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Athens, 29 November - 20 December 1967
Provisional agenda, Item 3 (a)

DISTRIBUTION CHANNELS

Prepared by staff members of the following Netherlands companies:

Stamicarbon N.V.
Heineken International N.V.
N.V.Philips' Gloeilampenfabrieken

Submitted by the Government of the Netherlands

* A summary of this paper has been issued under the same title, as document ID/CONF.1/G.35/SUMMARY, in English, French, Spanish and Russian.

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SUMMARY

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1. The purpose of this study is to demonstrate the significance of distribution channels as:

(a) a chain of investments

(b) a source of employment

(c) a condition for industrial development.

2. After some statistics on distribution in the economies of Europe and the Netherlands, a number of case studies are presented on widely different products: fertilizers, beer, lamps and television sets.

3. The four products selected do not only differ in physical appearance, but also in essential characteristics from the point of view of distribution, e.g. price, handling (bulk sales versus piece-goods, after-sales service versus no service).

4. All data, as shown in the tables below, clearly indicate the importance of the resources required for distribution in comparison to those needed for manufacturing:

Summary table of case studies

	CAPITAL				LABOUR			
	Manufacturing		distribution		manufacturing		distribution	
	mill.gld.	%	mill.guild.	%	number	%	number	%
Fertilizers	700	100	600	79	3,500	100	5-6,000	143-172
Beer	-	100	-	45-216	-	-	-	-
Lamps	1.8	100	0.5	28	30	100	100-150	330-500
Television sets (for manufacture most capital intensive alternative)	1.1	100	19.5	1770	99	100	550	555

5. It appears that distribution requires considerably more labour in all cases, while in two cases the capital requirements of distribution are higher than those of the manufacturing stage.

6. Due to their decentralized character, distribution channels generally require more time and effort to be built up than the manufacturing stage. One important reason for this is that often millions of final users have to be approached in one way or another.

7. The above implies that the building of distribution channels has to start well ahead of setting up the industry. This is the reason that imports from abroad mostly precede a process of import-substituting industrialization.

8. The considerable capital and labour requirements of distribution in comparison to industry, also shows that in attempts at capital saving and other efficiency measures the distribution sector often deserves even more attention than manufacturing industry. Strangely enough the contrary is true for many countries and branches.

Introduction

1. Whatever the product, if its maker and its user are not the same, there is a problem of bringing it from the maker to the user, that is, a problem of distribution.

2. Any industry is bound to fail if the distribution problem has not been solved. Distribution alone is not sufficient to bring the products into the hands of the user; before that can happen, the producer will have to find out what product to make and what circle of consumers to cover. Therefore, distribution channels often have two main functions: bringing products from producers to consumers, and in many cases finding out who wants what products.

3. It can be maintained that more entrepreneurs have failed because of mistakes in the field of distribution than mistakes in any other field - financial, technical etc.

4. Many industrial enterprises have grown not only out of handicrafts but also out of firms specializing in distribution. Co-operatives dealing with distribution have undertaken processing and other industrial activities at a later stage. A considerable part of industrialization in the Netherlands has taken place along comparable lines with trading enterprises developing processing and other industries.

EUROPE

5. The table below shows statistics on the labour force in commodity distribution and production for a number of European countries, in years ranging from 1947 to 1955, as given in Retailing in Europe - Present Structure and Future Trends.[1] The authors, James B. Jefferys and Derek Knee, expect a

[1] Jefferys, James B. and Derek Knee. Retailing in Europe - Present Structure and Future Trends. Macmillan and Company, Ltd. 1962.

future rise in the proportion of the labour force in all distribution channels; the retailing sector alone may absorb 9-10 per cent of the labour force by 1970.

