COMPASS LEXECON

Workshop jointly organized by Assonime and the EUI RSCAS

The analysis of innovation effects and the consolidation of the agrochemical sector

The Bayer/Monsanto case

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ROAD MAP

1	What is the Commission's "new" approach to innovation?
2	Why this applies particularly well to the agrochemical sector?
3	What innovation theories of harm has the Commission investigated in the context of Bayer/Monsanto?
4	How do innovation effects and price effects interact? What are the implications?
5	Anything else about innovation?

WHAT IS THE COMMISSION'S "NEW" APPROACH TO INNOVATION?

Old consensus

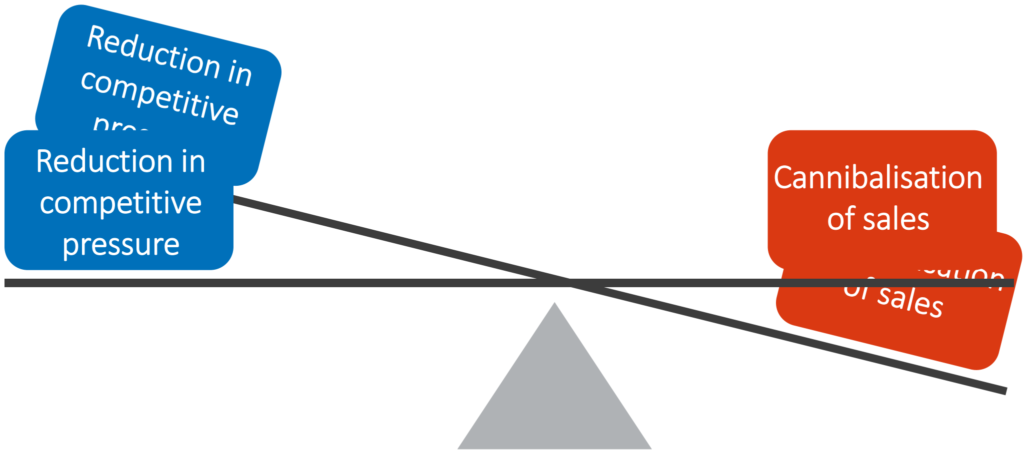
The relationship between competition and innovation is complex and multi-dimensional (e.g., Aghion et al. 2005), *therefore* one cannot predict whether a merger would reduce or increase innovation

New contributions

Mergers between horizontal competitors generally reduce the incentive to invest/innovate, unless there are efficiencies - Shapiro (2011), Motta & Tarantino (2016), Federico, Langus & Valletti (2017)

Two main effects of mergers on investment/innovation incentives, in the absence of efficiencies

Positive: increase the gain from innovation due to a reduction in competitive pressure



Negative: reduce the gain from innovation due to cannibalisation of existing or future sales

In a broad class of models, the negative effect outweighs the positive effect, therefore mergers can be expected to reduce innovation, *just like they can be expected to increase prices*

WHY THIS APPLIES PARTICULARLY WELL TO THE AGROCHEMICAL SECTOR?

- Consolidation wave in the agrochemical industry since 2015:
  - ChemChina/Syngenta (November 2015)
  - Dow/Dupont (December 2015)
  - Bayer/Monsanto (September 2016)

  Evidence collected in the course of the proceedings pointed towards potential asset reorganisation which may have an impact on innovation

- The agrochemical industry has seen a few waves of consolidation even in the past
  - First wave of consolidation during the 80s
  - Second wave of consolidation during the 90s
  - Latest wave of consolidation between 2015-2018

  Ex-post studies - e.g. E. Schimmelpfennig et al. (2004) - identified a negative effect of the precedent innovation waves on R&D outputs

WHAT INNOVATION THEORIES OF HARM HAS THE COMMISSION INVESTIGATED IN THE CONTEXT OF BAYER/MONSANTO?

Four layers of analysis of horizontal effects of the transaction

European Commission

PRICE vs. INNOVATION EFFECTS

What we look at:	Effect on:	Theory of Harm
Existing products	**Product / Price competition** (para 24 et seq. HMG)	Elimination of competition between existing products with non-coordinated effects on price and product competition
Products in development and existing products	**Product / Price competition** (para 24 et seq. + 38 + 58 to 60 HMG)	AIs which have entered or are about to enter the development stage (80-90% likelyhood of coming to market) Loss of potential competition with existing products or between forthcoming products
Overlapping lines of research and early pipeline products	**Innovation competition** (para 8 + 24 et seq. + 38 HMG)	Likely discontinuation, delay or redirection of overlapping lines of research and early pipeline products in specific innovation spaces
R&D efforts and output of the parties and their industry competitors	**Innovation competition** (para 8 + 24 et seq. + 38 HMG)	Structural reduction of incentives and ability to achieve the same level of innovation as the Parties separately absent the merger leading to a significant loss of innovation competition in the industry

HOW DO INNOVATION EFFECTS AND PRICE EFFECTS INTERACT? WHAT ARE THE IMPLICATIONS?

