the very short time storage made as the gathering and delivery centres. Generally buying groups do not take risks in holding storage, and their main function is to negotiate with manufacturers over the buying conditions as an agent for member retailers. According to the agreements on conditions buying groups made with manufacturers, retailers give order. They also pay through buying groups. The products are generally delivered from manufacturers to retailers.

To be a member of a buying group, a retailer has to contribute a capital, the amount of which differs from one buying group to another. Since they contribute the capital, who has a sound financial performance and behaves rightly. They check very strictly, whether to accept a new comer, if it does not have a shop that is located too close to the member's. For manufacturers buying groups are annoying business partner, as they make the contract making process more complex. However as buying groups works also as a moral binding organisation, by avoiding the extreme price reduction for example, they are also useful for manufacturers.

(3) Division of Labour in Distribution

Retailers are responsible for various marketing activities and repair service. Each retailer has a technical service department and employs a technician who holds a state licence. They are ready to repair various products produced by different manufacturers. Manufacturers pay the costs of repair to the retailer during the guarantee period. For smaller sized retailers, wholesalers take over the repair service. Wholesalers who survive still today are those who have taken over the repair service in place of retailers. For manufacturers the repair service was used as selection criteria to choose a retailer. In order to exclude discount retailers from the transactions, manufacturers set a strict condition in which they formalise the facilities the and services which retailers must be able to offer. Refusal of supply is possible when the manufacturer can prove that a certain retailer is not ready to give sufficient service to consum-

[12] Yamashita (1994a), Yamashita (1995b)

ers. So it was necessary for them to outsource the repair service, in order to avoid the dealing with aggressive discount retailers.

4. Logic of the Evolution

The evolution of German and Japanese distribution systems was moulded differently after the mid 60's. The central problem that is to be solved was: who should take risk in holding stocks? In this process the wholesalers' functions were dissolved. After the expansion of production capacity, the risks in holding stocks became so high that the capital backgrounds of the wholesalers could not cover them at all.

In Japan where the transactional practice was transformed to cash payment from credit payment, the risks retailers had to take were rather enlarged. Also in Germany, the risks that retailers had to take were enlarged. However the way the inventory control was taken over was different. In Japan it was manufacturers who, by way of strengthing the sales organisation, took care of the inventory. They tried to reduce inventory so that the risks taken by the retailers could be reduced. They tried to establish the quasi just-in-time system in distribution process. As a result, the risks retailers had to bare were reduced and small-sized retailers could therefore survive. So the number of retailers grew after the reformation. In Germany on the contrary it was the large scale retailers or buying groups organising retailers who were in charge of the inventory control. They tried to reduce also the inventory costs. However, the solution was different from Japanese one. They concentrated the warehouse and tried to save transportation costs. As it was essentially a capital intensive strategy, retailers with small capital were either screened out or had to participate in one of the buying groups to survive. The number of retailers was drastically reduced in 70's.

Through this transformation process, the way the retailers are bound to one particular manufacturer has changed. In Japan the retailers became more and more bound to the manufacturers' marketing strategies, whereas they became more independent in Germany. This caused farther difference in the way marketing was implemented. In Japan, where the number of retailers explored, retailers behaved like manufacturers' marketing agencies. As manufacturers control the inventory very strictly, they could focus on the introduction of new products. In Germany, retailers implemented marketing activities for their own sake. This is a consequence of the relative power shift from manufacturers to retailers.

III. *Hidden Division of Labour in Distribution*

1. Hidden Division of Labour

So far we had a brief look at how the framework of the division of labour in distribution is moulded. Now let us focus on the hidden division of labour. In order to analyse the division of labour very precisely, we would better distinguish the one who actually accomplishes a certain activity from the one who is paid for that. In case there is such activity of which reward is not paid, let us name it "the hidden division of labour."

2. Hidden Division of Labour in Inventory Control

As we have seen, after the reformation of the distribution system, manufacturers have become strongly involved in the inventory control in Japan, while retailers have become more responsible for the stocks in Germany. However when we consider who really takes the risks, his problem is not easy to answer.