6. Capital investment in the retailing sector is considerable. Jefferys and Knee estimate that in the food retailing sector, a capital investment of one unit is required to yield four units of annual sales. In the non-food trades, a ratio of 1:2 seems more plausible. All of this excludes the cost of land and stocks. As the rough division between food and non-food outlets is 50:50, the average ratio of investment to sales would be 1:3 in retailing in Europe as a whole. The authors expect this ratio to remain constant over the coming years.[2/]

Table 1

Labour force in commodity distribution compared with labour force in commodity production, about 1950, and consumption per capita, by country

		Labour force in distribution as % of labour force in distribution and production	Numbers engaged in distribution per 1,000 in commodity production	Level of private consumption per capita, 1955 H = High M = Medium L = Low
Great Britain	1950	22.8	296	H
Sweden	1951	20.1	252	H
Netherlands	1950	19.8	247	H
Norway	1953	18.4	226	H
Belgium	1947	18.3	224	H
Switzerland	1955	17.6	214	H
Denmark	1948	16.5	197	H
France	1954	15.4	182	H
Ireland	1951	15.1	179	M
Germany, Fed. Rep. of	1950	13.4	151	M
Austria	1954	10.7	120	M

2/ Ibid., pp. 117-118

/...

Iceland	1950	10.5	118	M
Finland	1953	9.7	107	M
Italy	1951	9.4	103	L
Portugal	1950	8.7	95	L
Greece	1950	8.0	87	L
Spain	1950	7.6	82	L

Source: "Retailing in Europe - Present Structure and Future Trends."

THE NETHERLANDS

7. Some indication of the importance of distribution may be acquired from the national statistics of the Netherlands.

8. Labour force in distribution: Trade, banking and insurance accounted for 13.8 per cent of the Dutch labour force in 1947. Another 6.3 per cent could be added for transport, storage and communication workers predominantly involved in distribution. In 1960, these figures had risen to 16.2 per cent and 6.9 per cent, respectively.

9. Industry and small business absorbed 25.3 per cent of the Dutch labour force in 1947, and this percentage had increased to 29.9 in 1960. In the case of small business, it is considered that a large part of its work has to do with distribution. Many small firms take care of the distribution of their product to the final user. A number of small firms are wholly involved in the distribution sector because the sources of their income are repair and service. Of the 29.9 per cent mentioned above, about 14 per cent are employed in small business. If one half of this 14 per cent is assumed to be engaged in distribution activities, the estimated share of the Dutch labour force dealing with distribution appears to be larger than that in industry (figures for 1960):

Trade, banking and insurance	16.2%
Transport, storage and communication	6.9%
Half of small business	7.0%
Total distribution	30.1%
Industry and small business	23.0%

10. Capital invested: The latest year in which a complete survey was made regarding national wealth in the Netherlands was 1952. The figures on the replacement value of capital invested in industry and distribution give an interesting insight into the capital requirements of both sectors.

11. The table below shows that the assets of trade, banking, insurance and the sector of transportation that is relevant to internal distribution were valued at 14.7 billion guilders. Small business accounted for 4.8 billion guilders. Again, if it is assumed that one half of this amount should be considered as having been involved in distribution, the capital invested in distribution represented a replacement value of 17.1 billion guilders. Strictly speaking, the value of stock in industry, amounting to 4.9 billion guilders, should be counted as part of the capital invested in distribution. The reason is clear; such stocks are necessary to make smooth distribution possible; they are part of the "pipeline" or, better, its contents. This means that the total amount of capital in distribution was 22 billion guilders.

12. Remarkably, the total capital invested in manufacturing, minus stocks, also adds up to 22 billion guilders.

Table 2

Replacement value of capital assets in manufacturing industry and in distribution in the Netherlands economy at the end of 1952 (in billions of Dutch guilders)

Sector	Building, land and work in progress	Equipment	Stocks	Total capital invested
Manufacturing industry	6.4	15.6	4.9	26.9
Small business	2.7	1.8	0.3	4.8
Wholesale trade	1.5	0.5	1.3	3.3
Retail trade	1.7	0.9	1.6	4.2
Banking	1.0	-	-	1.0
Insurance	0.3	-	-	0.3
Railways (incl. municipal transport)	1.7	1.2	-	2.9

/...

