

CEPS SPECIAL REPORT



Thinking ahead for Europe

Searching for harm or harming search?

A look at the European Commission's antitrust investigation against Google

Andrea Renda

No. 118 / September 2015

Abstract

As the European Commission's antitrust investigation against Google approaches its final stages, its contours and likely outcome remain obscure and blurred by a plethora of non-antitrust-related arguments. At the same time, the initial focus on search neutrality as an antitrust principle seems to have been abandoned by the European Commission, in favour of a more standard allegation of 'exclusionary abuse', likely to generate anticompetitive foreclosure of Google's rivals. This paper discusses search neutrality as an antitrust principle, and then comments on the current investigation based on publicly available information. The paper provides a critical assessment of the likely tests that will be used for the definition of the relevant product market, the criteria for the finding of dominance, the anticompetitive foreclosure test and the possible remedies that the European Commission might choose. Overall, and regardless of the outcome of the Google case, the paper argues that the current treatment of exclusionary abuses in Internet markets is in urgent need of a number of important clarifications, and has been in this condition for more than a decade. The hope is that the European Commission will resist the temptation to imbue the antitrust case with an emphasis and meaning that have nothing to do with antitrust (from industrial policy motives to privacy, copyright or media law arguments) and that, on the contrary, the Commission will devote its efforts to sharpening its understanding of dynamic competition in cyberspace, and the tools that should be applied in the analysis of these peculiar, fast-changing and often elusive settings.

Keywords: Antitrust, Cyberspace, Innovation, Google Investigation, Exclusionary Conduct, Abuse of Dominance, Dynamic Efficiency.

ISBN 978-94-6138-480-5

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, mechanical, photocopying, recording or otherwise – without the prior permission of CEPS.

Available for free downloading from the CEPS website (www.ceps.eu)
© Centre for European Policy Studies 2015

TABLE OF CONTENTS

1. Born to run: A brief description of search engines and their revolution in the Internet ecosystem.....	4
1.1 The early years of Internet search.....	4
1.2 Google’s leadership and the price of fame	6
1.3 The strategic moves that led to Google’s antitrust problems.....	8
1.4 The FTC decision and its aftermath	10
2. On the impossibility of search neutrality as a antitrust or regulatory claim.....	14
3. The Google investigation: Beyond search neutrality.....	19
3.1 The Almunia years	19
3.2 The Vestager years: Away from search neutrality?	21
4. Beyond search neutrality: The Google investigation as a standard antitrust case.....	23
4.1 The relevant market quagmire	24
4.2 Doing justice to dominance.....	29
4.3 Anticompetitive foreclosure: The core of the investigation	32
4.3.1 The foreclosure element and the puzzle of positive externalities	32
4.3.2 Consumer harm	37
4.3.3 The anticompetitive foreclosure test: How strict?	39
4.4 Remedies	40
5. Concluding remarks: four temptations that the EU should resist.....	43
References.....	47

Searching for harm or harming search?

A look at the European Commission's antitrust investigation against Google

Andrea Renda*

CEPS Special Report No. 118 / September 2015

There have been many reactions to the European Commission's antitrust investigation against Google, launched in 2010 and recently culminated with the filing of a Statement of Objections for alleged abuse of dominance, an allegation that was entirely rejected by Google on 27 August 2015.¹ Some commentators have hailed the Commission's move as a long-overdue sign of opposition against the growing prominence of US-based online intermediaries in the Internet ecosystem. Consistently, some have encouraged EU institutions to go beyond the Google investigation to adopt more sector-wide measures, such as the new sectoral inquiry on e-commerce practices (underway) and the upcoming consultation on the role of platforms, potentially aimed at developing ad-hoc regulatory measures.² Some have considered the case as a welcome opportunity to extend the net neutrality principle to search engines and, later, possibly to all online intermediaries (notably, the French Senate).³ And some have called for highly intrusive measures such as splitting Google into two companies, a possibility that was explicitly contemplated in specific resolutions by the German Bundestag and the European Parliament over the course of 2014. On the other hand, some, including US

* Andrea Renda is Senior Fellow in the Regulatory Affairs research unit at CEPS, and George C. Lamb Jr Regulatory Fellow at Duke University.