In Japan the logic the Keiretsu distribution system was developed was the consignment of the products to the retailer, together with inventory risk on the first hand, and the reduction of the inventory whole through distribution process, which improves the financial performance of the manufacturers. By way of reducing the inventory, the manufacturers can get cash in a short cycle, which brought the drastic improvement in liquidity reserve of manufacturers. In Germany, retailers' involvement in the inventory control has increased, and they are risk takers at the same time. However, as the risk retailers take increases, the relative power of the retailers against manufactures has increased. This influenced the way the risk is really taken. In Germany, an incentive called "Valuta" (Valutierung) is given to retailers by manufacturers. Valuta is given in the form of prolonged paying terms. Until the 60's this was originally used as a support programme for the retailers who needed a special financial back up for the renewal of the outlet, for example. However, throughout the 70's, large scale retailers began to utilise this system in order to get greater financial benefits. As a result, paying terms got longer and longer in the 70's. As a result, financial performance of German manufacturers become very bad so rapidly.

After all, the manufacturers had to take inventory risks at least financially both in Germany and Japan. However, the essential difference was the subject taking control of the inventory. Japanese manufactures had to take financial risks but in turn could hold the control over the inventory, while the German manufacturers took financial risks of the inventory, without holding the control over the inventory. The financial risks manufacturers had to bear were therefore the hidden division of labour.

The competitive advantage in an industry with increasing return is gained through the investment ahead of competitors, in that it contributes to bring faster accumulation of experience. Investment is not only made from external sources, but also from internal sources, which is formed as a liquidity reserve. The division of labour in distribution includes the mechanism to cast the money flow. Financial performance of Japanese manufacturers, who were indebted throughout the 60's, were drastically improved in 70's reflecting the higher capital turnover. The very opposite course was followed by German manufacturers whose financial conditions become bad in the 70's.

3. Hidden Division of Labour in Maintenance Service

If we close look at the repair service activities, there exists a delicate division of labour and its impacts.

Japanese manufacturers invested heavily to establish and enlarge technical service centres to compete in services they offer. They tried to differenciate the quality of services from that of competitors,' by which they wanted to attaract not only consumers but also retailers, so that they promote the products to consumers. This was also considered as the potential sanctions to the retailers, who might free-ride services. For the cost reduction, technical manuals are prepared for each product, and the technical bottle-necks of a product are well analysed so that the repair is done as quick as possible. This has made the repair easier and quicker. Manufacturers try then to feedback information into the technical and product development departments of the manufacturers, who utilised the information to the development process of the next model, resulting in the incremental innovation. The time span for this feedback process becomes shorter, as the readiness and completeness of the repair service are refined.

In Germany exactly the same as in Japan, the free-ride problems were very serious. However, the repair services were offered not by manufacturers but by manufactures. Manufacturers wanted select retailers who could offer the services in order to avoid the free-ride problems. Retailers who can invest enough to establish a technical service centre could have an advantage in costs. Retailers who can not afford the cost of repair services were screened out. Cost reduction accomplished by retailers has its limits, as they have to be ready to repair products of many different manufacturers. This forces consumers tremendous inconveniences. The time required for the repair is very long. A consumer has to bring the troubled product to the retailer where they bought the product. This limit the geographical shopping area for the consumer. The cost of repair after the guarantee period gets very expensive, for the cost is not covered by manufacturers. The burdens to get the repair service is too heavy, that they are even encouraged to repair themselves. Under such circumstances, they become really concerned about the reliability of the products, and they try to collect information to choose a product with good quality through the information source such as "TEST" magazine.

The burdens born by consumers are considered to be a "hidden division of labour," the costs of which are not taken into account normally when analysing the distribution costs. And it is not that the manufacturers are free from repair service, as they are also responsible for the costs. We have to be aware of the process of cost reduction that simultaneously formed this hidden division of labour.

