Application of the Multisectoral Framework to State aid in the semiconductor industry

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The semiconductor industry is regarded as an important industry for the economic welfare of countries. Semiconductors have changed daily life fundamentally and applications are multiplying still. Over a period of less than 20 years demand and production has increased enormously. Because the average size of an investment project is huge, it may not come as a surprise that aid to such projects is substantial as well. Indeed, since the entry into force of the Multisectoral Framework on regional aid for large investment projects (MSF) in 1998 the Commission has assessed four projects in the semiconductor industry falling under these rules. In all the four cases the Commission has finally authorised the total amount of the State aid proposed by the national authorities. However aid intensities were below the maximum ceilings that were applicable in the regions concerned. Moreover, they differed significantly among the projects.

The first investment in this industry that the Commission assessed under the MSF rules concerned a project of Motorola, a global manufacturer of cellular and radio communications products and electronic devices (1). Motorola planned to set up a new plant in Dumferline, Scotland, for the production of so-called BicMos, which are used as an intermediate product in the manufacture of cellular telephones and other wireless applications. The project costs amounted to £ 1 200 million, the aid covered 5.8% of the investment costs.

The project of ATMEL Rousset, the French daughter of the US-based company ATMEL Corp., concerned the extension of an already existing semiconductor factory in Rousset, France (2). ATMEL Rousset produced various types of semiconductors, in particular flash memories, integrated circuits for chip cards and specific circuits (ASIC and ASSP). The extension would increase capacity in all segments. This project had a quite moderate size with project costs amounting to € 373 million. Aid was granted with an intensity of 11.8% net.

The project of STMicroelectronics (STM) was one of the biggest industrial projects that have ever been assessed by the Commission in the field of State aid. Investment costs will reach € 2.07 billion (3). Aid will be awarded amounting to € 542.3 million, which results in an intensity of 26.25% net. The French-Italian company intends to set up a new plant in Catania, Sicily (Italy) for the production of flash memories. Flash memories are used for digital cellular handsets, PC and hard disk drivers, but they are also expected to capture new markets such as digital cameras, DVD and other digital equipment.

The investment project of Infineon Technologies in Dresden, Saxony (Germany), was the only project where the Commission initiated the formal investigation procedure as it was faced with difficulties in assessing the market and was lacking information on indirect job creation (4). The project concerned the construction of a new plant producing DRAMs. DRAMs are the most common type of semiconductor memory. The largest use for DRAMs is made in PCs and low-cost manufactured products. Investment costs amounted to € 1 106 million, the gross aid intensity was 19.8%.

Relevant market

The MSF foresees that – in order to minimise distortion of competition – the situation of the relevant market is taken into account for the assessment of the compatibility of the aid. The semiconductor industry is a world-wide industry. Transport costs compared to prices are low, the products are homogenous and few trade barriers exist. Competition is fierce. The semiconductor industry is a rapidly changing industry with fast technological development.

The semiconductor market is highly cyclical as well. Rapid growth has been alternated by deep

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(4) State aid No. C 86/2001, decision of 9 April 2002. The decision to initiate the procedure of Article 88(2) has been published in the OJ C 368 of 22 December 2001, p. 2. The final decision has not been published yet.
recessions. Moreover, increases of volume of sales have to a large extent been offset by decrease of unit prices. For the application of the MSF the Commission compares growth of apparent consumption in the relevant market to the growth rate of the EEA manufacturing industry as a whole (if reliable data on capacity utilisation is absent).

In three cases (all except Infineon) the Commission came to a favourable result concerning the market situation and set the competition factor, which reflects the market assessment, at its highest possible level. The Commission identified various categories of semiconductors as separated market because of low substitutability on the demand side and high costs for switching production on the production side. In fact, these three cases concerned the fastest growing market segments in the semiconductor industry at the moment. The figures for 2000 show a steep decline, but the decline was not enough to offset the growth in the preceding four years. In any case, the decision on ATML was made in the midst of the recession, but before figures on 2000 were available. The decision on Motorola stems even from an earlier date. In this case, forecasts for semiconductors for wireless telephones were very positive. However the market did not develop as expected by Motorola and until now production in the new factory has not started!

