COMMISSION REGULATION (EEC) No 2686/92

of 16 September 1992

imposing a provisional anti-dumping duty on imports of certain types of electronic microcircuits known as DRAMs (dynamic random access memories) originating in the Republic of Korea

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community,

Having regard to Council Regulation (EEC) No 2423/88 of 11 July 1988 on protection against dumped or subsidized imports from countries not members of the European Economic Community [1], and in particular Article 11 thereof,

After consultation within the Advisory Committee as provided for by the above Regulation,

Whereas :

A. PROCEDURE

(1) In March 1991 the Commission announced by means of a notice published in the *Official Journal of the European Communities* [2] the initiation of an anti-dumping proceeding concerning imports into the Community of certain types of electronic microcircuits known as DRAMs (dynamic random access memories) originating in the Republic of Korea falling

— within CN codes 8542 11 41, 8542 11 43, 8542 11 45, for finished DRAMs,

— within CN code ex 8542 11 10 for DRAM wafers,

— within CN code ex 8542 11 30 for DRAM-dice or -chips

— and either within the CN code for finished DRAMs or within CN codes ex 8473 30 00 or ex 8548 00 00 for DRAM modules

and commenced an investigation.

After the CN codes were changed by Commission Regulation (EEC) No 2587/91 [3] DRAMs now fall

— within CN codes 8542 11 12, 8542 11 14, 8542 11 16, 8542 11 18 for finished DRAMs,

— within CN code ex 8542 11 01 for DRAM wafers,

— within CN code ex 8542 11 05 for DRAM-dice or -chips

— and within CN codes ex 8473 30 10 or ex 8548 00 00 for DRAM modules.

(2) This notice followed the receipt of a written complaint lodged by the European Electronic Component Manufacturers' Association (EECA) representing a major proportion of the total Community production of DRAMs. The complaint contained evidence of dumping of the said product originating in Korea and of material injury resulting therefrom. This evidence was considered sufficient to justify the initiation of a proceeding.

(3) The Commission officially advised the producers in the exporting country and importers known to be concerned, the representatives of the exporting country and the complainant. Parties directly concerned were given the opportunity to make their views known in writing and to request a hearing.

(4) All three known producers in Korea cooperated in the proceeding.

(5) Representatives of these producers, of one exporter to the Community unrelated to the Korean producers, the complainant and 16 importers made their views known in writing. All producers, the exporter and all the related importers requested and were granted hearings. Representations were also made by two groups of Community users of the product concerned.

(6) The Commission sought and verified all information it deemed necessary for the purposes of a preliminary determination and carried out investigations at the premises of the following :

(a) *Community producers*

— Motorola Ltd, Glasgow, United Kingdom,

— Siemens AG, Munich, Germany ;

(b) *Producers in Korea*

— Goldstar Electron Co., Ltd, Seoul,

— Hyundai Electronics Industries Co., Ltd, Icheon,

— Samsung Electronics Co., Ltd, Seoul ;

(c) *Importers in the Community*

— Goldstar Deutschland GmbH, Willich, Germany,

— Hyundai Electronics Europe GmbH, Eschborn, Germany,

[1] OJ No L 209, 2. 8. 1988, p. 1.
[2] OJ No C 57, 6. 3. 1991, p. 9.
[3] OJ No L 259, 16. 9. 1991, p. 1.

— Samsung Semiconductor Europe GmbH, Eschborn, Germany,

— Samsung UK, Ltd, Brentford, Middlesex, United Kingdom ;

(d) *Exporter of Korean origin products to the Community*

— Texas Instruments Limited, Singapore

(7) The investigation of dumping covered the period from 1 January to 31 December 1990 (the investigation period).

(8) The investigation overran the normal duration of one year provided for in Article 7 (9) (a) of Regulation (EEC) No 2423/88 (hereafter referred to as the 'basic Regulation') due to the complexity of the investigation, in particular in light of the numerous DRAM types and the calculation of the normal value on a quarterly basis as stated in recital 19.

B. PRODUCT UNDER INVESTIGATION ; LIKE PRODUCT

(9) DRAMs are used for the storage of information in electronic digital computing circuits. Data can both be read from and written on to a DRAM. DRAMs are a type of integrated memory circuit manufactured using variations of metal oxide semiconductor (MOS) process technology known as CMOS, BiCMOS and NMOS — CMOS and BiCMOS being the more advanced methods of production using less power and allowing faster access speeds and a wider working temperature range. The memory capacity or 'density' of a DRAM is expressed with the term K or M. K is regarded as being equal to 1 000 but refers more precisely to the binary number 1024, M is equal to 1 000 000 but refers more precisely to 1,045 million. Therefore, a 1M DRAM has for example approximately 1,045 million bits of storage capacity, i.e. memory.

(10) The DRAM production process can be subdivided roughly into the following four steps :

1. DRAM wafer processing or diffusion (also referred to as front end) :

This is technologically the most demanding production step consisting of hundreds of separate processes to which a silicon wafer is exposed. The result is a DRAM wafer, which contains finished DRAM dice incorporating all essential technical characteristics of the finished DRAM. This production step is extremely investment intensive and most of the substantial DRAM research and development (hereinafter 'R&D') is carried out with a view to designing and developing this part of DRAM production (typically therefore the DRAM R&D laboratories are located close to the DRAM wafer processing plants).