4. Hidden Division of Labour in Marketing

The way marketing is implemented is strongly affected by the distribution structure, as the division of labour in marketing has evolved differently. In Japan, as manufacturers took over most of the functions which wholesalers used to perform, functions retailers were supposed to fulfil became focused on the sales promotion and point of purchase and after the sales services. In Germany retailers implemented marketing activities for their own sake, and the marketing decisions are influenced by the inventory they hold, and central concern for the retailers was focused on price.

This different focus in marketing is derived from the difference in the way price mechanism functions. Price mechanism is strongly influenced by the way the inventory is hold, and the way the information on local demand is collected. When the inventory intermediates market transactions, the prices offered by various retailers are likely to vary, as prices not only indicate the condition of demand, but also the strategies and financial conditions of retailers. When the liquidity status of a retailer is weakened, it tries to reduce prices to acquire cash. In Japan, where manufacturers tried to maintain retail prices by strictly controlling and minimising the inventory, local pride variation and fluctuation caused by the local inventory adjustment were suppressed. Information on demand was collected and centralised in a nation-wide scale by manufacturers by way of processing orders in a short cycle. Whereas in Germany, the inventory becomes dispersed both in terms of ownership and geography, as retailers become more responsible for the inventory. This made the price variation and fluctuation larger, and also the regional price difference. This difference in price structure caused the difference in the role of the price as an indicator. In Japan the price mechanism is constructed so that inter-brand competitions can take place, while in Germany inner-brand competitions have been more stimulated. In Japan the inner-brand competitions were urged so that the focus was put on the retail services.

When inner-brand competition becomes very fierce, it becomes difficult to use a price as an indicator for the quality. A price carries various information; quality of the product, quality of the service provided, competitive strategy of the producer and the retailer, demand for the product and the service. If retailers competing at the same market set so different prices, it is very difficult for consumers to judge what a certain price really indicates. On the other hand, if there is no difference in price, it carries too small information. In Japan, as manufacturers succeeded in influencing prices and price differences were constructed so that they indicate the quality or contents of services offered by retailers. The dimension of the inner-brand competitions is set so that the retail services were competed. In Germany inner-competition became fierce, and the price-cut became the central focus for the competition. This variation of prices farther causes price fluctuation, as it promotes a continuous price search process.

This process determines the extent of the market, and price setting and price search are very costly functions in the distribution process. However, this function consists of "hidden" division of labour, if the market or the competition is considered to be something that exists for free like invisible magnetic field, and changes those who comes inside the extent of the field into competitive market mode. The costs the manufacturers, retailers and consumers have to bear to make up competitive markets by price setting and price searching can be considered to be hidden costs. These marketing costs differ by the way in which the competitive structure of the market is constructed.

Japanese system: manufacturers play a great role in hidden division of labour to mould the framework for interbrand competition by way of inventory control, marketing promotion, channel control, thereby reducing the hidden division of labour of retailers or consumers, which they otherwise have to bear by price-setting, price searching, information collecting, etc. German system: manufacturers play a lesser role thereby increasing the hidden division of labour of retailers or consumers. The extent of the market or the competition becomes localised, so that they can reduce the hidden division of labour. This results in the increase of the hidden division of labour born by consumers.

IV. *Impacts of "Hidden" Division of Labour on the Industrial Growth*

1. Market Growth

The way in that marketing is implemented and how the marketing costs are covered affect the way demand is expanded, and the pattern the market grows. In Japan where manufacturers could take greater control over retailers and therefore stabilise the price order, the investment was made in a very large scale in order to expand the market. The emphasis was put on introducing new products into market through advertisement, point-of-purchase display or the explanatory advisories in a retail shop. In Germany, on the other hand, large scale retailers who began to have stronger power took more initiatives in promoting products. Retailers concentrated more on appealing the consumers by price reduction.

In order to clarify the relationship between social division of labour and market growth, it is important to analyse how the market, or demand is conceptually structured in distribution process.

