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BRIEF

Third Advanced Competition Seminar

Assessing Innovation Theories of Harm in EU Merger Control

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Abstract

On 15 April 2019, the Florence Competition Programme (FCP) organised its third Advanced Competition Seminar in the context of the 2018/2019 edition of the FCP Annual Training. The seminar focused on the analysis of the main innovation-related theories of harm elaborated in the field of EU merger control, taking into account that the current debate on the matter revolves around the opportunity to change the legal framework in domains where innovation represents a crucial competitive dimension. In particular, speakers observed that the topic is increasingly attracting policy makers' attention, since we are currently witnessing an important consolidation wave, especially in the digital industries, in the USA and, to some extent, in the EU, too. Furthermore, the discussion shed light on the fact that, besides stimulating growth and technological change, innovation is being perceived as an antidote to the accumulation of market power, which is becoming a key parameter of competition in policy discourse and, as a result, it spurred heated discussions on its future evolution. As a matter of fact, while the analytical apparatus for standard price effects has been developed extensively throughout the European Commission's case practice, there exists a substantial lack of both theoretical models and scientific tools that can be used in the assessment of anti-competitive harm when innovation is at stake.

After introducing the subject, speakers pointed out that innovation competition assessments under EU merger control are increasingly featuring a progressive detachment from actual product market scenarios. With reference to horizontal mergers that take place in traditional industries, in particular, they observed that, in the first type of cases, the main effect attributable to the transaction would be a reduction in the competitive force created through innovation. These mergers typically involve the late pipeline products of one merging party which overlap with the existing ('pipeline to existing') or pipe-



line ('pipeline to pipeline') products of the other party. In this respect, it is worth clarifying that, in relying on a sound legal framework¹, the European Commission has adopted an approach that is capable of extending the assessment of anticompetitive effects to those firms that are not actually present in a given existing product market at the same time, but which can be regarded as being 'potential' competitors, as well as to firms that are both about to enter a given product market. Such an assessment does not seem to differ substantially from one involving existing products. In these cases, notably, static unilateral effects upon prices should be expected, mainly due to the internalization of negative price externalities.² Notably, it revolves around two conditions that have to be met in order to conclude that the transaction with a potential competitor would produce significant anticompetitive effects: first, the potential competitor should already exert a significant constraining influence or, as an option, it must be sufficiently likely that it will grow into an effective competitive force ('degree of closeness of competition'); furthermore, there must not be a sufficient number of other potential competitors ('extent of external product rivalry'), otherwise adequate competitive pressure will be maintained in the post-merger phase. Importantly, late pipeline products can be regarded as products that, being very close to a commercialization launch, are at an advanced stage of development, typically in Phase III of clinical research in the pharmaceutical industry, and that present a high chance of being introduced into the market on a time horizon of two or three years.³

In a second category of cases, horizontal mergers may have a direct impact on the innovation efforts put into the early overlapping pipeline products of the merging parties as, after the completion of the transaction, the R&D projects of the merging firms may cannibalize each other, with the major result being that one project is discontinued so as to avoid the internalization of negative 'innovation'

externalities, featuring a case of 'internal product rivalry'.⁴ The core assumption of the Commission's assessment, in these cases, is that standard unilateral effects analysis can be extended from prices to innovation. Its underlying logic can be traced back to the idea that increased concentration is presumed to produce a negative impact upon innovation, provided that no redeeming efficiencies exist. However, unlike the case of a merger with a potential competitor who has pipeline products that are close to market launch, here, the assessment is clearly unlinked to an actual product market scenario, since there are only a few chances that one of the firms (or even both) will enter it. Targeting innovation at such an early stage, that is, at the early R&D efforts of the parties which have not yet taken the shape of concrete products, or that do not yet have a high probability of successful commercialisation, such an approach appears to be quite speculative; indeed, it has to deal with a remarkable amount of uncertainty. Its most significant elements encompass the ascertainment of: (i) the strength of future competitors, and (ii) the likelihood of success of the firms' R&D plans. Significantly the time horizon to be taken as a point of reference is much longer than that which is usual (from six or seven to ten years) and typically refer to Phases I or II of clinical research projects.