¹ See European Commission - Press release, "Antitrust: Commission sends Statement of Objections to Google on comparison shopping service; opens separate formal investigation on Android", Brussels, 15 April 2015 (http://europa.eu/rapid/press-release_IP-15-4780_en.htm). See also the Commission's memo (http://europa.eu/rapid/press-release_MEMO-15-4781_en.htm). Google announced its response to the European Commission in a blog post authored by Posted by Kent Walker, SVP & General Counsel, titled "Improving quality isn't anti-competitive" (<http://googlepolicyeurope.blogspot.com/2015/08/improving-quality-isnt-anti-competitive.html>).

² See European Commission - Press release, "Antitrust: Commission launches e-commerce sector inquiry", Brussels, 6 May 2015 (http://europa.eu/rapid/press-release_IP-15-4921_en.htm). The consultation on platforms is expected in the second half of September 2015 (<https://ec.europa.eu/digital-agenda/en/digital-me/consultations>).

³ See the report published by the French national digital council (<https://edri.org/french-digital-council-publishes-report-platformneutrality/>). See also J.H. Jeppesen (2015), "French and German Ministers Should Not Confuse Platform Neutrality with Net Neutrality", (<https://cdt.org/blog/french-and-german-ministers-should-notconfuse-platform-neutrality-with-net-neutrality/>). See also the comment by James Waterworth on pro-neutrality amendments to the Loi Macron being discussed in the French Senate, "French farce: search neutrality rules Moliere would delight in", Project DisCo, 1 May 2015 (www.project-disco.org/competition/050115-searching-for-satisfaction/). And see also "Loi Macron: l'amendement anti-Google adopté", *Le Monde*, 16 April 2015 (www.lemonde.fr/economie/article/2015/04/16/loi-macron-l-amendement-anti-google-adopte_4617393_3234.html).

President Barack Obama, have explicitly denounced the case and other recent initiatives as pure protectionism dictated by the inability of EU companies to compete with US based Internet giants.⁴ And others have labelled the case as yet another sign that the European Commission does not understand the dynamics of the Internet, and keeps applying an old logic to a wholly new market: in this respect, the case is portrayed as the natural follow-up of previous, controversial investigations such as the ones on Microsoft and, to a more limited extent, Intel.⁵

Of all these arguments, only a tiny subset is somehow related to competition policy in its broadest sense, encompassing both antitrust and sectoral regulation. These include search neutrality stances, as well as more orthodox antitrust concerns. Some commentators treat search neutrality as an all-encompassing regulatory issue, i.e. no more than the extension of the net neutrality principle to search engines: such obligation would thus apply to all search engines irrespective of market power. Moreover, ‘search bias’ allegations have been framed in Europe and in other jurisdictions as antitrust problems, in such an explicit way that plaintiffs against Google have opened a dedicated website.⁶ Based on these views, Google is accused of having manipulated its algorithm and/or other parts of its search page to systematically promote its own services and to demote ‘competing’ shopping services. Finally, the European Commission’s Statement of Objections seems to have partly (or temporarily) abandoned the focus on search bias and explained that the alleged anticompetitive conduct consisted of practices that had nothing to do with the algorithm or even with screen design: the European Commissioner for Competition, Margrethe Vestager, explicitly declared that the European

⁴ See the European Parliament’s Resolution of 17 November 2011 on the open Internet and net neutrality in Europe (www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P7-TA-2011-0511+0+DOC+XML+V0//EN). For a discussion, see A. Renda (2015a), “Antitrust, Regulation and the Neutrality Trap”, CEPS Special Report No. 104, CEPS, Brussels and A. Renda and C. Yoo (2015), “Telecommunications and Internet Services: The digital side of the TTIP”, CEPS Special Report No. 112, CEPS, Brussels, July, and now published as Chapter 12 in D. Hamilton and J. Pelkmans (2015), *Rule-Makers or Rule-Takers? Exploring the Transatlantic Trade and Investment Partnership*, London: Rowman & Littlefield International. See also A. Renda (2015b), “Antitrust on the ‘G string’: What’s behind the Commission’s investigations of Google and Gazprom?”, CEPS Commentary, CEPS, Brussels, 15 April (www.ceps.eu/system/files/150615%20AR%20Antitrust%20Google%20and%20Gazprom%20final.pdf).