If we assume that the demand curve is given constant, price-cutting is how the demand is expanded. However, the demand for a certain product changes depending on the marketing activities implemented to promote the product. When we recall the definition of marketing by Wendel Smith, the essence of the marketing is the effort to differentiate the product by way of magnifying consumers' preferences toward the attributes the products are supposed to possess. However, differentiating process does not happen in a closed cycle in which communication between one single product and consumer's cognition takes place. It is rather the process in which various firms trying to differentiate their own products interact, and in which the market expansion therefore is accelerated. This dynamic nature of the competitive market arises the problem of externality. Any effort to differentiate the product by changing the preference map of the consumers has external effects on the demand curve itself, and there is no guarantee that these external effects bring back the positive reward to the firm which has invested. It is wiser not to spend much on the marketing activities which might only induce the external effects but rather to free ride the external effects the others brought. However if all the players follow the same strategy, no external effects are expected, and the market does not grow, if the price is not reduced.

2. New Product Development

The differences in marketing affect naturally the way new products are developed.

Japanese manufacturers focused on pursuing the experience curve effects. In order to get increasing returns, they tried to limit the product line, the number and type of products, which are offered to the market, possibly simple. They developed various new products very quickly and the older products were withdrawn form the markets, so that the attention of the consumers is attracted on new products, which included incremental innovation. This was also important to stabilise a price order under decreasing cost. The price reduction was realised when introducing new product, so that not only they get competitive advantages against competitors but that new products and older products did not cannibalise on the markets.

In order for the differentiation to be successful under the decreasing costs, several conditions have to be fulfilled. First, timing of the new product introduction and the withdrawal of the old product has to match. Second, differentiation has to be realised as a result of incremental innovation.

First condition is fulfilled, when the inventory control is deliberately done. When introducing new products, if the inventory of the old products is still in markets, prices are reduced, which affect father the price of the newly introduced product. Japanese manufacturers who succeeded in reducing stocks by reforming the retail system could effectively watch the timing for introducing the products, as they grasped the mount of the inventory in the distribution stage. They could also utilise the co-operative support of the retailers when withdrawing the old products and promoting new ones, by offering them the information on the timing of the introduction and then giving them promotional incentives.

Second condition is partly fulfilled by the first condition, and is supplemented by the informational feedback they get on the performances of the existing products. As the order cycle got short, it became much easier to grasp the delicate demand change. Farther, as mentioned earlier, the information on the technical defects of the products is gathered very rapidly, as they facilitated the technical service centre. The incremental innovation is achieved, in the process to try to develop the products with lower defect rates.

German manufacturers' new product strategy turned out to be different, as they could have weaker control on retailers. As the retailers are responsible for wider range of activities on their own, it was necessary to differentiate the quality of the services somehow. What the manufacturers could do was to differentiate the products not only by its technical features but also by the quality of the service the retailers could offer. They produced even under the brands of the buying group of the retailers, as those retailers wanted to avoid be free riding by the discount retailers.

They produced so many models at one time, resulting in the scale diseconomy. This is also the consequence they have lost the control of the inventory. When a new product was introduced, it had to compete also with the older product. As a result so many products compete at the same time and it became very difficult for the consumer to know exactly, what is the appeal of new product. Under such a circumstance, manufacturers then became reluctant to introduce products unless it was really innovative. And to avoid the cannibalisation of old and new products, they try to differentiate them by choosing different type of channels. Old inventory is reserved often so that it would be sold through mail-order houses. It is often reserved for the messe, trade fair, so that manufacturers could attract retailers by offering the old inventory as special item (Sonderposten). In 1977 the colour TVs, which were tested by "TEST" magazine, amounted to 191 models. This made the price competition fiercer.

This seemingly differentiated products were not actually systematised in the process in which incremental innovations took place. There were various products types competing at the markets, but it made the product life cycle longer, and the speed the knowledge was accumulated incrementally got slower.

