EXECUTIVE SUMMARY

Today's economic reality is characterised by the globalisation process and the rapid pace of technological evolution in almost all industries. In this new economy, companies make use of alternative forms of competition geared towards the mastery of technologies, access to global markets, speed of action, innovation and intangible investment (e.g. organization skills, training and research). This competitive pressure is especially present in high tech industries, where the key factors to success are innovation and first mover advantage. In high tech sectors, as in many other sectors, the international competitiveness of firms can only be ensured if sufficient efforts are dedicated to innovative activities. There is therefore a growing concern to support those activities in order to allow firms to position themselves with a competitive advantage *vis-à-vis* their major global competitors. Within this context, the United States Congress has already recognized that current American innovation policy is inaccurate and in need of significant reform. The European Commission has also acknowledged the existence of certain weaknesses in its innovation policy and has already undertaken a process of reform aimed at creating an innovation-friendly environment.

The European Commission is particularly concerned about the impact competition law might have on the innovation activities of the European industry. This is so because firms generally enter into complex transactions in order to innovate. Among other factors, these operations aim to facilitate the funding of expensive research and development ("R&D") efforts and the transfer of the resulting intellectual property rights ("IPRs"). Such transactions vary from agreements to complex forms of joint ventures and mergers. Although these transactions may be pro-competitive, they may also raise antitrust concerns and may therefore fall under competition rules. The encouragement of innovation activities by the granting of State aid is also subject to control under EC competition law and limited except under certain circumstances. The application of competition rules may thus discourage firms from carrying out innovative activities and consequently affect the international competitiveness of the European industry. This in turn affects consumers since they would not be able to benefit from new, improved and cheaper products to satisfy their needs.

For these reasons, the Commission places emphasis on the need to adopt a more dynamic competition policy that reflects business reality and creates more legal certainty in order to foster innovation within the European Community. To this end, the European Commission engaged the consortium formed by Gómez-Acebo & Pombo and Ablondi, Foster, Sobin & Davidow to draw up this study on the "Impact of EU Competition Legislation on Innovation." The main objective of this study is to analyse the influence of specific competition rules –those that have a direct impact on innovation– on the innovative performance of the European industry. At the same time, its aim is to put together policy proposals based on the conclusions of the study.

In order to reach the end results of this study, we have carried out a survey among economic agents, paying particular attention to the performance of firms that are present in global markets. We have interviewed and sent questionnaires to firms active in technology-intensive sectors such as pharmaceuticals and biotechnology, aerospace, automobile, telecoms and microprocessors. The results of the survey have also served as a basis for the policy proposals that we have put forward in this study. We have also carried out an intensive review of the existing jurisprudence and literature in the fields of antitrust and innovation in both the EC and the U.S.

The study comprises three different fields of competition policy: antitrust, state aid and merger control. It initially focuses on EU competition rules and their impact on innovation (See Chapter I). It also contains an analysis of the situation in the United States (See Chapter II) and compares the EC and U.S. innovation policies (See Chapter III). The policy proposals arising from the results of the above mentioned survey, the review of EC competition rules and their comparison with their American counterpart are contained in Chapter IV.

Analytical framework

In order to set up an analytical framework to tackle the issue of the impact of competition law on innovation, we have first explained the different meanings attributed to the term innovation, which generally refers to both the process of innovation –the manner in which innovation is designed and produced at the different stages leading up to it– and the result of the innovation process –the new or improved product, process or service. We have also explained the manners in which innovation occurs: how innovative products and services (product innovation) and processes (process innovation) emerge. A good understanding of this process is crucial to the main objectives of this study. We have therefore discussed the debate on the traditional model of innovation *versus* the simultaneous model, and considered that although the traditional model is still applicable with regard to some scale-intensive industries, the simultaneous model is more realistic.

Antitrust

The study focuses on the impact of specific competition rules on innovation. In the field of antitrust, we have analysed the most important of such specific pieces of legislation, which are Regulation 418/85 ("R&D Block Exemption") and Regulation 240/96 ("Technology Transfer Block Exemption"). The former is a group exemption of certain R&D agreements and directly affects innovation, since such agreements allow firms to offset the considerable financial resources needed in order to conduct research and development work and to benefit from economies of scale.