⁵ See Pardolesi R. and A. Renda (2004), “The European Commission’s Case against Microsoft: Kill Bill?” 27 *World Competition*, Issue 4, pp. 513–566. See also D. Geradin, (2015), “Loyalty Rebates after Intel: Time for the European Court of Justice to Overrule Hoffman-La Roche”, forthcoming in 11 (2015) *Journal of Competition Law & Economics*; George Mason Law & Economics Research Paper No. 15-15 (<http://ssrn.com/abstract=2586584>). See also N. Petit (2015), “Intel, Leveraging Rebates and the Goals of Article 102 TFEU” (<http://ssrn.com/abstract=2567628>). Interesting perspectives on the Intel investigation are provided also by Ibáñez Colomo, P. (2014), “Intel and Article 102 TFEU Case Law: Making Sense of a Perpetual Controversy”, *LSE Legal Studies Working Paper* No. 29/2014; Page, W. H. and S. J. Childers (2011), “Antitrust, Innovation, and Product Design in Platform Markets: Microsoft and Intel” (<http://ssrn.com/abstract=1914737>); Geradin, D. (2010), “The Decision of the Commission of 13 May 2009 in the Intel Case: Where is the Foreclosure and Consumer Harm?”, TILEC Discussion Paper No. 2010-022; and Lande, R. H. (2009), “The Price of Abuse: Intel and the European Commission Decision”, *GCP: The Online Magazine for Global Competition Policy*, No. 2, June (<http://ssrn.com/abstract=1434985>).

⁶ See www.searchneutrality.org, also for related allegations on the need for search neutrality regulation. See also Moffat, V. R. (2009), “Regulating Search”, *Harvard Journal of Law & Technology*, Vol. 22, No. 2, Spring p. 475 and pp. 487–490; and also Pasquale, F. (2010), “Beyond Innovation and Competition: The Need for Qualified Transparency in Internet Intermediaries”, 104 *Northwestern University Law Review* 105, No. 1, p. 108.

Commission does “not wish to interfere with screen design, with design choices (...) or how the algorithm works”, and that the Commission “would like to see ... that consumers are certain to see the best comparison shopping results”.⁷ Whatever the scope of the case (inside or outside the algorithm), the allegedly anticompetitive conduct might then result in a rather standard form of anticompetitive leveraging of market power (from universal search into one specific vertical search market, i.e. comparison shopping), which would result in what the European Commission calls “anticompetitive foreclosure”.⁸

Not surprisingly, very little has been written in Europe on the specific merit of the EU antitrust investigation in and of itself, as well as on the desirability of related claims such as the one for search neutrality. To date, very few papers have been written by European academics on the EU case, also due to the fact that the Statement of Objections and Google’s response have been kept confidential.⁹ This paper resists the temptation to identify conspiracies and hidden industrial policy motives, and addresses the EU initiative for what it officially is – an antitrust investigation. Accordingly, the paper is structured as follows. Section 1 provides a brief description of the context of the case, and in particular of the role played by search engines in the current Internet ecosystem. Section 2 then provides a critical analysis of ‘search neutrality’ claims (both regulatory and antitrust-based) and also briefly describes cases discussed in other jurisdictions that dealt with allegations of search neutrality or search bias. Section 3 offers a concise description of the issues at hand in the EU Google antitrust investigation and how they have changed from the period in which Joaquim Almunia was the Competition Commissioner, to the current mandate of Margrethe Vestager. Section 4 reverts to a mainstream, step-by-step antitrust analysis and discusses the possibility that the European

⁷ See e.g. Reuters (2015), “Highlights: EU charges Google over shopping searches, to probe Android”, (<http://www.reuters.com/article/2015/04/15/google-eu-vestager-idUSB5N0T900T20150415>).