Since the very well-known *Dow/DuPont* merger decision⁵, the Commission has developed a peculiar approach that, in the policy debate, has come to be known as the *innovation theory of harm* (IToH), in which the focus of the unilateral effect analysis tends to shift from short-term static effects on prices to longer-term dynamic effects on innovation, showing an impact, usually regarded as being negative, that may occur even in the absence of any direct

1. See EU Guidelines on the assessment of horizontal mergers under the Council Regulation on the Control of Concentrations between Undertakings, OJ C 31, 05.02.2004.
2. Several cases of this type involve pharmaceuticals or medical devices. One of the most prominent examples is the case *Pfizer/Hospira*, European Commission, Decision in Case No COMP/M.7559 of 4 August 2015, in which the merging parties were required to divest Pfizer's late-stage biosimilar pipeline product, which was very likely to become a significant competitive force against the product marketed by Hospira.
3. EC's case practice has shown that such a time horizon may be even shorter.

4. Such a reasoning is fully reflected in another pharmaceutical merger: in *Novartis/GlaxoSmithKline's oncology business*, European Commission, Decision in case No COMP/M.7275, 28 January, 2015, early pipeline products with success probabilities of less than 50% were included into the analysis, and the overlap was not between a current product and a potential product, but between two potential products.
5. See *Dow/DuPont*, European Commission, Commission decision in Case M.7932, 27 March 2017. Notably, according to the Commission, "the merger between [two firms] will result in internalization by each merging party of the adverse effect of the R&D projects on [...] the other merging party; hence, [...] it will reduce investment in the competing R&D projects. The innovation competition effect [of a merger] follows the basic logic of unilateral effects, which is equally applicable to product market competition and to innovation competition" (Annex 4, para 145). Similar features can be observed in other cases, such as *Bayer/Monsanto*, European Commission, Decision in Case M.8084, 21 March 2018.



link with current or future product markets. This theory mainly relies on the major assumption that product markets may not fully capture all the possible dimensions in which firms can compete, taking innovation itself as a point of reference. Against this backdrop, even externalities would need to be placed in a different and broader context, that is, the innovation industry as a whole, since it is not possible to limit them to a specific research area. In this respect, speakers remarked that the topic is not totally new: starting from the mid-90's, it generated several discussions in the USA. Fascinating these setting up *ad-hoc* analytical frameworks for the assessment of dynamic mergers effects have been developed under the label of competition in innovation 'markets' (Gilbert and Sunshine, 1995)⁶ whose scope of application, however, was subject to the existence of an effect attributable to specific R&D activities in a given product market. Elaborating on these thoughts, the theoretical underpinnings of the novel IToH for the EU merger control policy revisits the traditional analysis of competition innovation profoundly. This is reflected in a strand of merger decisions that has culminated in the *Dow/Dupont* case, in which the Commission shifted the focus of its merger analysis from product pipelines to innovation 'spaces'. In particular, the core of the competition assessment revolved around the questions of whether a merger can produce the effect of: (i) increasing the firms' incentives to shut down their R&D projects which target the same innovation spaces, featuring cannibalisation⁷; (ii) decreasing the merging firms' incentives to initiate new innovation projects; (iii) decreasing the whole industry's incentives to initiate new innovation projects.

Then, speakers held that although the relationship between competition and innovation has been extensively explored by the economic literature, results may be considered elusive and thus far from the elaboration of a general IToH. On the enforcement side, this is a valid reason for justifying the antitrust authorities' attitude, which have so far adopted a cautious approach, mainly limiting their intervention to cases in which the merging firms' innovative products are very close to the

commercialization stage.⁸ In particular, according to an important strand of the current debate that has critically assessed the IToH, the analysis of the conditions under which horizontal mergers would necessarily reduce innovation, in the absence of specific synergies in research, overlook important economic effects. In this respect, it is worth remarking that under one of the most prominent models that considers the impact of mergers between firms competing in research, the duplication of the same innovations, or the innovations that are close substitutes for each other, leads to negative externalities that are always internalized through a contraction of the R&D efforts⁹. However, the analysis relies on the assumption that the merged firm spreads its R&D expenditure evenly across its research units. The two hypotheses elaborated in this respect, that is, that firms are *ex-ante* symmetric and that returns for R&D diminish, do not appear to be sufficient. In order to be valid, the model requires that returns for R&D decrease sufficiently fast. In the absence of this stronger condition, a better coordination of the R&D activity of the merged firm's research units may well increase the total level of R&D investment and the rate of innovation.¹⁰

Furthermore, it was observed that there exists another mechanism through which mergers can spur innovation. The concept of incremental innovations refers to a series of small improvements made by a firm for the purpose of improving an existing product's development efficiency, productivity and competitive differentiation, which lead to cost reductions, quality improvements, or a combination of the two effects. Within this framework, as the value of incremental innovations is proportional to the output level to which they are applied, at a first approximation, the impact of mergers on innovation would depend on their impact on output levels. Once the

6. R. J. Gilbert and S. Sunshine, *Incorporating Dynamic Efficiencies Concerns in Merger Analysis: The Use of Innovation Markets*, Antitrust Law Journal, 1995, Vol. 63, No. 2, pp. 569-601.

