Feasibility study on the microeconomic impact of enforcement of competition policies on innovation
by Peter Ormosi et al. (2017)

The present study aims to determine the feasibility of conducting a quantitative, ex-post evaluation of the impact of individual merger decisions on innovation in the markets concerned. Even though there is a substantial literature on the ex-post evaluation of competition policy interventions on prices, much less work has been done on the non-price effects of mergers. However, in taking merger decisions, competition authorities cannot ignore the expected effects of the mergers on innovation. For example, in the Dow-DuPont merger case the Commission had serious concerns that the increased market concentration would reduce innovation competition in the pesticides market.

The feasibility study develops and tests a methodological framework based on the Difference-in-Differences (DiD) technique. It assesses the impact of market consolidation on three measures of innovation: research spending, patent activity, and the characteristics of newly marketed products. This methodological framework is tested through an investigation of two related merger decisions taken by the Commission in November 2011: the unconditional approval of the Seagate/Samsung merger and the approval of the Western Digital/HGST merger, which was subject to the condition that HGST's 3.5' HDD operations would be divested to Toshiba.

The identification of the effects of the Commission's merger decisions was particularly demanding because the resulting consolidation of the market for Hard Disk Drives (HDD) involved three simultaneous transactions and decisions taken by different competition authorities. The authors show, in particular, that the firms remaining in the HDD market have responded in different ways to the market consolidation. Seagate became more innovative (no matter what measure of innovation is used); Western Digital's R&D spending and product characteristics appeared to be unaffected, even if its patent activity continued to increase. Finally, Toshiba's innovative performance deteriorated according to all three measures of innovation used. The study authors conclude that, notwithstanding the increased concentration, the HDD market remains contestable, mainly from other data storage technologies (as was predicted in the Commission's 2011 decisions).
More importantly, the study has allowed identifying the main challenges associated with this type of analysis. First, identification of the effects of competition policy decisions on innovation is difficult because (i) measuring innovation is not easy and (ii) many factors can influence the decision to innovate. Second, finding the right control group is not straightforward because companies operate in global markets and the risk of spill-overs on rivals is great. One is more likely to find an adequate control in markets with differentiated products. Third, conducting a full-fledged study requires a separate investigation of how various facets of innovation (R&D, patenting, diffusion) are affected. And fourth, an ex-post evaluation of the impact on innovation can only be conducted at least 5-6 years after decision has been taken. In spite of such challenges, the authors consider that ex post studies of this kind are extremely valuable, especially in policy areas where the Commission's decisions are made ex ante (such as merger control).

Two external referees (Tomaso Duso from DIW and Carmine Omaghi from the University of Southampton) have provided a positive appraisal of this feasibility study. On the whole, we can thus conclude that understanding the impact of competition policy decisions on innovation is as (if not more) important as understanding their effects on prices and that this feasibility study is a valuable contribution in this respect.