⁸ See the European Commission’s Communication, “Guidance on its enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings”, *Official Journal* C 45, 24.2.2009, pp. 7–20. For a comment, see Temple Lang, J. and A. Renda (2008), *Treatment of Exclusionary Abuses under Article 82 of the EC Treaty: Comments on the European Commission’s Guidance Paper*, Report of a CEPS Task Force, October (<http://www.ceps.be/book/treatment-exclusionary-abuses-under-article-82-ec-treaty-comments-european-commissions-guidance>). And also Geradin, D. (2010), “Is the Guidance Paper on the Commission’s Enforcement Priorities in Applying Article 102 TFEU to Abusive Exclusionary Conduct Useful?” (<http://ssrn.com/abstract=1569502>); and Petit, N. (2009), “From Formalism to Effects? – The Commission’s Communication on Enforcement Priorities in Applying Article 82 EC”, *World Competition*, Vol. 32, Issue 4, pp. 485–503. See also *infra* section 3.

⁹ A description of the few academic papers that have been published to date on this issue is provided at Section 4 of this paper. See in particular Kersting, C. and S. Dworschak (2014), “Does Google Hold a Dominant Market Position? – Addressing the (Minor) Significance of High Online User Shares”, *Ifo Schnelldienst* 16/2014, 7. (<http://ssrn.com/abstract=2495300>); and Wagner-von Papp, F. (2015), “Should Google’s Secret Sauce Be Organic?” July 31 (<http://ssrn.com/abstract=2639081>). For a more general perspective, see also Patterson, M. R. (2013), “Google and Search Engine Market Power”, 2013-07-01 *Harv. J.L. & Tech.* 1. For a slightly different view, arguing that Google is dominant in the search market but not indicating a specific antitrust solution, see Herz, M. (2014), “Google Search and the Law on Dominance in the EU. An Assessment of the Compatibility of Current Methodology with Multi-Sided Platforms in Online Search” (<http://ssrn.com/abstract=2497932>); and Vanberg, D. (2012), “From Archie to Google - Search engine providers and emergent challenges in relation to EU competition law”, *European Journal for Law and Technology*, Vol. 3, No. 1, addressing market power but questioning the usefulness and suitability of using Article 102 TFEU to challenge it. See, finally, Falce, V. and M. Granieri (2015), “Searching a Rationale for Search Neutrality in the Age of Google” (<http://eale.org/content/uploads/2015/08/falce-granieri-eale-2015.pdf>).

Commission manages to demonstrate the existence of antitrust harm in the case at hand. Section 5 briefly concludes by outlining the potential consequences of the Google investigation for European competition policy as well as for the wider EU debate on the possible regulation of platforms and online intermediaries.

1. Born to run: A brief description of search engines and their revolution in the Internet ecosystem

1.1 The early years of Internet search

With an estimated 47 billion pages on the indexed, searchable Web, and an amount of traffic expected to pass the zettabyte threshold by the end of 2016, the Internet appears today as a gigantic repository of ever-growing information.¹⁰ This is even more astonishing if one considers that the indexed, searchable part is thought to represent a minor fraction of the whole Web.¹¹ Needless to say, no end user would ever be able to navigate alone through this massive amount of information. This is why search tools of all sorts began to blossom as soon as the Web started to grow exponentially. Among these tools, search engines have been among the first to emerge, as early as in 1990. The first search engine, called Archie, was no more than a downloadable directory listing. And even Yahoo! started off as just a list of favourite websites, and only later became a searchable indexed directory. A first important step forward occurred with the launch of AltaVista, a company belonging to Digital Equipment Corporation, in 1995: this search engine could rely on a fast, multi-threaded crawler that could cover many more webpages than were believed to exist at the time, and it had an efficient back-end search, running on sophisticated hardware.¹²