7. On this point, the Commission has specified that it "may not be able to identify precisely which early pipeline products or lines of research the parties would likely discontinue, defer or even re-direct". *Dow/DuPont*, *cit.*, para 3025.

8. V. Denicolò and M. Polo, *The Innovation Theory of Harm: An Appraisal*, Antitrust Law Journal, 2019, Vol. 82, pp. 926-953.

9. The main reference is to G. Federico, G. Langus and T. Valletti, *Horizontal Mergers and Product Innovation*, International Journal of Industrial Organization, July 2018, Vol. 59, pp. 1-23, which is often regarded as providing the theoretical underpinning of the IToH. The paper has been published in different versions in the years 2017-2018. See also, G. Federico, G. Langus and T. Valletti, *A Simple Model of Mergers and Innovation*, Economics Letters, 2017, Vol. 157, issue C, pp. 136-140; and G. Federico, *Horizontal Mergers, Innovation and the Competitive Process*, Journal of European Competition Law & Practice, December 2017, Vol. 8, Issue 10, pp. 668-677.

10. On this point, see V. Denicolò and M. Polo, *Duplicative Research, Merger and Innovation*, Economics Letters, 2018, Vol. 166, Issue C, pp. 56-59.



merged firm becomes larger, therefore it can apply the innovations it has achieved to a greater volume of output, which increases the value of the merged firm's innovations and its incentives to innovate, even in the absence of static production synergies. Such a mechanism rests on the premise that the innovations should be non-rival, that is, that they are applicable across the various plants of the merging firms. It also assumes that the firm becomes larger than any of the merging firms, and that it facilitates the sharing process of innovative technological knowledge. Besides acknowledging that some models arguing that mergers always decrease R&D investments take into consideration only innovations that are entirely firm-specific, ruling out the possibility of any innovation sharing¹¹, which seems unrealistic, speakers concluded that, at the present time, economic analysis does not seem to support the claim that horizontal mergers always reduce innovation, or that they increase innovation only in exceptional circumstances. If it is possible to conceive of mechanisms that are capable of generating an increase in the incentives to innovate, such as the coordination of R&D projects within a model of 'radical' innovations, as well as the sharing of new technological knowledge within a model of incremental innovations¹², amongst others, the ultimate question about whether mergers are more likely to either hamper or spur innovation seems to be an empirical one. However, not even the empirical evidence that is available in this respect seems to be conclusive. All in all, the underpinnings of the IToH adopted by the European Commission are too fragile to represent the basis for radical policy changes that may risk blocking several pro-competitive mergers. In light of this, while considering the impact of horizontal mergers on dynamic efficiencies, one should bear in mind, from the outset, that effects can be either positive or negative, and that these effects have to be balanced in light of the facts of the specific case at stake.

Finally, as for the digital industries, in which competition 'in' the market is typically limited, a number of speakers remarked on the importance of merger control as a key tool for preserving competition 'for' the market. Here,

in the absence of a substantial line of case practice, the most relevant strands of the policy debate, which revolve around the elaboration of new innovation-related theories of harm, focus on conglomerate effects. Such contributions highlight concerns similar to those observed in traditional industries, dealing with the dynamic assessment of the impact of mergers on innovation markets, and, therefore emphasizing the effects of the internalization of negative externalities. At the same time, it is possible to detect an increasing attention which is being directed at the anticompetitive effects that are attributable to the internalization of positive externalities, since it seems to simultaneously increase the value for consumers and raise the barriers to entry.

11. The reference is to the baseline model with no efficiencies that has been developed by another major contribution to the academic discussions on the matter that are provided by M. Motta and E. Tarantino, *The Effect of a Merger on Investments*, CEPR Discussion Papers 11550, 2016.

12. In this respect, it is worth remarking that innovation sharing may also be relevant for radical innovations that create an entirely new product or open a new market.



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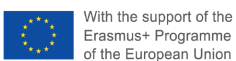
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