Inland shipping	-	2.0	-	2.0
Road transport	0.1	0.9	-	1.0

DISTRIBUTION IN DEVELOPING COUNTRIES

13. In principle, the distribution problems in developing countries are about the same as in industrialized countries although the lack of infra-structure creates additional complications. In many cases, the wholesale trade appears to be less specialized, on the one hand, and split into more levels, on the other hand. Because of a number of circumstances, deliveries to retailers in these countries are generally made more frequently and in smaller lots. In view of the large distances to be covered in many developing countries, all of this implies that relatively more labour and capital are involved.

14. These factors should be kept in mind when distribution has to be geared to the needs of industrial products and industrialization.

Case Studies on Specific Products

15. To show how much capital is involved in distribution of certain specific articles, case studies are presented below on the following products: fertilizers, beer, lamps and television sets.

Fertilizers

16. As in many other fields, a study of the fertilizer sector shows that, while detailed information is available on some points, useful data and facts are scarce or totally lacking on other points. Therefore, some statistics had to be based on a calculated guess. The figures below are based on data available for the fertilizer year of July 1962-June 1963. In the Netherlands in that year, the total amount of fertilizer consumed was roughly 2.6 million tons, comprising:

Nitrogen	293,750 tons
Phosphorus expressed as P_2O_5	101,650 tons
Potassium expressed as K_2O	124,460 tons

The value of total sales can be calculated as Dfl. 420,000,000.

17. If the number of people and the amount of investment involved are taken into consideration, it appears that, in general, the Netherlands exports a considerable amount of fertilizer.

18. In the year mentioned, only 66 per cent of the total production of nitrogen fertilizers was used in the Netherlands, and only 45 per cent of the total production of phosphate fertilizers. On the other hand, all straight potassium fertilizer had to be imported; of this, a small part was worked up in mixed and compound fertilizer in the country.

19. It is difficult to obtain any data on the number of persons that would have been employed in the fertilizer industry in the Netherlands, or the amount of money that would have been invested, if the entire production had been limited to the domestic market. One modern fertilizer plant with a large capacity could be used as an example. However, the data below does not take into account normal developments, that is, a steadily growing market would not only cause an expansion in industry, but would also create healthy competition and a division of production among several plants and producers. Making allowance for this factor, the following figures are estimated:

Total number of persons engaged in fertilizer manufacture for the domestic market	3,500
Total number of persons engaged in distribution and services	5,000-6,000
of which:	
Sales staff of manufacturers	200
Number of employees at wholesalers	400
Retail trade	2,200 a/
Transport	2,200
Storage; handling	1,000

a/ Part of employees with wholesalers and retail trade are included in number of persons employed in transport and handling.

/...

Approximate investment figures:

Manufacturing	Dfl. 750,000,000
Sales organizations	Dfl. 50,000,000
Transport	Dfl. 240,000,000
Storage	Dfl. 140,000,000

20. As stated before, the activities related to that part of the production and distribution connected with export have been left out of the above estimate as much as possible. All figures relating to equipment directly owned by or the labour employed by the customer (the farmer) have also been omitted.

21. Figures on the total number of persons engaged in the retail trade and the amount of investment for this branch, are arbitrary. The majority of retailers handle not only fertilizers but also a number of other products: farming implements, seeds, insecticides, pesticides etc. They are engaged in the fertilizer trade, as such, for only part of their time.

22. In the investment figures, the capital outlay for raw materials and stocks of end-products has not been taken into account. Because of the seasonal nature of the use of fertilizers, stocks of fertilizer at times are very high. Total sales amount to approximately Dfl. 420,000,000. As a yearly average, the total amount in storage is about Dfl. 200,000,000. Stocks at manufacturer's site amount to an average value over the year, of Dfl. 20,000,000.