With AltaVista, the Internet entered the age of modern search engines.¹³ Since then, the typical job of a search engine is not to accumulate favourite websites into a common downloadable list, but rather to systematically search the web to build an instant picture of what is there to be found. So-called 'crawling' and indexing activities are the 'daily bread' of search engines: the ones that are able to capture the largest portion of the Web, and with the highest level of accuracy, will have a comparative advantage over others. In addition, search engines differ in the way they process the information they find to retrieve results in the most accurate way: the algorithm transforms the results of the mapping and crawling activities into actual search results when prompted with a specific query. Algorithms can, of course, use additional information to ensure that the results they retrieve are as accurate (better, as 'relevant') as possible: the more accurate and specific is the information they use, the more relevant the results. This is not surprising: just like getting advice from a friend is often better than asking

¹⁰ See for example Cisco Visual Networking Index: Forecast and Methodology, 2014-2019 White Paper. And for a less technical account, see Dewey, C. (2015), "If you could print out the whole Internet, how many pages would it be?", the Washington Post, 18 May 2015 (<https://www.washingtonpost.com/news/the-intersect/wp/2015/05/18/if-you-could-print-out-the-whole-internet-how-many-pages-would-it-be/>).

¹¹ See e.g. (<http://www.quora.com/What-percentage-of-the-web-does-Google-index-and-how-has-it-changed-over-time>).

¹² See *i.a.*, Vanberg, D. (2012), "From Archie to Google -Search engine providers and emergent challenges in relation to EU competition law", *European Journal for Law and Technology*, Vol. 3, No. 1.

¹³ This is also due to the fact that other search engines like Lycos, OpenText, Magellan, Excite, InfoSeek had a too limited search base. In contrast, Altavista already indexed around 20 million web pages.

a stranger, asking a search engine that knows where you are located, and what you have liked in the past, most often means getting more relevant and useful answers.

Google made its entry into this market as early as 1996 (originally called BackRub), at a time in which AltaVista was on its way to becoming the most popular search engine. One of the main innovations brought by Google in its first years was to start ranking a specific web page based i.a. on how many other websites were linking to it, and how reliable those outside linking sites were (so-called 'authority criterion').¹⁴ The use of PageRank was a first attempt to navigate through the thicket of ever-growing web pages to increase the relevance of results retrieved: at the same time, it was a first, rough way to promote in the search engine's ranking those pages that contained original, trusted content, as opposed to websites that simply replicated that content, especially at a time in which the duplication of content (even if copyright infringing) on the Internet was becoming a widespread and largely uncontrolled practice. As a matter of fact, search engines were hampered in their quest for relevance by the widespread practice of syndication of content on the Internet, which creates a significant risk that a rather specific query ended up retrieving a number of identical results coming from different websites. Differentiating between websites using proxies for authority and originality became a must for Google and other search engines, and even more urgent and unavoidable as the mass of data and information stored on the web kept growing at a breathtaking pace.

The need to process increasingly large amounts of information and to invest in research and development to maximise the relevance of retrieved results soon created a need for attracting resources to create more sustainable business models. At the end of the 1990s, an important innovation was introduced by Overture (formerly, GoTo.com), which started to couple algorithmic search results with pay-per-click placement services, and thus inaugurated the era of free, advertising-based search engines. Overture was then bought by Yahoo! after having acquired AltaVista and AlltheWeb, as well as Inktomi's search database. With these acquisitions, Yahoo! combined these tools to create its own search index.¹⁵

Despite being a small start-up and one not possessing any first-mover advantage, Google managed to overtake Altavista (and later Yahoo!) as the most popular search engine during the early 2000s. The reasons behind Google's success have been analysed and described in many different ways: some authors have observed that Altavista's parent company was "too big" and too focused on hardware (even after being sold to Compaq in 1999) to realise that search engines would become a key pillar of the Internet ecosystem. Conversely, Google's sophisticated and innovative algorithm and the simplicity of its user interface led it to gradually earn the preference of end users: as a matter of fact, back in 1996 both search engines could index approximately 20-25 million web pages, but the early BackRub (later Google) was already coupling such indexing with databases of cross-links between the web pages. The innovativeness of Google's search engine earned it a first, major influx of venture capital in 1999, when two major funds based in Silicon Valley contributed \$25 million to the company.¹⁶

¹⁴ See *i.a.*, Hornby, T. (2013), "The Rise of Google: Beating Yahoo at Its Own Game", *Tech History* (<http://lowendmac.com/2013/the-rise-of-google-beating-yahoo-at-its-own-game/>).