The latter is a group exemption of certain technology transfer agreements and affects innovation in a more indirect way, as technology transfer motivates firms to engage in innovative activities by allowing successful innovators to obtain an economic return on their investments in innovation. Such motivation is equally stimulated by the possibility of entering into specialization agreements to exploit the technical advantage gained through R&D activities when firms are not able to effectively manufacture the product that exemplifies the new technology. We have therefore included in the study an examination of Regulation 417/85 ("Specialization Block Exemption") that exempts certain specialization agreements. We have also analysed the Commission's practice in the assessment of standardization agreements, since those forms of collaborations also have significant pro-competitive potential, as efforts to select a single standard enhance the efficiency of an entire industry and foster common market integration.

The current developments in competition rules have also been taken into account, in particular the draft guidelines on horizontal cooperation and the draft R&D and specialization block exemptions. We have compared the Commission's current methodology with the new approach adopted under the draft block exemptions, which moves away from listing exempted clauses and places greater emphasis on defining the categories of agreements that are exempted up to a certain level of market power and on specifying the restrictions or clauses which are not to be included. It appears that the Commission intends to implement in these draft regulations the sort of "rule of reason" analysis that it has adopted in practice and which is in line with the American approach. The draft regulations also mirror the American "*per se*" analysis, by determining the types of agreements that are considered *per se* illegal (e.g. those that fix prices, limit production or share markets, customers or sources of supply) and therefore cannot be exempted.

With regard to the R&D Block Exemption, we have found that although the Commission has generally adopted a positive approach towards R&D agreements, there are still some concerns about the effectiveness of the block exemption. Firstly, the definition of the terms "research and development of products and processes" and "exploitation of the results" –which are crucial in determining the application of the Block Exemption– are based on the traditional model of innovation, which, as mentioned before, is not completely in line with market reality. For instance, in certain cases, manufacturing activities are considered to be part of the research and development process rather than exploitation. We consider therefore that those terms should take into account the interdependence of R&D with other activities according to the simultaneous model of innovation. Secondly, there are concerns in relation to some of the conditions that an agreement must fulfil in order for the exemption to apply. For instance, the obligation to define the research object poses some problems in practice, since it is not always easy to define or limit the research work due to the unpredictability of the innovation process. However, it appears that the Commission has already solved this problem as the draft regulation eliminates

this condition. Another example is the all-access policy that has also been criticized, in particular since in some cases contributions to the research work are not equal and the result is not equally valuable to the parties. The Commission has also taken into account this concern and explained in the draft regulation that this policy may not apply to agreements entered into with academic bodies or research institutes that are only interested in participating in the research and development but not in the exploitation of the results. Finally, the right to joint exploitation of the results limited to those results that are protected by IPRs or constitute know-how is open to debate. It is sometimes difficult for the parties to determine at the beginning of their collaboration whether or not R&D activities will produce patentable results or valuable know-how that substantially contribute to technical or economic progress and are decisive at the manufacturing stage. We therefore put forward a policy proposal indicating that the R&D Block Exemption should exclude this condition, since it discourages firms from entering into R&D agreements where they are uncertain about the possibility to also carry out the exploitation of the results.

Regarding specialization agreements, we consider that the main problem of the Specialization Block Exemption is that the thresholds are low and therefore many agreements cannot benefit from it and have to be assessed under the procedure of Article 81. This procedure is considered to be a burden for industry, since it is very tedious and slow. Although the draft regulation tries to bring more legal certainty to firms by eliminating the turnover threshold of 1,000 million contained in the current regulation, it would still exclude from the benefit of the block exemption certain agreements that may not imply a restriction on competition, as the involved parties may not enjoy market power. The 20% market share threshold still appears to be low. We therefore propose that this undesirable effect could be corrected by raising the 20% threshold (for example, to 25% as in the R&D Block Exemption).

With regard to standardization agreements, we pointed out that for the first time the Commission intends to clarify its position towards such agreements by including in the draft guidelines on horizontal cooperation some provisions in that field. It seems that the Commission has taken into account the positive and negative impact of network effects of standardization in the guidelines. The Commission has also adopted a sort of rule of reason approach in the guidelines, where it states that in the appraisal of standardization agreements the Commission will pay attention to the nature of the standard and its effect on the market, rather than only focusing on restrictions of actual or potential competition between the parties.