2. DRAM assembly (also referred to as DRAM packaging) :

After DRAM wafer processing the DRAM wafer is cut into DRAM dice which are bonded and incapsulated into plastic or ceramic packages or packaged. This production step is referred to as assembly.

3. DRAM testing :

Subsequently the assembled or packaged DRAMs are tested and checked for reliability before shipment (hereinafter 'finished DRAM'). This production step is typically undertaken in conjunction with the assembly operations (and is jointly referred to as back end).

The back-end steps are technologically less demanding and require relatively modest expenditure for investment and R&D. In addition, depending on the product, back end costs as compared to total cost of manufacturing are relatively small.

4. Finally in a further step it is possible to mount together two or more finished DRAMs onto so-called DRAM modules or 'stack' DRAMs in order to increase the total memory capacity available.

(11) DRAMs are generally categorized using the criteria :

— density (e.g. 256K, 1M, 4M . .),

— process technology (e.g. NMOS, CMOS, BiCMOS),

— configuration (e.g. × 1, × 4, . .),

— package (e.g. PDIP, PSOJ, PZIP, . . .),

— access time (e.g. 100 ns, 80ns, 70ns, . .).

(12) The investigation showed that there are various types of DRAMs :

— DRAM wafers and dice,

— finished DRAMs of different density, process technology, configuration, package, access time,

— DRAM modules and 'stack' DRAMs of different density, process technology, configuration, package, access time,

— variations of DRAMs like VRAMs (video RAMs) and pseudo SRAMs of different density, process technology, configuration, package, access time.

(13) In this context the Commission had to examine whether all these DRAM types were to be considered as one product.

(14) One Korean producer argued that DRAM wafer and DRAM dice and finished DRAMs could not be considered as one product, since DRAM wafers and DRAM dice were not identical to finished DRAMs. This producer argued that DRAM wafers and DRAM dice could be considered as the basic components of finished DRAMs.

One group of users of DRAMs in the Community argued that finished DRAMs of different densities should not be viewed as one product, either because finished DRAMs of certain densities were not produced by the Community industry or because they were not imported during the investigation period. In particular it was argued that future generations of finished DRAMs, i.e. 16M DRAMs, required special production-related R&D and for that reason should be excluded from the product definition.

(15) In this context, the Commission notes that DRAM wafers and dice, finished DRAMs, DRAM-modules or 'stack' DRAMs and DRAMs in different variations falling within the different categories as outlined above have the same technical and physical characteristics and similar uses.

This is shown by the following:

— DRAM wafers and DRAM dice:

  — once a DRAM wafer is processed or diffused, the DRAM dice contained thereon have all the essential electronic properties, which are the properties which distinguish DRAMs from other products,

  — there is virtually no separate merchant market for DRAM wafers and DRAM dice,

  — the DRAM wafer and the DRAM dice thereon are dedicated to a single use as the memory storage unit in a finished DRAM;

— finished DRAMs:

  — DRAMs, different either in density, or in process technology, or in configuration, or in package or in access time, including future densities, process technologies and packages all fall within the same general category of products which perform the same basic function and which are used for the same basic purposes. Although some of the design and some of the process technology used may have changed gradually on the basis of the experience gained both during the life cycle of one single DRAM generation (DRAMs of the same density are known as one DRAM generation) and over the succeeding generations of DRAMs, the essential characteristic of a DRAM, its memory function, has remained the same. This is underlined by the close link between prices of DRAMs belonging to two succeeding generations (e.g. 1 M and 4 M), especially at a time when a shift from one generation of DRAMs to the next higher generation of DRAMs occurs;

— DRAM modules and 'stack' DRAMs:

  — DRAM modules or 'stack' DRAMs consist of mainly two or more finished DRAMs stuffed onto a circuit board in order to provide a large memory capacity. They thus perform essentially the same function as single finished DRAMs and are considered as a multi-combinational form of a DRAM;

— variations of finished DRAMs like VRAMs (video RAMs) and pseudo SRAMs:

  — VRAMs and pseudo SRAMs, if based on DRAM-technology, have the same technical and physical characteristics as finished DRAMs and perform the same basic memory function as finished DRAMs while used for specific applications.

(16) It is therefore concluded that for the purpose of the present proceeding all types, densities and variations of DRAM products, as detailed in recital 15 including future densities, future process technologies and future packages, are to be viewed as one product, the product under consideration.

(17) As to the question whether DRAM products sold on the Korean market and whether the DRAM products sold by the Community industry on the Community market constitute like products to the product under consideration, it was established in the course of the investigation that all these categories of DRAM products are identical in their particular characteristics as well as in their application and uses and therefore form one single category of products which are alike in all respects within the meaning of Article 2 (12) of the basic Regulation and are hereinafter called DRAMs.

C. DUMPING

1. Normal value

(18) All three Korean producers have sold DRAMs to independent customers, both distributors and end-users, on the Korean market.

(19) With a view to determining normal values for the DRAMs exported to the Community, it was claimed by one Korean producer that DRAM production in general is characterized by substantial cost reductions over time due to the learning curve effect and that these cost reductions are reflected in the development of sales prices both in the domestic and export markets and that therefore normal values should be established on a quarterly basis.