23. No figures are available for personnel employed or money spent on sales promotion. Application of fertilizers in the Netherlands is considered of prime importance. Throughout the country, agricultural consultants employed by the Government advise farmers about the quantity and kind of fertilizer to use. Laboratories for soil analysis are operated with subsidies from the Government. Tests are carried out by government experimental stations. No exact figures on the amount spent for research on fertilizer application are available.

Beer

24. Irrespective of the country where a brewery is to be established, the following stages are involved for each project:

(a) Preparatory stage of the project;

(b) Building of the project;

(c) Trading stage of the project;

(i) Production,

(ii) Selling and marketing.

25. Each of these stages involves costs and/or capital outlay, of which the total amount has to be recovered from the ultimate price to be paid by the consumer. The size of these amounts, as well as their mutual relationship, is tied to time and location factors.

26. Experience has shown that in the developing countries, the amounts concerned with the costs and/or capital outlay involved in stages (a) and (c.ii) are often understated or not identified at all. An attempt will be made in this section to give a rough estimate of these amounts for the brewing industry, in which the costs will be expressed in percentages of the consumer price (the best known factor per unit of total costs) and the capital outlay in percentages of the total investment in brewery plant and machinery (the best known factor of the total investment).

27. The amounts for costs include 6 per cent interest on the capital outlay involved, leaving - after deduction of local trade margins - for production functions of the brewery the net revenue, which should be compared with the yield desired on the investment.

28. These percentages are derived from various breweries and therefore are not typical of one existing brewery. However, in theory, they could all be applicable to a new project.

29. Preparatory stage: The preparatory stage comprises:

(a) The choice of possible advisers;

(b) Examination with respect to:

(i) Expected sales,

(ii) Desires and requirements of consumers, Government/market,

(iii) Desired/possible location of settlement,

(iv) Preparation of building and production,

(v) Estimates of yield on investment and capital outlay;

(c) Determination of the policy to be adopted;

(d) Planning of personnel and their training;

(e) Network planning and organization of services by third parties.

30. All costs connected with the above activities can be considered as a form of capital outlay, just as buildings and installations are.

31. The total capital outlay required for the preparatory stage amounts to - depending on the extent of the project and the country of establishment - about 15 to 20 per cent of the total investment in buildings and installations. Depreciation of this amount, including the interest involved, if spread over ten years, would amount to about 3 per cent of the consumers price.

32. Selling and marketing: This stage would be divided into:

(a) Organization of the trade, namely:

(i) The way the customers will be contacted and served,

(ii) The way the customers will be stocked,

(iii) Transport to the customers;

(b) The ties with the various links of the trade;

(c) Advertising and sales promotion.

33. The actual organization of the trade varies from country to country, from market to market, and from product to product. For beer, the most complete structure of the trade is: brewery - agent - wholesaler - retailer - consumer.

34. For sales in the country of establishment, the employment of an agent generally is eliminated by the brewery. In certain circumstances, however, the structure of the local market may require employment of a separate agent. In such cases, the agent takes over the functions mentioned in (a) (i), (ii)

and (iii) between the brewery and wholesalers. In exchange, he will be given a margin on the price to be paid to the brewery.

35. Even with an agent, the brewery would have to assume the function of delivery to various depots of the agent, of advertising, of sales promotion (in most cases) and tying up the links of the trade; in certain cases, the brewery would also maintain contacts with wholesalers.

36. The normal situation is that a brewery services the wholesalers. In this case, the brewery performs the functions outlined in (a) (i), (ii) and (iii) between the brewery and the wholesalers; functions (b) and (c) are performed by the brewery at least as far as the wholesaler, but in most cases up to the retailer, although, of course, advertising goes as far as the consumer. The functions of organization (a) to the points beyond the wholesalers are performed by the retailers. The wholesalers and retailers receive a margin, out of which they have to cover their costs and profit.