In relation to technology transfer agreements, we concluded that although the Commission succeeded in simplifying the former legal framework for patents and know-how, the new framework adopted under the Technology Transfer Block Exemption is still cumbersome and in need of modernization. We put forward a policy proposal indicating that the Technology Transfer Block Exemption would bring more legal certainty to firms if it were aligned to the current trend towards a

more realistic and flexible approach. This would be achieved by amending the Block Exemption according to the same proposed structure contained in the draft regulations on R&D and specialization agreements. This would also maintain uniformity in the structure of the different block exemptions.

Finally, the Commission's right to withdraw an exemption is a debatable aspect commonly found in the R&D, Specialization and Technology Transfer Block Exemptions. It creates legal uncertainty since the reasons for withdrawal are not objective and clear. Industry particularly complains that innovative projects usually involve an irreversible transfer of knowledge and significant investments that require full legal certainty. Accordingly, the right of withdrawal under such circumstances affects industry's innovation policy in Europe. We therefore recommended that the Commission should establish more objective reasons for withdrawal and clarify certain terms, in particular the meaning of "effective competition," since a reason for withdrawal is the fact that the products of the agreement would not be subject to effective competition from identical or equivalent products. Furthermore, the possibility to withdraw an exemption under the Technology Transfer Block Exemption when the licensee has a strong market position (market share of more than 40%) also creates uncertainty. In particular, since the Block Exemption does not indicate how to define the relevant market in the specific case of technology transfer agreements, which is necessary for the calculation of the market share. Therefore, the Commission should also provide some guidance in this respect.

Merger control

In the field of mergers and acquisitions, we have analysed the Merger Regulation and the associated regulations and notices that also have a direct impact on innovation, since they determine the outcome of mergers and acquisitions in sectors with a high technological component.

With regard to the Merger Regulation, we consider that the 1997 amendments have in general terms had a positive impact on the treatment of joint ventures of a structural nature. The distinction between full-function and partial-function joint ventures provides greater legal certainty than the confusing situation regarding co-operative and concentrative joint ventures. The assessment of co-operative structural joint ventures under the provisions of the Merger Regulation has been merely the corollary of a consolidated praxis of the European Commission consisting of an extension of the scope of the Merger Regulation.

Within this context, we welcome the Commission's proposal to include within the scope of the Merger regulation partial-function production joint ventures to which certain minimum level of assets is to be contributed, provided that no block exemption applies. In the White Paper on Modernization of Competition Rules, the

Commission specified that such transactions should not be included in the new system of directly applicable exemptions, since they usually require substantial investments and far-reaching integration of operations that may be difficult to unravel after a decision is adopted by a competition authority. Contrary to the opinion of some critics who favour a voluntary system rather than an obligation to notify, we consider it arguable that firms intending to form such transactions would not be interested in notifying them under the Merger Regulation in order to obtain a positive decision that is not time-limited and, consequently, will give them the certainty that the transaction is legal.

In view of the above, we propose that other partial-function joint ventures could also be assessed under the Merger Regulation, in particular those on R&D that also involve large sunk investments and are crucial for the development of innovation. It appears that there are no reasons to exclude such transactions from the more beneficial procedural rules of the Merger Regulation. On the contrary, it is convenient to do so since those transactions have generally many pro-competitive effects by allowing firms to compete in new markets and helping them to meet high research and development costs, reduce innovation time, spread risk, and exploit complementary expertise and technological capability. It is also worth mentioning that under U.S. antitrust laws joint ventures and those collaborations among competitors that have competitive effects similar to mergers are excluded from the scope of the Competitor Collaboration Guidelines and analysed under the provisions of the Horizontal Merger Guidelines.

In relation to multiple merger control that may apply to cross-border mergers, we suggest that the Commission extends the network of agreements that it has entered into with the U.S and Japan in this area. The coordination of the aspects that have not been yet brought into line in the cooperation agreement between the EU and the U.S. is also recommendable. This would avoid the negative effects of multiple merger control that delay or eliminate the attainment of merger efficiencies and that consequently may affect the interest of firms to innovate, in particular in high technology sectors where there is a fast pace of technological change.