A detailed analysis undertaken confirmed that in general the cost of production for DRAMs declined for all three Korean producers over the period of investigation.

With regard to prices, information on a quarterly basis revealed that in general prices followed this decreasing pattern on the Korean market.

The Commission therefore decided provisionally to establish normal value on a quarterly basis.

(20) For the determination of normal value it was first determined whether sales in Korea could be considered as being representative and whether they were made in the ordinary course of trade.

It was established in this context that the domestic sales volume of certain DRAMs was below 5 % of their Community sales volume and that certain DRAMs were not sold on the domestic market in a given quarter.

For the remaining sales in Korea and on the basis of the corresponding quarterly cost of production, the extent to which sales on the Korean market of the DRAMs types exported were made at prices which covered the full cost of production was examined.

This revealed that for two Korean producers all sales of the respective DRAMs and, for the remaining Korean producer, more than 90 % of the sales of DRAMs were made at prices which did not permit recovery of all costs reasonably allocated.

On the basis of the findings concerning the representativeness of domestic sales and the ordinary course of trade of domestic sales shown above all normal values of all DRAMs were constructed for all Korean producers in accordance with Article 2 (3) (b) (ii) of the basic Regulation.

(21) Constructed normal values were determined for each producer on the basis of the cost of production i.e. the cost of manufacturing and selling, general and administrative costs (hereinafter 'SG&A') of each Korean producer together with a reasonable amount of profit.

(22) SG&A expenses were calculated by reference to the expenses incurred by each Korean producer concerned on its domestic sales of like products to independent buyers.

As far as the R&D costs in particular are concerned, all R&D expenses incurred in the period of investigation which related to DRAMs, be it current or future products, have been allocated to the DRAMs sold in the period of investigation. Given the nature of these costs, this approach was considered to be the most appropriate from both an economic and an accounting point of view. Moreover, this approach is in line with the Commission's consistent practice in dealing with such expenses in particular in the sector of integrated circuits.

(23) In the absence of sufficient profitable domestic DRAM sales by any of the Korean producers and in the absence of any reliable profitability data available for the same business sector on the Korean market namely the semiconductor sector in general, the profit rate to be incorporated in the constructed normal values had to be arrived at on any other reasonable basis in accordance with the provisions of Article 2 (3) (b) (ii) of basic Regulation.

In this context it should be noted that the rate of profit required in the DRAM business is largely influenced by the following factors, which are all independent of the sales activity of the producers concerned in any of their particular regional sales markets (i.e. they would be unaffected whether sales of a Korean producer of DRAMs were made in Korea or elsewhere):

— the financing of high future DRAM R&D costs,

— the financing of the very large capital expenditure necessary for mass production in the future,

— the short innovation cycles, and

— in general, the risky nature of this cyclical business sector.

Moreover, it should be noted that the capital expenditure for R&D and investment exponentially increase for each new generation of DRAMs.

On the basis of above factors determining the profit rate for the world-wide DRAM business, in particular, the market situation in Korea, and taking into account the Commission's experience in the product sector concerned obtained in previous anti-dumping proceedings, a profit margin of 13,5 % on turnover is determined as reasonable and representative for the market situation in Korea for the purpose of the present proceeding.

2. **Export prices**

(24) Export prices were determined for the purpose of the preliminary findings on the basis of the prices actually paid or payable for the products sold for export to the Community. These export prices included both those for direct exports to the Community and those for export via the independent exporter mentioned in recital 6.

With regard to export sales which were made to sales subsidiaries in the Community related to Korean producers export prices were constructed on the basis of the prices at which the DRAMs were first resold to independent purchasers in the Community adjusted to take account of all costs incurred between importation and resale and a profit margin of 5 % on sales turnover which was considered reasonable in view of the information available to the Commission in this and previous proceedings concerning the same business sector. For one company which had not reported all costs which had been incurred by its related importers between importation and resale to the first independent customer on the Community market, the Commission included these costs in the calculation of the export price.

3. **Comparison**

(25) Normal values established quarterly as described in recitals 21, 22 and 23 were compared with export prices on a transaction-by-transaction basis at an ex-factory level for identical DRAMs on the basis of Article 2 (9) (a) of the basic Regulation.

(26) As far as differences in conditions and terms of sale are concerned, allowances were granted in accordance with Article 2 (9) and (10) of the basic Regulation and limited to those which bore a direct relationship to the sales under consideration and where the Commission was satisfied that the allowances were justified. Furthermore, adjustments were made in respect of differences relating to transport, insurance, handling, loading and ancillary costs as well as salespersons' salaries. For salespersons' salaries, a number of allowances claimed have been rejected since the investigation revealed that not all salaries claimed concerned salaries of salespersons wholly engaged in direct selling activities as required by the basic Regulation.

4. **Dumping margins**

(27) The preliminary examination of the facts showed the existence of dumping in respect of imports of the product concerned originating in Korea.

The weighted average dumping margins provisionally established for each producer and expressed as a percentage of the total cif Community-frontier value of imports are as follows:

— Goldstar	122,4 %,
— Hyundai	57,3 %,
— Samsung	18,1 %.