37. Normally, the costs for the brewery that are connected with servicing and contacts with the customer/wholesaler would be about 1 to 5 per cent of the consumer price, while a capital outlay - mostly for automobiles for sales staff - of up to about 1 per cent of the total investment in buildings and installations may be required.

38. With regard to the functions of delivery and stocks, it should be emphasized that the way these functions are to be fulfilled, as well as the costs involved, would for the great part depend on the existing infra-structure of a country. This infra-structure would determine a decision regarding the possibilities to, and the costs of, transport by boat/train/truck/airplane.

39. In most cases, the brewery would open depots in the various areas, would send the beer by rail to these depots and from there by truck to wholesalers. In this set-up, the total cost involved for both functions (stocks and transport) would be about 5 to 9 per cent of the consumer price, including the interest involved, while the capital outlay (financing of depots, vehicles and beer stocks) required would be about 15 to 25 per cent of the total investment

in buildings and installations.

40. In some cases, a brewery can employ an independent transport company which will take over the transport function and sometimes also the depot function of the brewery. Roughly speaking, the tariff to be paid to such a transport company would equal the costs of the brewery itself; the advantage to the brewery in such cases arises financially speaking from a saving of capital outlay (namely, about 5 to 15 per cent of the investment in buildings and installations). If the brewery desired to eliminate the use of wholesalers and/or retailers, it would have to face many problems which could only be solved if the brewery had a large and experienced sales staff. Experience shows that the extra costs and investment involved generally exceed the margins earned by the wholesalers. Moreover, the cutting out of wholesalers may create a strong resistance from the trade against the product.

41. There is an example of one brewery which dispensed with wholesalers for part of their output, because they were obliged to do so. The results show that, if the brewery had followed this policy with its entire output, it would have faced extra costs of about 30 per cent of the consumer price and an extra capital outlay of about 20 per cent of the investment in buildings and installations.

42. Circumstances, however, might force a brewery to engage itself in direct distribution.

43. With respect to the functions concerning the tying up of links in the trade, the brewery as a rule would only be willing to engage itself in the financing of such links if it was obliged to do so. This could be the case in a strongly developed market with stiff competition, in which case clients or groups of clients might be linked to a brewery by means of loans; in certain cases, the brewery might even own outlets. Such a situation might also arise as a consequence of a strongly under-developed market, in which the trade did not have enough money to finance stocks etc. on its own account.

44. The extra capital outlay for the brewery might run to even more than 100 per cent of the investment in buildings and installations. The consequence

for the brewery in terms of interest would depend on the difference, if any, between the rate of interest and/or dividends as paid by customers on the above investments and the general current interest rate.

45. For advertising and sales promotion, listed as function (c), experience shows that the brewery must expect costs varying from 1 to 6 per cent of the consumer price; generally speaking, no extra capital outlay is required.

46. Summary: The above-mentioned costs and capital outlay in a normal case of delivery by a brewery to wholesalers are summarized in the table below.

Table 3

Costs and capital outlay in delivery by a brewery to wholesalers

	Costs expressed in % of the consumer price		Capital outlay expressed as % of brewery plant and machinery	
	minimum	maximum	minimum	maximum
Preparatory stage	2	3	15	20
Selling & marketing:				
Servicing wholesaler	1	5	P.M.	1
Delivering/stocking				
Wholesaler	5	9	15	25
Ties with the trade	0	0	0	100
Advertising and sales promotion	1	6	-	-
Other trading items:				
Debtors and packing	-	-	15	70
	9	23	45	216

/...

Lamps

47. Most developing countries today have a factory to manufacture ordinary lamps or electric light bulbs. The runs produced by these factories are often small in comparison to those made for industrialized countries. Therefore, such parts as the glass bulb and the tungsten wire are imported by developing countries because the big capital investment required for manufacture of these two parts could only be justified by very large production runs for groups of industrialized countries (for example, the European Common Market). The smallest lamp factory operating economically on the basis of imports of these two parts produces about two million bulbs.