The economic result is robust, for the class of models in Motta & Tarantino, and in Federico, Langus & Valletti (although it may be different if one models innovation differently)

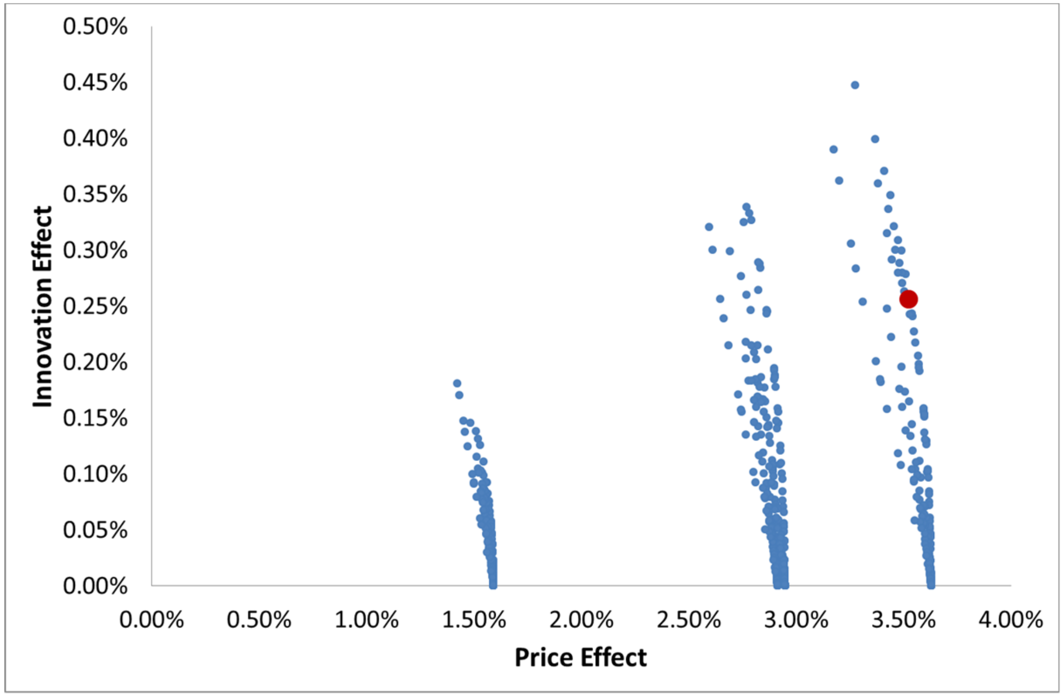
However, the fact that the overall effect of a merger on innovation may be negative, does not tell us whether and in which cases it is significant, which is what the SIEC test requires

To determine this, we used the Federico, Langus & Valletti model to separate out:

- The 'traditional' unilateral price effect
- The effect on investment and innovation

Two results:

- No innovation effect without a price effect
- The innovation effect is small, both in absolute terms and compared to the price effect



Joint work with Damien Neven, Vilen Lipatov, and Andrew Mell

HOW DO INNOVATION EFFECTS AND PRICE EFFECTS INTERACT? WHAT ARE THE IMPLICATIONS?

1. We should only be concerned about an innovation effect if we are concerned about an expected price effect (as the two have the same source)
   - There is an expected future overlap *in a product market*
   - The expected future overlap would result in a price effect

   Same standard as for potential competition?

   60. For a merger with a potential competitor to have significant anti-competitive effects, two basic conditions must be fulfilled. First, the potential competitor must already exert a significant constraining influence or there must be a significant likelihood that it would grow into an effective competitive force. Evidence that a potential competitor has plans to enter a market in a significant way could help the Commission to reach such a conclusion. Second, there must not be a sufficient number of other potential competitors, which could maintain sufficient competitive pressure after the merger.

2. We should only be concerned about an innovation effect when the corresponding expected price effect would be very significant (as the innovation effect tends to be smaller than the price effect)
   - As a standalone theory of harm, it should only apply at very high thresholds (e.g. 2-to-1), if at all
   - As an ‘add-on’, it is not clear that it is sufficient for a substantial tightening of enforcement (e.g. 5-to-4)

ANYTHING ELSE ABOUT INNOVATION?

- The European Commission approved the merger between Bayer Monsanto conditional to remedies. Some of the Parties' assets were transferred to BASF, with the aim to **replicate the competitive constraint which Bayer exerted in the market pre-merger**

- Some disappointment in the public opinion: the merger should be blocked!
  - The approval of the deal will lead to a few multinationals having control over the global food supply chain
  - Even if innovation is there, innovation will be in the direction of chemical agriculture and not toward a more sustainable approach

  Should the Commission consider these lines of argument? Where is the trigger point between competition and regulation?