(28) For the case of any other exporting producer or exporter who failed to reply to the Commission's questionnaire or did not otherwise make itself known, dumping was determined on the basis of the facts available in accordance with the provisions of Article 7 (7) (b) of the basic Regulation.

In this connection, the Commission, in accordance with consistent practice, considered that the highest dumping margin, determined with regard to a producer which had cooperated in the framework of this investigation, was appropriate.

D. COMMUNITY INDUSTRY

(29) The Commission found that there were three companies established in the Community during the period of investigation actually carrying out production of DRAMs. Two of these producers supported the complaint. The third producer, NEC Semiconductors Ltd, Livingston, United Kingdom, did not participate in the proceeding.

(30) Since not all DRAM producers established in the Community participated in the investigation, the share of the output of the producers represented in the complaint had to be estimated using market research data. This revealed that the producers represented in the complaint accounted for more than 80 % of the total output of DRAMs in the Community and therefore constitutes the major proportion of the Community industry for the purposes of the present proceeding.

(31) One Korean producer argued that one of the complainant companies, Siemens AG, was itself an importer of DRAMs since it bought substantial quantities from this Korean producer during the period of investigation and should therefore not be considered as part of the Community industry in the light of Article 4 (5) of the basic Regulation.

(32) In addressing this issue, the Commission has assessed whether the producer with links to importers or to exporters or which itself is an importer of the product concerned, should be excluded from the definition of the Community industry. The exclusion of such a producer must be decided on a case-by-case basis on reasonable grounds and taking into consideration all aspects involved.

(33) The examination of the facts showed that the Siemens AG is organized in different product sector groups (i.e. systems, semiconductors, etc.). In this context it was established that the Siemens' systems groups use the DRAMs of Korean origin exclusively as components for their own production and that the purchased DRAMs were not resold on the Community market. The Commission notes that Siemens had little choice but to be supplied from Korean producers in view of the price differential between Korean products and those of Community producers and in particular those from Siemens' semiconductor group. Any other behaviour would have been against its economic interest and would have put it at a competitive disadvantage since its competitors had free access to the low-priced imported products and could therefore improve their cost competitiveness in the competitive systems market. The choice of Siemens' systems groups to be partly supplied by Korean producers rather than by Siemens' semiconductor group was made possible by the structuring of Siemens in different profit centres which are free to obtain their supplies from any producer which can provide them with the best price and market conditions. It did not in any way presuppose that the primary interest of Siemens AG went from producing to importing. The commitment of Siemens to continue producing DRAMs in the Community appeared to the Commission during the course of the investigation to be undeniable.

(34) In these circumstances, the Commission considers that purchases made by Siemens' systems groups can be considered to be an act of economic self-defence and as such a legitimate and justified business decision. Therefore no reasonable grounds exist to exclude Siemens AG from the definition of the Community industry and the Commission concludes that the producers supporting the complaint satisfy the requirements to be regarded as the Community industry within the meaning of Article 4 (5) of the basic Regulation.

(35) One Korean producer argued that since one of the complainant producers was not carrying out all separate DRAM production steps in the Community, this complainant producer should be eliminated from the definition of the Community industry.

In this context the Commission notes that in order to be included among the Community industry a producer does not have to carry out the totality of its production process for individual product models nor the production of its whole range of products within the Community.

It is considered sufficient that a producer carries out a major part of the total production within the Community and in this respect shows its commitment as a Community producer.

In this respect, the Commission has established in the investigation that the complainant producer referred to carried out the DRAM front end production process (i. e. DRAM wafer diffusion) and part of the DRAM back end production process (i. e. DRAM assembly and DRAM testing) within the Community. For some DRAMs sold on the Community market the back end production process was carried out outside the Community using DRAM wafers or DRAM dies produced in the Community. As explained in recital 10 the front end production process is technologically the most demanding process and it is very investment intensive. During this process all essential technical characteristics of a finished DRAM are incorporated in the DRAM wafer or die. In addition the

head office where the central planning and administration is carried out is located in the Community. Furthermore, as stated in recitals 12 and 16, the Commission considers that DRAM wafers and DRAM dice are to be considered as one product together with finished DRAMs, which are fully assembled and tested. Therefore the Commission considers that this complainant carries out the major part of the total DRAM production in the Community and can therefore be considered as part of the Community industry.

E. INJURY

1. Volume of the Community market, volume and market shares of Korean imports

(36) The total Community consumption of DRAMs increased continuously over the period of 1986 to 1990 as measured in approximate thousand megabits from 25 000 in 1986 to 55 000 in 1988 and to 150 000 in 1990 (i. e. by more than 450 % for the period from 1986 to 1990) and as measured in approximate thousand ECU from 240 000 in 1986 to 800 000 in 1988 and to 850 000 in 1990 (i. e. by more than 250 % for the period from 1986 to 1990).

The increase of the Community market measured in value (thousand ECU) is notably smaller from 1988 to 1989 and from 1989 to 1990 compared to the market measured in volume (thousand megabits) indicating a substantial overall price decline in the Community DRAM market notably in 1990.