48. The following figures on requirements for capital and personnel in such a factory in a particular developing country were obtained (see table 4, below).

Table 4

Capital and labour requirements for a lamp factory with capacity of 2 million lamps, in a developing country

	Capital requirements	Labour required
Lamp manufacture[a] (capacity 2 million lamps)	F. 1,760,000.-	30
Lamp distribution		
Factory and two storekeepers (2 weeks' supplies)[b]	F. 50,000.-	2
Distribution pipeline (supplies in pipeline equal to 3 months production)	F. 300,000.-	
Transportation (equipment: 4 vans at F. 35,000.- apiece)	F. 140,000.-	12
Final sales outlets	F. unknown	100-150?
TOTAL	F. 490,000	100-150

a/ The assets have been valued on the basis of replacement value.

b/ Supplies in store in the factory and in sales channels have been valued on the average at 60 per cent of the final price of F. 1.-, which is a conservative estimate of their value, assuming the discount of trade and transportation, insurance and other expenses to be added at the moment of sale.

49. Capital invested in sales outlets cannot be estimated because (a) such outlets vary widely both in degree of complexity and in size; and (b) even if an estimate of capital invested could be made, it would be hard to determine what part of that capital could be ascribed to lamp sales.

50. The same problem exists regarding labour in the distribution sector. Only the workers who run the vans have full-time jobs. The time spent by those working in shops would again have to be divided between lamps and a great variety of other articles. However, it can be assumed safely that many more man-hours are spent on selling lamps than on making them. The reason is clear: while the manufacture of lamps in a factory can be organized on a continuous basis, the sale of lamps in a shop is not continuous, but invloves small batches or single items passed across the counter.

51. Supplies in the distribution pipeline depend very much on the size of the country, the efficiency of transportation, population density and the efficiency of distribution. In one developing country, where the market served was much more compact, far smaller supplies in the pipeline were possible than in the example given in the table above. Instead of three months, it appeared that supplies were equal to only one month's production.

52. Various kinds of transportation can, of course, be used, for example, combining vans with railway or air transportation, while on shorter distances more labour-intensive methods are feasible. In towns, the supplying of retail outlets by a wholesaler can even take place by means of a bicycle fitted with freight-carrying gear.

53. Distribution channels are often organized in such a way that wholesale and retail distribution is in the hands of separate companies. In this case, the manufacturing company keeps only a small buffer stock. If a manufacturing company takes over all or part of the wholesale function, it would have to take care of stocking and perhaps a part of the transportation function. The total would change appreciably as a result of such shifts in the division of labour between companies.

54. In another country, with a lamp factory turning out almost four million lamps a year, the following figures were available (see table below).

Table 5

Capital and labour requirements for a lamp factory with capacity of 4 million lamps, in a developing country

	Capital requirements	Labour
Lamp manufacture (capacity 4 million lamps)	F. 3,000,000.-	45
Lamp distribution		
Factory (2 weeks' supplies)	F. 100,000.-	3
Distribution pipeline (supplies equal to 1 month production) of 330,000	F. 200,000.-	
Transportation (equipment: 3 vans valued at F.35,000,- apiece)	F. 105,000.-	10
Final sales outlets	unknown	100-250?
Total	F. 405,000.-	200-250

55. The final stage of distribution in this case consists of 270 retail outlets in the electrified areas of the country. As these areas are relatively small and densely populated, the 270 retail outlets can be served by three vans. Retailers generally try to keep their supplies as low as possible to avoid financing and storage problems. As a consequence, the vans have to make frequent visits to retailers. This would, of course, be highly uneconomical if the retailers were thinly spread over a large area.

