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Competition and Innovation

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Introduction

Innovation is a key factor to spur growth and productivity.

“Competition: The mother of invention”
Speech by Commissioner Vestager, 2016

“One of our basic jobs, as competition enforcers, is to make sure that companies don't abuse their power to hold back innovation.”

“When we look at high-tech mergers, we don't just look at whether they might raise prices. We also assess whether they could be bad for innovation.”

Economic theory in a nutshell

Empirical literature:
Mixed findings, but somewhat regularly inverted U-relationship.

Theoretical literature:

Arrow (1962): Replacement effect (also called profit effect) in case of drastic innovations: π^M (New) - I - π^M (Old) < π^M (New) - I - π^C (Old)

But: Not true in general if products are differentiated vertically (Greenstein/Ramey, IJIO, 1998) or horizontally (e.g., Gilbert, 2006).

Gilbert and Newberry (1982, AER): Efficiency effect (competitive threat effect): π^M (New) - I - π^D (Old) > π^D (New) - I - 0 since π^M (New) > π^D (New) + π^D (Old)

But: Not true in general either (e.g., Boone, IJIO, 2001, Vickers, IJIO, 2001).

Similar: Schumpeterian logic of appropriability

Economic theory in a nutshell

Shapiro (2012) – three principles:

1. Markets need to remain contestable for innovation to flourish.
2. The extent to which firms can capture the value created by their innovation (appropriability) increases innovation incentives
3. Synergies, arising for instance from the combination of complementary assets, can enhance the ability to innovate.

In contrast to price effects, the case for a general presumption that concentration leads to (unilateral) reductions in R&D/innovation incentives is weaker.

Also note: Welfare effects are less clear as – at least in theory – there may be too much R&D, even though this concern is of little practical relevance.

Legal framework in the EU

According §8 of the European Commission's Horizontal Merger Guidelines (HMG) one of the effects to be analysed in merger control is "the effect on innovation", putting the competitive harm caused by a reduction of innovation on an equal footing with price increases, or a reduction of output, choice or quality of goods and services.

§38 HMG notes that “a merger may increase the firms’ ability and incentive to bring new innovations to the market and, thereby, the competitive pressure on rivals to innovate in that market”,
but also that “effective competition may be significantly impeded by a merger between two important innovators, for instance between two companies with ‘pipeline’ products related to a specific product market.”

The Non-Horizontal Merger Guidelines (NHMG) provide a similar framework for assessing innovation effects (§§10 & 26 NHMG).

Theories of harm

1. The merging parties may exert a significant constraint on each other in a future market, and this constraint is removed when the two parties merge.

2. Competition may be reduced when one of the products of the merging parties may not be developed as a result of the merger.

3. Non-horizontal mergers may involve foreclosure scenarios that hinder innovation by third parties, e.g., when a competitor would likely lose access to a product of the merged entity that is needed for it to innovate (e.g., standard essential patents).

Cases: Meditronic/Covidien (2014)

The *Medtronic/Covidien* merger (conditionally approved in 2014) involved two medical device companies with *Medtronic* being the leader on the market for drug-coated balloons to treat vascular diseases. There were few competitors active in that market.

The target company *Covidien* had a promising late-stage pipeline product, a drug-coated balloon called Stellarex.

The European Commission found that Covidien would have constrained Medtronic in the near future, in view of the promising clinical trial results of Stellarex. Without proper remedies, the merger would have eliminated a credible competitor and would – according to the Commission – likely have reduced innovation in this area.

In order to address these concerns, Medtronic committed to selling Covidien's worldwide Stellarex business, including in particular manufacturing equipment, related IPRs and scientific and regulatory material necessary to complete the Stellarex trials, and key personnel.

Cases: Novartis/GlaxoSmithKline (2015)

The European Commission's concerns when ***Novartis*** acquired ***GlaxoSmithKline's*** (***GSK) oncology business*** related to both late-stage (phase III) and earlier stage (phases I and II) pipelines in connection with the same drugs.

The Commission identified the risk that Novartis would likely have stopped developing two innovative drugs that showed great promise for the treatment of skin and ovarian cancer (for which late-stage clinical trials were being conducted) and that were also tested for treating several other cancer types (for which early-stage clinical trials were ongoing), as GSK already had drugs with the same mechanisms in its portfolio.

As the merger would have led to a duopoly between the merged entity and Roche for these specific skin and ovarian cancer treatments, the Commission argued that the merger would likely have reduced innovation in the area and that Novartis would likely abandon its early-stage clinical trial programme of the two drugs.

The Commission approved the merger on condition that Novartis would fully divest the drugs.

Cases: Pfizer/Hospira (2015)

In the ***Pfizer/Hospira*** case (also conditionally approved in 2015), one of the European Commission's main concerns related to a specific biosimilar drug for treating autoimmune diseases.