This is also the result of lost informational feedback they get from consumers via retailers on the performances of the existing products. As retailers are more concerned about the price competitiveness of the products, they really did not care about the differentiated features of the products. Consumers complained about the lack of the knowledge of the retailers on products. The information on the technical defects of the products is not systematically conveyed to the manufacturers, In the mid 70's, as much as 50% of the TV sets had technical problems after the purchase in Germany, according to "TEST" magazine. So the quality of the repair service was of one of the greatest concern for consumers. However, manufacturers could not solve the problem, as the repair service was out of the control of then. It was very hard to accumulate the knowledge on the technical performance of the products. It was when German retailers began to put more emphasis on selling Japanese products, as they could get information of the defect rates of the products. Japanese manufacturers tried to produce products which just do not break, and German retailers tried to sell products which they did not have to repair, as they could get the defect information.

3. Financial Performance

It is not very often mentioned, when discussing about the distribution system, but distribution system has a very fundamental impact on the industrial growth in that it casts the way money flows, or the way even money is created by way of credit creation. The problem over the excess stocks forced the industry to reform its distribution structure in the mid 60's, and the solutions chosen in Germany and Japan brought the significant differences in how investment is made to sustain the industrial growth.

In Japan, where the manufacturers could integrate the market expansion mechanism, the new product development, the inventory control, payment system and technical service network into one integrated whole system, the price formation process was systematised so that it brings cash to manufacturers. The aggressive investment was made possible for the Japanese manufacturers because of the reformation of distribution system. It is superficially right to say, for example, that the price maintenance was accomplished by the manufacturers therefore enabling them to make cash reserve, as they controlled retailers by Keiretsu integration, however, we have to be well aware of the logic behind to explain why they could create such competitive rules.

In Germany, on the contrary, manufacturers' financial performances became worse after the reformation of the distribution system. The industry as a whole had a full-set of the reformation policy, like in Japan, in terms of the market expansion mechanism, the new product development, the inventory control, payment system and technical service network. However, the background logic to integrate these into one integrated whole system seems to have been different and it made manufacturers' financial condition very bad, and all German manufacturers except Metz were purchased by foreign firms such as Philips.

V. *"Social" Division of Labour and the Logic of the Industrial Growth*

As we have seen so far, distribution structure has a very substantial impact on the way in which an industry grows. The hidden division of labour gives us the background logic to explain how externalities are taken in into the industrial organisation. If we reflect on the nature of the hidden division of labour carefully, we may notice that they are inclined to generate "social" costs. As has been discussed previously, the division of labour is so constructed that, the production and marketing costs be reduced. However, the efforts to reduce those costs, which are paid, can produce the hidden division of labour thereby hidden costs. They can be called "social" costs, as they are the costs that are to be shared socially.

The social costs can repress the growth of an industry, as either it is simply too costly or it is too costly to find out the logic to share the costs. When the social costs can be somehow reduced, the industry finds its way to grow. The way social costs are reduced is linked to the way the costs in market process are ruduced. There is a case where the production or marketing costs get higher but reducing social costs. On the contrary, those costs could be reduced, thereby increasing the social costs. This is the reason we have to take "social" division of labour into consideration. Distribution process casts how market process is accomplished in reality, and it exists not for "free." Seemingly "free" division of labour could be creating "hidden division of labour," which does exist but not be paid in the distribution process. Because of this, the extent of the market could be limited, although the marketing costs might be reduced.

