Tackling Innovation in EU Merger Control

Reinhilde Veugelers
University of Leuven, CEPR and Bruegel

Bruegel Policy Contribution 2012/04
www.bruegel.org

Tackling innovation in EU merger control

- **Innovation at the hart of EU's growth agenda, see eg Europe2020**
- **M&A can have important impact on innovation for growth**
  - **On the innovation capacity of merging parties**
  - **On the innovation capacity of outside parties**

This contribution

- **How EU competition policy (merger control) treats innovation**
  - **In principle**
  - **In practice**
- **How EU competition policy (merger control) *could* treat innovation in practice in compatibility with the principles**

Innovation effects in EU merger control

Comparing the principles and the practice

Innovation in 2004 EC Merger Guidelines: the principles

Innovation effects for merging parties

- How : efficiency defense:
  - Efficiences put forward by the merging parties could counteract the harm on competition that could otherwise take place
- What :static and dynamic efficiencies
  - variable/marginal costs vs fixed/investments
    - **Innovation mostly as dynamic efficiences**
- When : efficiencies can be taken into account
  - When they benefit consumers
  - When they are merger specific
  - When they are verifiable

Innovation effects on others: in harm analysis

Innovation in EC Merger Guidelines 2004: the practice (2004-2011*)

- **Innovation effects on others:**
  - No *explicit* and *systematic* treatment of innovation in harm analysis
- **Innovation effects on the merging parties**
  - DG COMP only attempts to assess innovation effects *explicitly and systematically* when they are alleged by the notifying parties in Phase II cases.
    - Only Phase II cases : i.e. when the case in Phase I is assessed as likely to have a negative effect on competition.
    - Only when alleged by the notifying parties
      - **There were at least two Phase II cases in which the Commission suggested that it would very likely have accepted efficiency claims, but it did not verify them because the parties did not claim and substantiate them.**
  - Efficiencies treated in Phase II cases since 2004:
    - Parties do not often allege efficiency effects
    - Claimed efficiency effects are seldomly accepted
    - Efficiencies are never decisive

**** Innovation issues have become more pivotal in recent cases***

As of the 1st of June 2011, out of a total of 58 cases (including 21 Art. 8(1), 23 Art. 8(2), 2 Art. 8(3), 12 aborted/withdrawn cases), 43 decisions were published, 1 unclear case.

Table 1: Efficiency claims in EU Phase II merger decisions (2004 - 2011)

Out of 42 cases	**Static efficiency claims**	**Dynamic efficiency claims**
Alleged	9 (100%)	11 (100%)
Verifiable	3 (33%)	3 (27%)
Merger specific	3 (33%)	4 (36%)
Consumer benefit	3 (33%)	4 (36%)
Accepted	2 (22%)	1 (9%)
Decisive	0 (0%)	0 (0%)

Source: http://ec.europa.eu/competition/mergers/cases/ (EC, DG COMP).

Note: none of the claimed cases had a negative decision

Note: case report is often (on legal purpose) minimally informative on innovation-interpretation

Table 2: Innovation-related efficiency claims in EU Phase II merger decisions (2004 – present)

Out of 42 cases	**Innovation-related efficiency claims**
Alleged	4 (100%)
Verifiable	1 (25%)
Merger specific	2 (50%)
Consumer benefit	3 (75%)
Accepted	1 (25%)
Decisive	0

Source: http://ec.europa.eu/competition/mergers/cases/ (EC, DG COMP).

Note: also difficult to interpret innovation relatedness of any remedies

Cases with innovation-related efficiencies examined:

- Metso/Aker Kvaerner (Paper): Dynamic efficiencies (development of better and more environmental friendly products) were, although not clearly stated, deemed verifiable and merger specific, to the benefit of the consumers, but **not case-decisive**;
- Nokia / NAVTEQ (Telecom): Vertical acquisition of a navigable digital map database provider by a mobile telephone producer. Static efficiencies were accepted (elimination of double mark-ups), but dynamic efficiencies (faster and better development of map functionalities) were deemed **not verifiable or merger specific**.
- TomTom / Tele Atlas (Software): Vertical acquisition of a navigable digital map provider by a portable navigation devices producer. The claimed static efficiencies were accepted (elimination of double mark-ups), but the dynamic ones (the development of better and faster maps) not as they were deemed **not verifiable**.
- T-Mobile Austria / Telering (Telecom): Mobile phone operators. Dynamic efficiencies (better capacity utilisation) claimed, **consumer benefit not accepted**.

Problems for the analysis of innovation effects in merger control.

Innovation effects on other parties

***lack of clear framework**

Innovation effects on merging parties

***low rate of claiming**

***low rate of influence**

***lack of clear framework**

Why low rate of claiming innovation effects?