At the time of the investigation, only one such biosimilar was on the market, which had been developed by Celltrion and which was co-marketed independently and under competing brands by Hospira and Celltrion.

Pfizer was at an advanced stage of development of a competing biosimilar, as was Samsung Bioepis.

The Commission argued that, following the merger, one of two scenarios would likely have materialised: Either Pfizer would have delayed or discontinued development of the biosimilar drug to focus on Hospira's product, or Pfizer would have handed back Hospira's product to Celltrion, leading to the loss of current price competition between the two companies.

The remedy accepted by the Commission was the full divestment of Pfizer's biosimilar drug currently under development (including global development and manufacturing rights as well as appropriate IPRs).

Cases: General Electric/Alstom (2015)

The ***General Electric/Alstom*** merger (also conditionally approved in 2015) concerned gas turbines used to generate electricity and would have eliminated one of the four full-technology companies that are able to produce large and very large gas turbines worldwide.

The Commission argued that General Electric would likely have discontinued some of Alstom's products (including an existing turbine called GT26 and a pipeline product called GT36), closed the innovation pools developed by Alstom and, apart from direct unilateral effects, also reduce the competitive pressure on the market's number two, Siemens.

The Commission cleared the transaction subject to the divestment of the technology for the GT26 and GT36 turbines, a significant share of Alstom's long-term servicing agreements for GT26 turbines, two test facilities for these turbines as well as a large number of Alstom R&D engineers

Cases: Intel/McAfee (2011)

In ***Intel/Mc Afee***, a key competition concern was that, after the merger, Intel would have the ability and incentive to hamper so-called endpoint security solutions that competed with McAfee's from running on Intel's dominant central processing units (CPUs) and chipsets.

Such foreclosure would likely have resulted in negative effects for rivals to innovate in this market and a significant weakening and possible exit of McAfee's main competitors within two to five years, according to the Commission.

The accepted remedy ensured that Intel could not block other security software providers from operating on its chips and from bringing innovative competing solutions to the market. McAfee's competitors are guaranteed access to all necessary Intel technical information. Intel committed not to actively impede competitors' security solutions from running on its chips. This was combined with an effective monitoring system and a fast-track arbitration mechanism in case of disputes.

Cases: Hutchison 3G UK/O2 UK (2016) and more

The European Commission prohibited the proposed acquisition of O2 UK by Hutchison 3G UK (2016) not only because of concerns about price and consumer choice but also because of potential harm to innovation.

Commissioner Vestager:

"We had strong concerns that consumers would have had less choice finding a mobile package that suits their needs and paid more than without the deal. It would also have hampered innovation and the development of network infrastructure in the UK, which is a serious concern especially for fast moving markets."

How mergers affect innovation is also at the heart of two ongoing cases, namely *Dow/DuPont* (currently nearing the end of Phase II) and most likely *Bayer/Monsanto* (currently in pre-notification).

Innovation efficiencies

While, in theory, innovation efficiencies can be claimed as part of the so-called efficiency defence, this has not played any role in practice so far. To be accepted, efficiencies must be verifiable, merger-specific and likely to be passed on to consumers.

Efficiencies were claimed in TomTom/TeleAtlas (2008), but not accepted by the Commission. The merger was cleared anyhow, however, as the Commission did not find a significant impediment of effective competition.

Challenges for assessing likely innovation effects I

1. There is no general presumption that mergers reduce innovation incentives.

2. Innovations are hard to measure. As innovations are not always patented, there is often no hard data (unlike revenues, volumes or market shares). While in some industries such as pharmaceuticals or medical devices, innovation can be assessed relatively easily by reviewing clinical trials and analysing the parties' produce development pipelines, in other industries the task is much less straightforward.

3. The competitive assessment of future markets requires the difficult task of identifying the strength of competitors and alternatives. For new drugs in early stages of development, information on their efficacy and side effects will be far from established, however.

Challenges for assessing likely innovation effects II

4. There are inherent uncertainties regarding research outcomes. For instance, pipeline drugs at an early phase of development only face a small probability of success. Only approximately 11% of pharmaceutical products in stage I clinical trials actually get to market While the Commission had in the past focused on drugs close to market introduction, i.e. phase III pipelines, it has recently also considered pipeline products in earlier stages of development.
5. How can innovations from entrants outside a given market be accounted for?
6. Competitors may strategically not disclose the (early stage) research ideas and pipeline products to the Commission, especially if the merger would be pro-competitive. Research projects are much easier to hide than sales.

Further issue: Notification thresholds

Commissioner Vestager:

“Our rules decide which mergers need to be notified to us based on the turnover of the companies involved. So when someone buys up an innovator, with a lot of good ideas but not yet much in the way of sales, we might not even have the chance to look at whether that merger will be bad for innovation. That’s why (…) we're looking at whether to change the thresholds for notification, to make sure we get a look at this type of merger.”