56. Lamps are a relatively simple article. Once they are in the hands of the buyer, there is no service problem. However, as soon as more complicated apparatus is being sold, servicing facilities have to be developed, and retailers instructed as to how to provide proper information on the technical aspects of the products. In this case, capital has to be invested for labour and facilities,

to train servicemen and shopkeepers, build service workshops stocked with spare parts etc. Such facilities could easily lead to a doubling, if not tripling, of capital requirements of the distribution pipeline.

57. Television Sets: In comparison to lamps, television receivers are articles that require, after their sale, service for installation (antenna) and repair. Therefore, distribution channels are much more elaborate, as they require technical personnel and greater amounts of capital.

58. Distribution: The figures given in the table below have been taken from a rather compact market in a densely populated area, where a few hundred thousand sets are sold per year. Such densely populated areas form the lion's share of the world television market in view of the limited range of transmitters. Moreover, this example is of special relevance to developing countries which, in the majority of cases, will only cover their most important cities with a television network.

Table 6

Capital and labour requirements of distribution channels per 25,000 television sets sold per annum

	Capital requirements (millions of Dutch guilders)	Labour requirements
Wholesalers		
Supplies	0.9	
Credits to customers	2.5	
Shops (sale and repair)	0.4	125
Retailers		
Supplies	3.4	
Credits to customers	2.5	
Shops (sale and repair)	3.0	425
Consumer credit	6.8	
Total	19.5	550

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59. Consumer credit is mentioned as a separate item above, as this can differ between areas and countries. Normal credits to customers have been assumed as lasting about one and a half to two months. In this particular area, one half of the sets were sold under hire-purchase conditions with 75 per cent of the price to be paid off over an average period of nine months.

60. The labour force in the distribution channels spends about two thirds of its time on after-sales service, i.e. installation and repair. Therefore, it can be maintained that 350 technicians carry out installation and maintenance work resulting from an annual sales volume of 25,000 sets.

61. Manufacturing: Manufacturing could be set up in a number of different ways, running from the assembly of a small series up to the assembly of a larger number, preceded by the production of components in the same factory. The table below gives a rough estimate on three alternatives.

Table 7

Capital and labour requirements of manufacturing
(per 25,000 sets produced per annum)

Alternatives	Capital			Labour		
	Machinery	Buildings	Total	Direct	Indirect	Total
A. Assembly of 25,000 sets in total	F.233,000	F.295,000	F. 528,000	50	22	72
B. [a/] Assembly of 250,000 sets in total	180,000	197,000	377,000	40	6	46
C. Assembly of 250,000 sets in total, and production of sain parts	715,000	389,000	1,104,000	80	19	99

a/ It will be noted that, due to economies of scale, alternative B requires both less capital and less labour per 25,000 sets turned out.

/...

62. An important item requiring capital consists of supplies of parts and materials, en route and in the factory. Such supplies can be estimated at F. 1 million to F. 1.5 million. In all cases, manufacturing requires both less labour and less capital than distribution. The table below gives the comparison.

Table 8

Total capital and labour requirements of manufacturing and distribution per 25,000 sets per annum

	Capital (million of guilders)	Labour
Manufacturing, three alternatives:		
A. Assembly 25,000 in total	0.53	72
B. Assembly 250,000 in total	0.38	46
C. Assembly 250,000 and production of main parts	1.10	99
Supplies en route and in factory for A, B and C	1.50	
Distribution		
Wholesalers and retailers	12.70	550
Consumer credit	6.80	

63. The above table shows that even in the most capital-intensive case (C), where the sets are assembled and the parts produced in the same factory, capital requirements of distribution are roughly five times higher than those of manufacturing (including consumer credit, seven and a half times), while labour requirements are more than five times higher. The reasons are clear: moving the supplies ties down considerable capital, even more than the amounts invested in shops and factories, while installation and servicing are more time-consuming than the manufacturing process so that more labour finds work in distribution channels.

64. All of this illustrates clearly that the more sophisticated the product, the more important the distribution channels.

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