- **Informational efficiency offense, cf Röller (2010)?**
  - According to ECMG, not claiming does not lead to negative presumption
  - Claiming could be interpreted as signal of weak case
- **Innovation effects not relevant?**
  - 28 cases are "innovation sensitive": merging parties are major R&D players (R&D scoreboard firms, EC-IPTS) and/or relevant markets are innovation-intensive (high/mediumhightech (OECD))
    - NB: all aborted cases in high/mediumhightech sectors
- **Innovation effects negative, particularly on non-merging parties, and therefore not claimed by merging parties ?**
  - Investigated in harm section?

Some cases involving innovation-intensive sectors or innovation-active firms not claiming efficiencies:

- **Oracle/Sun Microsystems (computer programming),**
- **IBM/Telelogic (ICT services),**
- **Google/DoubleClick (Internet),**
- **Thomson/Reuters (ICT services),**
- **Thales/Finmeccanica/AlcatelAlena/Telespazio (Air-Space Craft),**
- **JCI/VB/FIAMM (Electric components),**
- **Cargill/Degussa (Food);**
- **Johnson&Johnson/Gundant (Medical Instruments);**
- **Siemens/VATech (Electric Equipment),**
- **Blackstone/Acetex (Chemicals).**

Why low rate of acceptance/influence of innovation effects on merging parties?

- **Particularly condition of verifiability (efficiencies should be evident in the short-term) is problematic for innovation effects**

Can post-merger innovation effects (on merging and non-merging firms) be assessed *ex ante*?

Insights from the theoretical and empirical literature

Note: *focus on direct effects (beyond the indirect effects through production/sales)*

Note: *effects on non-merging firms poorly researched*

The impact of M&A on R&D of the merging parties: *predictions from the theoretical literature*

The *Industrial Organisation* literature provides *mixed predictions* on the direct effects of M&A on R&D of the merging parties

- *In the presence of scale and scope advantages in R&D, ex post R&D efficiency will be higher after the merger (Cohen & Levin (1989), Röller et al. (2001)).*
- *The possibility to coordinate R&D investment levels will typically lead to lower R&D expenditures, unless the technology regime is characterized by low appropriability (Kamien & Schwartz, 1992; De Bondt, 1997).*

- **Factors to take into account: R&D production function (scale/scope), nature of R&D competition: strategic substitutes/complements (incl spillovers)**

The impact of M&A on R&D : *predictions from the theoretical literature*

The *Technology Management* literature tries to dig deeper into the processes governing the impact of M&A on innovative output.

- *A positive effect requires a **pre-acquisition strategy**, with a careful due diligence to assess ex ante the target's capabilities and their fit with the acquirer's (a.o. Chaudhuri & Tabrizi, 1999).*
- *A positive effect requires an adequate **post-acquisition integration strategy** (resource redeployment) (Capron (1999))*

- **Factors to take into account: organisational capacity**

The impact of M&A on R&D : *predictions from the theoretical literature*

The *financial economics* literature indicates that the increased financial leverage from M&A activities leads to the elimination of R&D projects and/or a higher risk-aversion in R&D project selection.

- *Debt financed M&A are more likely to lead to lower R&D efforts after the M&A.*

- **Factors to take into account: financial leverage**

The impact of M&A on R&D of merging firms: *results from empirical literature*

Empirical studies in the economics/corporate control tradition, (Hall (1990), (1999), Ravenscraft & Scherer (1987), Hitt et al. (1991), (1996)), Blonigen & Taylor (2000), Valentini (2011)…).

Results not yet robust. Nevertheless, typically :

- *Acquisitions have most often a negative impact on the post-acquisition R&D input and R&D output (patents) of acquiring firms.*
- *Acquisitions have a negative effect on patent impact, generality and originality*
- *M&A which lead to higher leverage are found to have substantial and significant decreases in R&D intensity.*

TOWARDS A FRAMEWORK FOR ASSESSING INNOVATION EFFECTS ON MERGING PARTIES

ASSESSING TECHNOLOGY AND MARKET RELATEDNESS TO BETTER PREDICT EFFECTS

Market and technology relatedness of merging parties helps to better predict direction of effects

Table 3: Predicted effects of mergers on the R&D process by technology relatedness					
	Impact (positive/negative/unknown)		Likelihood that predicted effect may occur when...		
Effects of merger	R&D input	R&D efficiency	Firms are active in same product markets	Firms are active in same technological fields	Firms are active in complementary technological fields
Indivisibilities/specialisation: spreading fixed cost of R&D over more R&D output (scale)	+	+	Medium	High	Low
Indivisibilities/specialisation: spreading fixed cost of R&D over more and different types of R&D output (scope)	+	+	Medium	Low	High
Elimination of common R&D inputs	–	+	High	High	Low
Synergies: combining different R&D knowledge inputs	+	+	Low	Low	High
Technology market power and appropriation	?	+	Medium	High	Low
Internal organisational changes	–	–	High	Medium	Low
			R&D input/R&D performance		
TOTAL EFFECT	?	?	– / +?	? / +	+ / +

Source: Adapted from Cassiman *et al* (2005).