(37) At the same time, the quantities of Korean DRAM imports into the Community measured in approximate thousand megabits show a substantial increase over the period of 1986 to 1990 from 1 500 in 1986 to 7 500 in 1988 and to 37 000 in 1990, a more than 23-fold increase between 1986 and 1990 corresponding to an approximate rise in market share measured in megabits held by Korean imports from 6 % in 1986 to 15 % in 1988 and to 25 % in 1990. This represents a rise in market share of more than 300 % in the period between 1986 and 1990.

The quantities of Korean DRAM imports into the Community as measured in approximate thousand ECU also show a substantial increase over the last five years, from 19 000 in 1986 to 150 000 in 1988 and to 170 000 in 1990, i. e. around eight-fold in the period between 1986 and 1990.

This development corresponds to a rise in the market share held by Korean imports from around 8 % in 1986 to around 19 % in 1988 and to around 20 % in 1990, i. e. by about 150 % in value in the period between 1986 and 1990.

2. Prices of Korean dumped imports

(38) In order to assess the pricing behaviour of the Korean producers a detailed evaluation of their prices obtained on the Community market during the period of investigation was undertaken. This evaluation was carried out on the basis of transaction-by-transaction sales reports by both the Korean producers and the Community producers, for identical models, covering sales to the first independent purchaser in the Community.

Where appropriate, account was taken of differences in the costs of certain sales transactions, in particular, by adjusting those transactions for insurance and freight costs which covered sales from the Korean producers directly to independent customers in the Community.

The evaluation revealed that for all three Korean producers substantial price undercutting existed, ranging from 9,3 to 20,7 % when expressed as a weighted average margin of undercutting for each producer concerned.

In this context it should be noted that a substantial proportion of the sales on the Community market by the Korean producers concerned were even made below cost of production.

3. Situation of the Community industry

(a) *General*

(39) One Community producer, Motorola, had already produced DRAM products in the Community at the beginning of the 80s but stopped production in 1985 due to deteriorating market conditions. It decided in 1987 to restart DRAM production in the Community, with first production output during the second half of 1989, in the expectation that the anti-dumping investigation into Japanese dumping by the Commission would lead to an improvement of market conditions.

Motorola then decided to further increase its production capacity on the basis of positive projections of sales and prices indicating future profitability in the Community market. Subsequently, these extension plans had to be cancelled due to substantial price erosion on the Community market.

(40) The other Community producer, Siemens, started its DRAM production in the Community in 1988 during the anti-dumping investigation concerning DRAMs originating in Japan which established injurious dumping by Japanese producers during the period 1986/87.

Production started in 1988 on the basis of projections that fair market conditions would be expected to prevail in the future on the Community market following the investigation of Japanese dumping. Subsequently, Siemens gained a substantial market share in the Community.

In the period 1989/90 Siemens had to delay and finally alter firm plans for the construction of an additional DRAM production facility for the new generation 4M DRAMs, after a major price decline occurred in the Community DRAM market.

Instead, the production of the 4M DRAMs was started on an existing minor production line. Subsequently, it was envisaged that even this production line would be closed down, part of the workforce would be laid off and DRAM production would be concentrated in the main production plant in Regensburg.

(b) *Production*

(41) The total production of Community producers increased after the start of production in 1988/89 by a factor of nine in the period 1988 to 1990 measured in thousand megabits and reached around 45 000.

(c) *Sales volume, market shares*

(42) Sales increased between 1988 and 1990 since the start of the Community industry's DRAM production in 1988/89, namely to a level of around 35 000 thousand megabits and around ECU 180 million.

(43) These sales, when based on the Community market measured both in thousand megabits and thousand ECU reflect a market share in the Community of around 20 % in 1990.

(d) *Stocks*

(44) DRAMs in stock for the Community industry increased by a factor of more than 18 as measured in thousand megabits in the period from 1988 to 1990.

(e) *Prices*

(45) As a consequence of the substantial price undercutting practised by the Korean producers the sales prices of the Community industry decreased substantially during the period of investigation. In this highly price-sensitive industry the Community industry had little choice but to follow the prices set by the Korean producers in order to sell the DRAMs produced. It can therefore be concluded that the Community industry suffered price depression. Although a certain reduction in price levels commensurate with falling unit costs is common in this industry, the level of decrease of more than 40 % within the period of investigation alone, indicates the severity of the price depression suffered by the Community industry.

(f) *Financial situation*

(46) Although the Community producers have substantially increased their market share and sales volume on the Community market their financial situation has deteriorated significantly since they started production in the years 1988/89. In this context, it should be noted that although the Community industry incurred financial losses at the start of production in 1988, this could be expected in an industry at an early stage of its production which is characterised by substantial learning effects. However, the financial situation has deteriorated during the period of investigation to a level which threatens the overall viability of the Community DRAM industry. The financial losses have reached a negative three-digit figure when expressed in ECU million during this period. Moreover, considering the time which has lapsed since the start of production, the Community industry cannot be considered as being in the start-up phase. Nevertheless, the unit-cost improvement which is associated with high volume production in this industry could not fully be achieved.

4. Arguments raised concerning injury

(47) All three Korean producers have argued that the Community industry cannot be considered as being injured since it substantially increased its sales volume and market share in the period from 1988 to 1990.