In the study, we also reviewed the decisional practice of the Commission in the field of merger control, particularly with regard to high tech industries. We focused our analysis on three main sectors: pharmaceuticals (which presents an intensive research and development activity), telecommunications/media/information technology (where innovation results in convergence of technologies) and, aerospace (where innovation takes place in highly concentrated markets). We concluded that the Commission's practice has evolved taking into consideration the characteristics of these sectors. In merger decisions in the pharmaceutical sector, for instance, it appears that the Commission's approach is shifting from the assessment of competition to innovate as a part of the product market that is being analysed (whether existing markets or "future markets"), to an analysis of competition in R&D

as a separate market, at least where the product market can be clearly identified. This resembles the American approach consisting of an analysis of "innovation markets," where firms compete in a separate market to make new products or provide new services.

In the case of the telecom, media and information technology sectors, the Commission has given special attention to the convergence of technologies and its liberalization policies. The Commission's decisions in these sectors, as in other innovative sectors, show that operations involving future or emerging markets require an assessment of coordination issues in addition to an assessment of the risk of dominance, since the companies that are interested and ready to take the risk to position themselves in the emerging new markets are usually active in closely related markets. In these cases, the Commission also takes full account of the dynamism of the market by looking towards potential markets and future competitors. The Commission has taken a particularly positive approach when the parties seek to open new markets and develop new products or processes. However, the Commission has stopped a transaction that might result in market foreclosure, regardless of the positive effects of the transaction on innovation, unless remedies have been found.

Accordingly, the Commission has prohibited mergers where no effective remedies could have solved the competition problems involved in the transaction. For instance, in the aerospace sector the elimination of overlaps through divestitures have proven to be problematic because the only credible buyers would be the parties themselves. However, the Commission has been willing to approve operations if the parties offer acceptable remedies that would ease the Commission's competition concerns.

State aid

The study also analyses the granting of State aid to spur innovation. In particular, we discussed the Community framework for State aid for research and development, which is another major piece of legislation that can decisively influence the companies' innovation policy. The framework has a crucial effect on innovation activities, as the main private investment decisions on R&D grounds within the EU, in particular those regarding small and medium sized companies, tend to rely more and more on public support.

With regard to the EC State aid control system, we stressed the fact that such system is unique in the world. It is aimed at striking a balance between the establishment of a system ensuring competition within the European Union so as to guarantee the proper working of the internal market, and the need to promote the Union's harmonious development and industrial competitiveness. In principle, this system is of a prohibitive nature. In contrast, in the United States the granting of public

subsidies is exempted from competition rules because all government actions do not fall within the scope of those rules.

Generally speaking, R&D activities benefit from a positive approach in the European Community as well as in the United States due to their pro-competitive effects. The European Commission and the U.S. government support R&D through a number of mechanisms, such as subsidies, procurement contracts and tax incentives. Nevertheless, a main difference between the European Community and the United States is that the former is less generous with financial support for R&D than the latter.

The results of the study along with the current general consensus arising at European level in considering that the overall level of Community State aid should be reduced, obliges giving priority to new methods to stimulate innovation. We therefore recommend introducing a type of "rule of reason" approach favouring the development of "incentive systems" with low impact on competition and inter-State trade and lack of selective effect (e.g. tax measures of general nature and repayable loans) within the framework of the forthcoming block exemption on R&D State aid. In addition, we recommend updating some of the basic principles used for the assessment of R&D State aid. In particular, it is necessary to review the principle of "additionality" or "incentive" effect, under which aid for R&D should create an incentive for the recipient firm to carry out those activities in addition to its normal activities. This principle hinders the incentive to innovate of large companies, which are forced to focus on short-term profitability projects related to core businesses. Industry suggests that priority should be given to a combination of "risk" and "time" factors as an alternative to the additionality principle.

Conclusion

Unquestionably, innovation plays an important role in today's increasingly global and competitive economy. As evidenced by the draft block exemption regulations in the fields of State aid, research and development and specialization agreements, and the evolution of the Commission's decisional practice in the field of merger control, the European Commission is committed to taking the necessary steps to create an updated and innovation-friendly competition regulatory environment. Nevertheless, as shown in this study, some adjustments mainly directed at setting up clearer and more realistic rules are still necessary in order to provide the European industry with the adequate playing field to compete with its main counterparts in the new economy.