The Commission was faced with special difficulties in the assessment of the market in the Infineon case. The relevant market for DRAMs is the most cyclical market segment within semiconductors. An analysis of the market data in value terms would have led - according to the provisions of the MSF - to the conclusion of a market in absolute decline. This would have resulted in a reduction of the aid by 75%. However, the market measured in volume terms, i.e. units sold, had been significantly growing over the last years. The decline in the market in value terms was a result of continuously falling prices, which was driven by increases in productivity reducing manufacturing costs. Due to the specific characteristics of the DRAM market the Commission therefore came to the conclusion that it should be regarded in relative and not in absolute decline, which led to a reduction of the allowable aid level by 25%.

Direct jobs and indirect jobs

The number of direct jobs created and safeguarded varied between 530 and 1700 jobs. The capital-labour factor (investment costs per job created or safeguarded) differed significantly among the projects ranging from € 650 588 per job to € 1 796 521 per job. This resulted in a multiplication factor for the allowable aid intensity of 0.6, 0.7 or 0.8. Differences are partially explained by different degrees of outsourcing. To some extent the degree of outsourcing can positively influence the outcome of the Commission’s assessment: more outsourcing may imply fewer direct jobs and therefore a lower capital-labour ratio, but it also implies higher indirect job creation, which may more easily surpass the threshold of 50% or 100% of indirect jobs compared to direct job creation. The lower capital-labour factor (if reduced at all) may be outweighed by the regional impact bonus. Of course it has not been the Commission’s intention to affect corporate strategies on outsourcing. In any event, probably any rule may give raise to ‘anticipating behaviour’.

One of the most difficult parts of the assessment concerns the indirect job creation in the same or adjacent assisted regions. The Commission has had to base its assessment on different types of evidence. In the case of Motorola and Atmel, the Member States supplied a detailed overview of first tier suppliers and estimated job creation with these suppliers. The Commission could evaluate this information directly. In both these cases, the authorities did not claim a higher aid on basis of indirect job creation anyway and the regional impact factor was set at 1, consequently not having an impact on the allowable aid intensity.

In the STM case, the Italian authorities supplied studies carried out by the University of Catania and by Dataquest, indicating a medium degree of indirect job creation on basis of similar investments. However, these studies were very general and were not considered being a sufficient basis for the Commission’s decision. Italy then supplied further information based on a comparison with the already existing unit at the same location. The Commission could exceptionally accept such evidence since the new unit will operate in a similar way and under similar conditions as the existing unit and both units are located in the same area and are part of the same undertaking.

In the case of Infineon, the German authorities initially did not provide any data that allowed a reliable estimate of indirect job creation. Only later and within the formal investigation procedure they send a more detailed overview and copies of ‘letters of intent’ from the suppliers, indicating the expected increase of jobs. The Commission verified this information and could then, taking all the information into account, conclude on a regional impact factor that increased the allowable aid intensity by 25%.
At this stage it may be relevant to note two provisions of the procedural regulation (1). Firstly, the national authorities should provide convincing evidence since, pursuant to Article 4(4) of the Regulation, the Commission has to initiate the procedure of Article 88(2) EC Treaty when doubts remain as to the compatibility of the aid. Secondly, Article 9 of the Regulation specifies that the Commission may revoke a decision when it is based on incorrect information provided during the procedure when this information was a determining factor for the decision. The Commission carries out a systematic ex-post monitoring of the decisions taken under the MSF.

In all cases expect for the Motorola project the aid intensity proposed by the national authorities was close to the maximum allowable aid intensity calculated on basis of the MSF. Only in the Motorola case the Commission would have authorised aid up to a net aid intensity of 12 %, while the UK only intended to grant 5.8%. More important, the allowable aid intensity under the MSF was on average 7.4%-points below the applicable regional aid ceiling. This suggests that the MSF has had a significant reducing effect on aid levels granted by the Member States.