¹⁵ Today, Overture is renamed Yahoo! Search Marketing and provides paid search advertising revenue. The Yahoo! Directory remains one of the top indexes powering search listings.

¹⁶ See <http://www.google.com/about/company/history/>. See also Kuratko, D. F. (2013), *Entrepreneurship. Theory, Process and Practice*, South-Western, Cengage, p. 133.

1.2 Google's leadership and the price of fame

In mid-2000, Google announced that it had become the largest search engine in the world in terms of pages indexed. In addition, its leadership was being so widely recognised that one of the major search portals of that (and current) time, Yahoo!, had decided to switch from its own search engine to Google. Other important sites, such as AOL, followed suit. But the company did not rest on its laurels: on the contrary, Google founders saw the opportunity provided by advertising-based business models already present in the market and replicated them by doing the math a lot better, especially when (in 2002) one of the more-renown living economists, Hal Varian, joined the company. The development of the AdWords platform was a major shift in Google's business model: the company picked the right business model to power an already brilliant and innovative idea (PageRank), which emerged from the minds of two Stanford graduates, Sergey Brin and Larry Page, and was discarded by most industry people at the outset, like most disruptive entrepreneurial ventures. The growth of Google's ad-based business model and the ultimate precision of its online advertising auctions further consolidated Google's strength in the early 2000s. Investment in R&D led the algorithm to become gradually more sophisticated, up to the point of being authoritatively defined as the most sophisticated artificial intelligence machine ever invented.¹⁷

However, the growing complexity of the Internet was already creating new challenges, which made it impossible for the company to relax: the emergence of the so-called 'competition for eyeballs' marked the transition towards the advertising-based Internet as we know it today. First, the proliferation of vertical search engines, dedicated to all sorts of specific market segments (e.g. shopping, travel) or to specific segments of end users (e.g. kids) could potentially divert end users' attention from general search towards more specialised search engines: the success of verticals like Expedia (started by Microsoft in 1996) or Booking.com (created in 1996 in the Netherlands and later acquired by Priceline in 2005) was a clear market signal in this respect. Second, some of the 'verticals' started to evolve into giant conglomerates, potentially attracting the bulk of the end users' attention: Amazon quickly evolved from the largest online bookstore into the largest retailer in the world (together with Alibaba), potentially attracting significant search queries and online advertising, and reinvesting all its profits into R&D to sustain the pace of its impressive growth.¹⁸ Third, the emergence of social networks (most notably, Facebook, launched in 2004) represented a potential threat since users' attention was being diverted towards a site in which information was being voluntarily contributed by end users, potentially allowing for very accurate profiling, and thus representing a very challenging rival for Google in the quest for attracting advertising revenues. Fourth, the advent of smartphones in the mid-2000s led to a growing 'platformisation' of the Internet, in which app stores gave users the possibility to easily bypass other navigation forms such as URL typing or search queries, simply by clicking the icon on

¹⁷ See Bostrom, N. (2014), *Superintelligence, Paths, Dangers, Strategies*, Oxford University Press, (arguing that "the Google search engine is, arguably, the greatest AI system that has yet been built").