In this context, the Commission notes that the substantial increase in sales and market share of the Community industry can be attributed to the fact that it only started production in 1988/89 after the initiation of the anti-dumping proceeding concerning DRAMs originating in Japan and that an increase in sales and market share is a necessary consequence of its appearance on the market. Nevertheless this gain in market share and this increase in sales volume must be viewed against the heavy financial losses incurred by the Community industry following the drop in prices on the Community market.

5. Conclusion

(48) In conclusion, the negative development for the Community industry as far as stock volumes are concerned and especially the significant financial losses incurred by it, led the Commission to conclude that the Community DRAM industry has been suffering material injury within the terms of Article 4 (1) of the basic Regulation.

F. CAUSATION

1. Effect of dumped imports

(49) The rapid increase of Korean dumped imports coincides with the depression of Community DRAM market prices, the Community industry's increasing financial losses and with an increase in stock volume as shown above.

Since the DRAM market is highly price sensitive the substantial price undercutting due to dumping together with the substantial increase in market share of Korean low-priced dumped imports are clear indications that the dumped Korean imports have considerably contributed to the injurious situation suffered by the Community industry.

(50) Two Korean producers claimed that they individually exported only limited quantities and could not have caused injury taken in isolation.

The Commission notes however that the injury situation and its causation must in general be assessed as a whole. Indeed, in conformity with the case-law of the European Court of Justice and the consistent practice of the Community institutions, it is neither necessary nor in general possible to define separately the share of injury attributable to individual exporting producers involved in an anti-dumping proceeding.

(51) It was furthermore argued by one Korean producer that it actually gained market share in the Community not by injurious dumping and the resulting increase in sales of DRAMs in general but because it had become the sole remaining supplier of 256K DRAMs. This product, at the time of the investigation could be considered as a product at the end of its life cycle. In this respect, the Korean producer argued that its increase in sales and market share was a result of a supply gap and not of its own marketing effort.

The Commission considers that this argument cannot be accepted because injury and its causation must be established taking into account all imports from the country concerned. As established in recital 16 all different types of DRAMs have to be considered as one product. In addition, it was established, on the basis of market research data, that the market price for the 256K DRAM was rapidly decreasing in the Community during the period 1988 to 1990. This cannot be considered as a sign of an excess in demand. Moreover, the Commission also established that during the investigation period there was a substantial number of suppliers of the DRAM concerned.

2. Other factors

(52) The Commission considered whether factors other than dumped imports, i.e. production overcapacity or imports from other countries could have caused the injury to the Community industry found.

(53) In this respect the Korean producers argued that the slow-down in the DRAM market can be attributed to world-wide overcapacity of DRAMs to which the Community industry has contributed by constructing new DRAM processing lines and starting production.

In addition the Korean producers also argued that the financial losses incurred by the Community producers due to low market prices had not been caused by Korean dumping but by a general fall in demand and at the same time a decrease in the US dollar and Japanese yen exchange rates against Community currencies affecting the whole sector of the electronics industry including the DRAM industry.

(54) The Commission notes that, while it can not be excluded that the development of both the DRAM market overall, the development of the exchange rates of the dollar and the yen and world-wide production capacity had some impact on the general situation of the Community market, this cannot alter the fact that a continuous increase in import volumes of DRAMs originating in Korea, representing a substantial increase in Korean companies' market share, together with prices which substantially undercut the prices of the major market participants including the Community producers, contributed to, and caused to a large extent, the difficulties which the Community DRAM industry faces.

With respect in particular to the argument of production overcapacity, the Commission notes, that the capacity constructed by the Community industry is at the lower level of an economically feasible production with a single production line for each Community producer. In contrast to this, the Korean companies each have several production lines and are even constructing new ones. It is, therefore, not the Community industry but rather the Korean exporters who contribute considerably to this world-wide overcapacity.

(55) Furthermore, one Korean producer argued that injury to Community producers was caused by a failure of these producers to respond to new developments in the general area of electronics, e.g. the public R&D support, product innovation and the fragmentation of the Community electronics market.

The Commission cannot accept this claim since it comprised merely some general statements about the Community semiconductor and electronics industry which have not been supported in any specific way as far as the Community DRAM producers are concerned.

(56) Furthermore, one Korean producer alleged that one of the complainants, Siemens, was itself a substantial importer of DRAMs since it bought substantial quantities from this Korean producer's related importer in the Community and that therefore the Community industry had been inflicting injury on itself.

The Commission notes that the systems groups of Siemens bought DRAMs for their own use from the related importer at very low prices as explained in recitals 31 to 34.

Indeed, for the reasons given above, the Siemens systems groups were economically forced due to the low prices of dumped imports of Korean DRAMs to purchase these goods from the Korean importers located in the Community. In addition the Commission has found in its investigation that none of these purchases were resold on the market. Therefore, the Commission has concluded that these imports were made because of their low and dumped price level and are not to be considered as causing 'self-inflicted' injury. Consequently, the Commission considers that they do not constitute 'other factors' within the meaning of Article 4 (1) of the basic Regulation.

(57) Two Korean producers argued that injury was also caused by imports of DRAMs from countries other than Korea.