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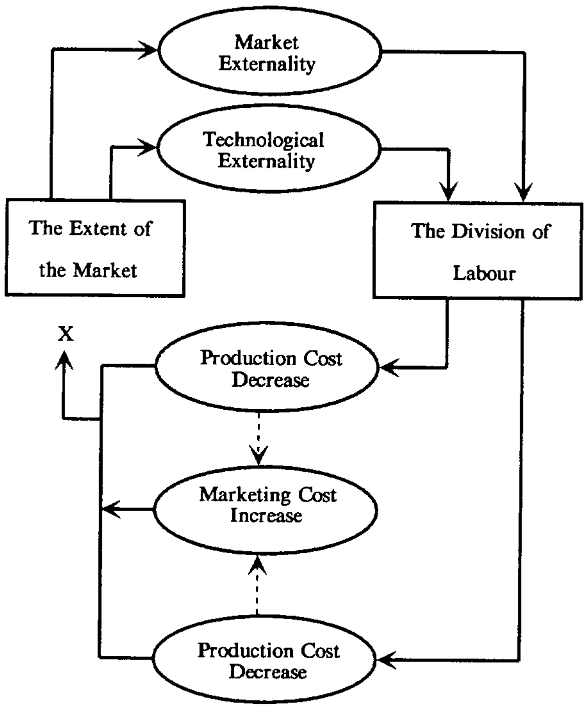
Now we have to be aware that the type of the competition taking place in the market process affects the way division of labour are shared in the distribution process. In consumer electronics industry, the transformation of the way sharing division of labour in distribution took place under the competitive logic to make the most of the law of decreasing costs. In Japan they tried to reduce social costs by internalising the division of labour including the hidden division labour. The Kriretsu system was the apparatus with which the manufacturers internalise the social costs, and also internalise the profits gained. On the other hand, German industry tried to reduce marketing costs by externalising it as social costs, as it was so costly to internalise then. As a result, the burden of the social costs limited the extent of the market, and manufacturers had to differentiate products for the segmented markets, which were segmented by the quality of service.

The industrial growth can be explained by the concept of division of labour by following steps.

(1) Expansion of Production
(2) Expansion of Division of Labour
(3) Improvement of Productivity
(4) Expansion of Market

If this logical chain is continuously sustained, the expansion of production urges the

FIGURE 5. SOCIAL COSTS



extent of division of labour, which leads to the productivity improvement. This urges the market expansion. We now follow each logical step to prove the consistency of the logic.

The first step: Does division of labour expand as the production expands? Did division of labour really expand in our case on consumer electronics industry?

If we define the expansion of division of labour as the diversification of functional specialisation, the division of labour is expanded both in Japan and in Germany. In Japan, manufacturers took over the wholesalers' functions, decomposed and assigned them to different subsidiaries or departments. In Germany, the wholesalers' functions were taken over by retailers. Lager scale retailers established their interfirm specialisation system, while smaller sized retailers organised buying groups, which also developed the specialisation system.

The second step: Does the productivity improve as a result of the expansion of division of labour?

If we define the productivity by such indicators as sales per worker, German system was more successful in improving the productivity, as it succeeded the rationalisation of distribution system by way of screening out the inefficient small and medium sized retailers and concentrating the capital on the modernised retailers. In Japan, on the other hand, the distribution costs increased, as they increased, as they increased the number of retail outlets and the workers. However, if such an indicator is taken as stock turnover, Japanese system is more efficient than German one. Farther we also have to take the "social" division of labour into account, to know how much distribution costs really are.

The third step: Does the improvement in the productivity contribute to enlarge the market?

Simple interpretation of the logic is that the improvement of the productivity is followed by the price reduction and the purchasing power increase, therefore the market is expanded. However, if we take the social costs into account, the story is not that easy. In Japan, the largest efforts were made to reduce the production and distribution costs to make market expansion possible by internalising the social costs. Internalised (social) costs are used as marketing costs to attract demand by promoting new product or by offering higher quality of services. This stimulated the process of new product diffusion. While in Germany the productivity improvement is accomplished by externalising the costs, which limit the market expansion.

VI. *Final Remarks*

Distribution is not only the process in which the products are physically distributed from manufacturers to consumers, but also the process in which market mechanism is built-in. Market is not such a place that exists in Utopia for free, but the process that does exist in actual distribution and it costs socially. Distribution is also the process in which the social costs are distributed among the participants in the process. It is also the process in which the (social) profits are distributed. The logic of distributing the costs and profits socially seems to differ in each industrial system, reflecting the choice the industry makes in terms of the way it grow.

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