¹⁸ See e.g. Evans, B. (2014), "Why Amazon has no Profits and Why it Works" (<http://ben-evans.com/benedictevans/2014/9/4/why-amazon-has-no-profits-and-why-it-works>). See also Kokalitcheva, K. (2015), "Mobile is Facebook's cash cow", *Fortune* (<http://fortune.com/2015/07/29/facebook-mobile-ad-revenue/>). See also Kharpal, A. (2015), "Amazon's bid to beat Facebook, Google in ad battle", *CNBC*, 14 May (<http://www.cnbc.com/2015/05/14/amazon-launches-ad-service-for-apps-in-bid-to-challenge-facebook-google.html>); and Agence France Presse (2014), "Facebook Challenging Google in Online Advertising Market", 15 October (<http://gadgets.ndtv.com/social-networking/features/facebook-challenging-google-in-online-advertising-market-607019>).

their smartphones' screen.¹⁹ And fifth, Google realised that general search was not sufficient to deliver entirely accurate results to end users, in particular in the case of news.²⁰

Last but not least, Google started to pay the price of fame. Not only did the end of the Microsoft saga in the United States and, later, in Europe lead antitrust authorities to focus on other sides of the market, and in particular on the new market leaders. Most importantly, the more important a good ranking on Google became as a way to reach out to end users, the more the rest of the Internet ecosystem started considering two types of strategic behaviour: on the one hand, companies (and in particular retailers) started to invest in search engine optimisation (SEO) strategies, aimed at improving their ranking on Google by cleverly (ab)using its PageRank; on the other hand, other search engines had a growing incentive to adopt 'shadow' SEO strategies, based on replicating content from other websites to pollute Google's PageRank and undermine its credibility and reliability in the minds of end users. As a matter of fact, rather than building a valuable website, for some companies and programmers the real business on the Internet became the artificial manipulation of PageRank to improve search results rankings and monetise advertising links; and for others the business became killing PageRank, full stop. A telling example is the birth and evolution of so-called 'link farms', i.e. groups of interlinked websites developed through automated programmes with the aim to 'spam the index' of (or *spamdex*) a search engine. Just like Microsoft Windows became the favourite target of software hackers during the mid-1990s due to its success,²¹ Google's PageRank was heavily targeted by link farms since the early 2000s, and such practices evolved into poisonous practices (so called 'Black-Hat SEO') that threatened the whole functioning of search engines, from Yahoo! to Google. But the list of practices against which search engines had to defend themselves was much longer: from page hijacking to cloaking, doorway pages,

¹⁹ On the platformisation of the Internet, see Claffy, K.C. and D. D. Clark (2013), "Platform Models for Sustainable Internet Regulation", TPRC 41: The 41st Research Conference on Communication, Information and Internet Policy, 15 August (<http://dx.doi.org/10.2139/ssrn.2242600>). And Clark, D.D. and K.C. Claffy (2015), "Anchoring policy development around stable points: an approach to regulating the co-evolving ICT ecosystem", *Telecommunications Policy*, in press, August 2015. See also Palacin, M., M. Oliver, J. Infante, S. Oechsner and A. Bikfalvi (2013), "The Impact of Content Delivery Networks on the Internet Ecosystem", *Journal of Information Policy*, Vol. 3, pp. 304-330.

²⁰ As reported by Michael Salinger and Robert Levinson, "Google started its news thematic search in the wake of September 11, 2001. At the time, Google's general search algorithm was not designed to identify important breaking news stories. Google failed miserably for people who tried to find the news about the September 11 attacks by going to Google and entering a query for 'World Trade Center' or 'World Trade Center attack'. Four hours after the attack, the top link for a query for 'World Trade Center' was the site for the World Trade Center Association, an association of 300 world trade centers in over 100 countries. Recognizing how badly it was serving its users, Google jerry-rigged a solution by placing in a portion of the page usually reserved for advertisements the heading, 'Breaking News: Attacks hit US' along with links to the Washington Post and CNN Web sites". See Salinger, M. A. and R. J. Levinson (2013), "The Role for Economic Analysis in the FTC's Google Investigation" (http://www.law.northwestern.edu/research-faculty/searlecenter/events/internet/documents/salinger_economics_of_google_and_antitrust_case_searle_conference_version.pdf).

Contrary to what occurs in Google's general search algorithm, search results in Google News relied on 'crawls' just of news sites, and the crawls occurred every hour. Google launched the beta version of Google News in 2002.