A new notification threshold is currently implemented in Germany, as part of the most recent competition law reform. Transactions exceeding a value of 400 million Euro must be notified, irrespective of sales levels.

The US even have much lower thresholds based on transaction value.

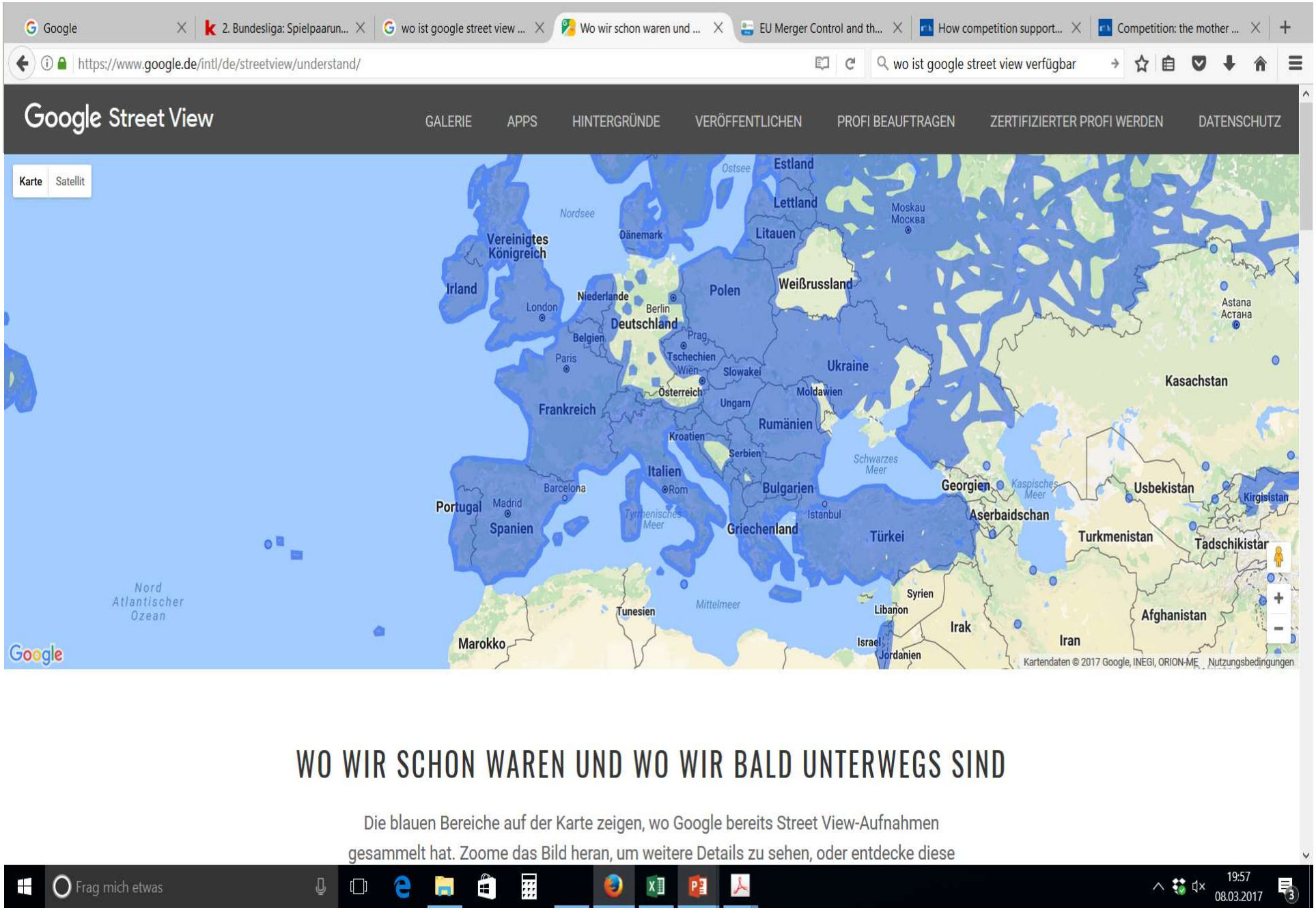
Further issue: Internet markets

For antitrust enforcement in online/digital markets, concerns about innovation potentials play a major role.

Again Commissioner Vestager w.r.t Google:

“Our concern is that, by requiring phone makers and operators to pre-load a set of Google apps, rather than letting them decide for themselves which apps to load, Google might have cut off one of the main ways that new apps can reach customers.”

More gave concern: Regulation and overly strict privacy laws are hampering innovation in many instances (Uber being a prominent example).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Thank you for your attention!

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