In this context, the Commission notes that in support of this argument only general, DRAM-unspecific, import statistics were provided, without any per unit price information.

Moreover, the figures provided apparently do not appropriately distinguish the imports, by their origin since it is known that several countries allegedly exporting DRAMs do not have DRAM wafer processing/diffusion facilities. On the basis of the findings of the investigation and in particular in the light of the export sales channels of some Korean producers it is moreover highly probable that imports into the Community of DRAMs of Korean origin are included in these statistics.

As far as imports of DRAMs originating in Japan are concerned, these have been covered by anti-dumping measures since January 1990 which take the form of undertakings from all known Japanese producers.

(58) Accordingly, since these import statistics are not specific to DRAMs but include imports of computer parts and integrated circuits in general without any price information and most probably include products of Korean origin they cannot be used in support of this claim.

(59) Two Korean producers argued that they could not have caused injury to the Community industry because they always sold at a similar level to the Japanese DRAM producers.

The Commission notes in this context that a comparison between the other main market participants in the Community, the Japanese producers, was made on the basis of independent market research data. This comparison revealed undercutting of Japanese companies' prices in the Community by Korean dumped imports.

3. Conclusion

(60) The Commission has established a substantial growth in import volume of DRAMs originating in Korea and a resulting increase in market share together with substantial price undercutting by these imports.

Furthermore, the Commission has determined that the Community industry has to be considered as materially injured.

(61) While the Commission is aware that other factors might also have had some negative impact on the overall economic situation of the Community industry, nevertheless, the Commission concludes that dumped imports of DRAMs of Korean origin have, taken in isolation, caused material injury to the Community industry.

G. COMMUNITY INTEREST

(62) The purpose of anti-dumping measures is to remedy an unfair trading practice which has an injurious effect on Community industry. Such a remedy should result in the re-establishment of a fair competitive situation which, as such, is in the interest of the Community.

(63) It has been established in the framework of the present proceeding that, in view of the substantial and increasing financial losses incurred by the Community industry not to take anti-dumping measures with respect to DRAM imports originating in Korea would threaten the viability of the Community DRAM industry.

This development must be seen in particular in the light of considerable recent domestic investment by Korean companies in the DRAM sector and by extensive R&D efforts by Korean producers covering DRAMs three generations ahead of current commercialization.

(64) The Commission is aware that the Community user industries, notably the information processing equipment industry, operate in a world wide competititive environment in which relative cost advantages are important and that these industries are of considerable economic importance. In this respect, purchase price increases due to anti-dumping measures have to be considered in assessing the form and nature of anti-dumping measures to be imposed.

(65) On the other hand, the Commission considers, that in view of the central function of the DRAM industry as the technology driver for the semiconductor industry in particular and the electronics industry in general, it is of the utmost importance for technological reasons to have a viable and strong Community DRAM industry. This view is shared by the two groups of users which have participated in the investigation.

Moreover, semiconductors in general and DRAMs in particular are key components in the information processing and telecommunication equipment industry. Therefore, the DRAM industry is considered to be of strategic importance for viable downstream industries and the existence of a reliable and powerful Communtiy source of supply is considered to be of great importance for the electronics industry as a whole in the Community.

(66) One group of users of DRAMs in the Community argued that one Community producer, Siemens, was producing DRAMs mainly for captive use and therefore sold only limited quantities on the merchant market so that this group of users has to turn to suppliers from outside the Community.

(67) In this context, the Commission considers that it is evident from the figures concerning the development of its share of the merchant market, that the Community industry is in a position to meet a substantial part of the demand of DRAMs in the Community. This is noteworthy because of the relatively short time period during which the Community industry has been operating its Community DRAM production and within which it was able to gain a substantial share of the Community market.

(68) It has been argued by two Korean producers that the Community computer industry which is bigger than the Community semiconductor industry, as measured in sales volume and employment, currently faces substantial problems. Even if this is the case, it was nevertheless not argued by the Koran producers concerned that these problems were due to high electronic component prices prevailing in the Community which were the result of anti-dumping measures with respect to DRAM imports. Nor did the Korean producers argue either that any anti-dumping measures concerning DRAMs originating in Korea would worsen the situation of the Community computer industry and thus the Commission cannot accept this argument.

(69) One group of users of DRAMs in the Community has furthermore argued that anti-dumping measures concerning DRAMs originating in Korea would lead to an increase in its costs and would therefore put the user industry at a competitive disadvantage.

In this context, the Commission notes that this claim was supported only by general information on the share of costs represented by integrated circuits as compared to total manufacturing costs and not by DRAM specific information.

The Commission considers that even if the share of the costs represented by DRAMs was not negligible, it would not be acceptable that advantages gained in the past through unfair trade practices could be invoked as a justification for not taking the necessary steps to re-restablish a fair trading situation. In addition, on the question of prices in other markets, the Commission notes the existence of alleged injurious dumping which is currently being investigated by the authorities of the importing country.

(70) Furthermore, it has been argued by one Korean producer and by this user group that any anti-dumping measures with respect to Korean producers would reduce competition in the Community DRAM market by eliminating competitors from the market.