Empirical studies which use technology/market relatedness get more clearcut results

Cassiman, B., Colombo, M., Garrone, P. and R. Veugelers, 2005, The Impact of M&As on the R&D process: an empirical analysis of the role of technological and market relatedness, *Research Policy*

Public and Private (survey/interview) information on 31 in-depth cases of M&A deals in medium and high-tech industries

	Same Technology Field (STF)	Complementary Technology Field (CTF)
Rivals	9	1
Non-rivals	8	13

- When merged entities are technologically complementary, they become more active R&D performers after the M&A.
- When merged entities are technologically substitutive, they significantly decrease their R&D level after the M&A.
  - the reduction of R&D output is more prominent and the R&D efficiency gain is smaller if merged entities were rivals in the product market.

Some results on the effects of innovation on others:

- We found a reduction of *technological competition* following M&A between firms that were investing in the same technological fields, independently of whether they competed in the same product markets or not.

- **Cassiman et al (2005) illustrates the potential of a methodology to better assess the innovation effects of mergers**
  - It uses a combination of theoretical frameworks from economics and management for more clear-cut predictions.
  - It construct empirical proxies to measure moderating factors, such as technology-relatedness.
    - It uses a combination of publicly available information (patents) and privately obtained survey evidence.
  - Beyond technology-relatedness, a number of other influencing factors need to be assessed simultaneously.
- **A series of follow-up studies have confirmed the importance of a framework including technology- and market-relatedness to better identify the innovation effects of mergers (eg Valentini, 2011; Ornaghi, 2010).**

Assessing innovation effects from mergers:

Some recommendations for EU competition policy

Make reporting of efficiencies by the merging parties mandatory

- **Through removing signaling value, it addresses the informational efficiency offense**
- **DG Comp can use beyond public information, mandatory private information**
- **It removes the restriction on examining efficiencies for alleged cases only**
  - Reduces Type I errors: prohibit "good mergers" or impose "wrong remedies"
  - Reduces Type II errors: clear "bad mergers" or impose "wrong remedies", i.e. those with negative efficiency effects (on others)

The existence of possible innovation-related inefficiencies is precisely why the burden of proof should not be placed on the notifying parties. It should be for DG COMP to assess and substantiate what the innovation impact of the merger would be.

Case handlers should use an explicit framework to assess innovation effects

- **The use of an explicit framework allows to increase the efficiency of the assessment process. It will also create more transparency on the assessment process.**
- **We have tried to show that it is not impossible to develop good theoretical frameworks, empirically validated, which can be used to predict the occurrence and direction of innovation effects, even if they are not short-term, thus making them "verifiable". The factors that condition innovation effects can be empirically assessed by case handlers.**
- **With the current state-of-the-art, this framework should be seen as a development process.**
  - **The development of an *ex ante* framework for assessing innovation effects from a merger – could be substantiated and complemented with *ex-post* empirical analysis of the relevant cases.**
  - **Another complementary tool assisting the development of the framework could be the monitoring of particularly innovation-intensive sectors, which would help competition authorities to better understand the details of the innovation dynamics and mechanisms of specific segments in which future merging companies operate.**

Extend explicit innovation analysis into Phase I cases

- **Arguments against:**
  - Requiring innovation effects to be examined also in all Phase I cases would in addition imply an unrealistic burden on DG COMP's case-handling capacity
  - Non-horizontal mergers only rarely raise significant competitive concerns, and most likely will generate positive innovation effects on merging parties from combining complementary technologies. Hence, DG COMP presumably clears cases in Phase I that involve positive dynamic efficiency effects anyway.
- **Arguments in favor:**
  - Ignoring innovation effects in Phase I cases entails a cost, particularly with respect to detecting possible negative effects on innovation from non-merging parties .
    - This is especially the case when the merging parties hold strong positions in the same technologies, even if they are not rivals in the product market. An analysis of Phase I cases for innovation-related effects would be needed to detect these type II errors

Given the increasing importance of innovation in many markets, a *rule of reason*, or weighting of the positive and negative innovation effects on merging and non-merging parties should be carried out, *a fortiori* for all Phase II mergers.

DG COMP should have an explicit framework to assess innovation effects within merger control. The introduction of such a framework would create more certainty on how the European Commission assesses both the pro and anti-competitive effects of a merger.

All this will have implications on expanding the case handling capacity of DG COMP

Thanks for your attention

See:

Innovation in EU Merger Control: walking the talk

Bruegel Policy Contribution

Issue 2012/04

www.bruegel.org