In this context, the Commission notes that the purpose of anti-dumping measures as already stated in recital 62 is to remedy unfair trading practices and also to enhance fair competition. As regards the competitive situation on the Community market, it should be noted that the anti-dumping measures concerning DRAMs originating in Japan have not reduced the number of Japanese competitors operating on the Community DRAM market

and that no measures in the present case could lead to the disappearance of the Community industry with the consequent reduction in the number of suppliers and level of competition.

(71) Furthermore, it has been argued by one group of users of DRAMs in the Community DRAM industry is already protected by high customs tariffs and that therefore no additional protective measures with regard to dumping are necessary.

In this context, the Commission notes that the above argument cannot be accepted because it has been established in the present proceeding that, despite customs tariffs, the Community industry was materially injured.

(72) This user group has also argued that the Community DRAM industry benefits from substantial publicly supported R&D projects and therefore does not need any additional protective measures with regard to dumping.

In this context, the Commission notes that the public support in the form of R&D projects provided to the electronics industry in the Community in general, and to the semiconductor sector in particular, is a sign of the recognition of the importance of a strong Community electronics industry. Furthermore, in order not to impede the results of these public R&D initiatives the Commission considers it to be necessary to ensure fair market conditions in this industry.

With regard to the argument by the user group concerning the extent of public support, the Commission notes that, despite this support, the Community DRAM industry has incurred, as a result of dumping, heavy financial losses which threaten the viability of the industry.

(73) Furthermore, the Commission notes that the relative stabilization of the Community DRAM market achieved after the imposition of anti-dumping measures with respect to DRAMs originating in Japan at the beginning of 1990 has been significantly impaired by the effect of low priced dumped imports from Korea.

(74) Finally, it would be discriminatory not to impose anti-dumping measures on dumped imports of Korean DRAMs which have been causing material injury to the Community indutry, when in the same circumstances anti-dumping measures have been imposed with respecft to imports of Japanese DRAMs which had been found to be injuriously dumped in a previous proceeding.

(75) In conclusion, the Commission considers that it is, on balance, in the interest of the Community to impose anti-dumping measures concerning imports of DRAMs originating in Korea.

H. DUTY

(76) Based on the preliminary findings of the investigation, and in particular in order to prevent Korean producers from continuing to significantly undercut prices of the Community industry and thereby cause injury to it during the proceeding, it is considered that no other immediate course of action exists, but to impose *ad valorem* duties at the provisional stage.

In order to determine the amoujnt of provisional duty necessary to prevent, to a satisfactory extent, injury being caused during the proceeding, the Commission considered, that, both the individual contributions of each exporting producer to the injury of the Community industry determined by the exporting producers' price and volume levels, in general the particularities of the DRAM market and he present situation of the DRAM market in the Community, should be taken into account.

Therefore, it was considered appropriate, in order to determine the level of the duty at the provisional stage, to take into account the standardization of the main DRAM products, the present exceptional situation in the Community DRAM market and the overall level, by which the Korean producers' prices undercut those of the Community producers in the Community market.

This level for all three companies concerned is lower than the dumping margins established in the course of the proceeding.

(77) Consequently, the Commission considers it to be appropriate to provisionally impose an ad valorem duty of 10,1 % expressed as a percentage of the net free-at-Community-frontier price before duty to all imports of the product under consideration originating in Korea.

I. FINAL PROVISION

(78) In the interest of sound administration, a period should be fixed within which parties concerned may make their views known in writing. Furthermore, it should be stated that all findings made for the purpose of this Regulation are provisional and may have to be reconsidered for the purpose of any definitive duty which the Community may propose,

HAS ADOPTED THIS REGULATION:

Article 1

1. A provisional anti-dumping duty is hereby imposed on imports of certain types of electronic microcircuits known as DRAMs (dynamic random access memories) originating in the Republic of Korea and falling within CN codes 8542 11 12, 8542 11 14, 8542 11 16, 8542 11 18, ex 8542 11 01 (Taric code: 8542 11 01* 10), ex 8542 11 05 (Taric code: 8542 11 05* 30), ex 8473 30 10 (Taric code: 8473 30 10* 40) or ex 8548 00 00 (Taric code: 8548 00 00* 20).

2. For the purpose of this Regulation, DRAMs comprise all variations, types and densities including DRAM wafers and DRAM-dice or DRAM-chips, and multi-combinational forms of DRAMs such as stack DRAMs and DRAM modules.

3. The rate of duty shall be 10,1 % expressed as a percentage of the net free-at-Community-frontier price before duty.

4. The provisions in force concerning customs duties shall apply.

5. The release for free circulation in the Community of the products referred to in paragraph 1 shall be subject to the provision of a security, equivalent to the amount of the provisional duty.

Article 2

Without prejudice to Article 7 (4) of Regulation (EEC) No 2423/88, the parties concerned may make known their views in writing within one month from the date of entry into force of this Regulation.

Article 3

This Regulation shall enter force on the day following its publication in the *Official Journal of the European Communities.*

Subject to Article 11, 12 and 13 of Regulation (EEC) No 2423/88, Article 1 of this Regulation shall apply for a period of four months, unless the Council adopts definitive measures before the expiry of that period.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 16 September 1992.

For the Commission

Frans ANDRIESSEN

Vice-President