²¹ See Langford, A. (2013), "gMonopoly: does search bias warrant antitrust or regulatory intervention?", *Indiana Law Journal*, Vol. 88 No. 4, pp. 1559-1592, reporting that "Google plays a constant cat-and-mouse game with the SEO industry, and the company is known to penalize websites that try to cheat the system by banishing them to the back pages of the search results".

strategic URL redirection, keyword stuffing, unrelated keywords and hidden text, the list became so long and articulate that the whole credibility of the search function on the Internet was under severe threat.

As demonstrated by this (admittedly rough and incomplete) historical account, the landscape for search engines in the Internet ecosystem was very far from a stereotypical antitrust market in which a company came to acquire dominance and then paralysed market evolution to the detriment of competitors and consumers.²² The emergence of Google as a leader in this province of the Internet appears to have been mostly the result of what antitrust authorities call 'business acumen', coupled with disruptive innovation and a smart business model.²³ Google was neither backed by a large company (in contrast to Altavista), nor a pioneer that could rely on first-mover advantage. Nor was it a legacy state-owned utility or an essential facility owner. And it never stopped evolving; also since the alternatives available to consumers and the sophistication of strategic behaviour against the most popular of search engines represented key stimuli for the company to keep running.

1.3 The strategic moves that led to Google's antitrust problems

It is in this context that Google started adopting the strategic moves that later led to antitrust implications in the United States, Europe and other parts of the world. In particular, two changes have radically modified the way in which the most popular search engine of the Western world operated. First, Google gradually moved from a so-called 'ten blue links' model to a more complex 'universal search' model, in which Google's vertical search results were prominently displayed in response to certain types of queries, including shopping and maps. In particular, since November 2007, Google began giving its Product Search preference within Universal Search, obtaining an immediate surge in the number of unique visitors of its shopping website, which was reportedly mirrored by a decrease in traffic for other price comparison websites.²⁴ However, in the following years, Google Product Search never conquered the lion's share of the retail market, which increasingly rests with companies like Amazon and eBay. The transition to Universal Search meant a big change for Google, which had been prepared since the early 2000s: the search engine was now able to offer a much more complete and relevant user experience, with a wide selection of verticals being given prominence on Google's search page. As Daniel Crane puts it in a widely read article on search neutrality, "Google grew from just a librarian to an owner of some of the books in the library",²⁵ just like most supermarkets offer their own 'white labels' as an alternative to third-party branded products, often displaying them prominently both in online and offline

²² See, generally, Jamison, M. A., (2012) "Should Google Search Be Regulated as a Public Utility (<http://ssrn.com/abstract=2027543>).

²³ Section 2 of the Sherman Act, 15 USC § 2, prohibits the wilful acquisition or maintenance of a monopoly (or attempt to do so), as distinguished from growth or development 'as a consequence of superior product, business acumen, or historical accident'. *United States v Grinnell Corp.*, 384 US 563, 570-71 (1966). See also the Federal Trade Commission's guidance website (<https://www.ftc.gov/tips-advice/competition-guidance/guide-antitrust-laws/single-firm-conduct/monopolization-defined>).

²⁴ See Langford, A. (2013), "gMonopoly: does search bias warrant antitrust or regulatory intervention?", *Indiana Law Journal*, Vol. 88 No. 4, pp. 1559-1592, reporting that "Google plays a constant cat-and-mouse game with the SEO industry, and the company is known to penalize websites that try to cheat the system by banishing them to the back pages of the search results".

²⁵ See Crane, D. A. (2014), "After Search Neutrality: Drawing a Line between Promotion and Demotion", *I/S: Journal of Law and Policy for the Information. Society*, Vol. 9, No. 3, pp. 397-406, at 400.

searches. Google then added its own verticals to the selection of websites it crawled and indexed throughout the Web.

Second, Google went more actively out to locate and ‘demote’ or ban link farms, spamdexers, and websites that did not add any original content, reportedly with the aim to clean up its algorithmic search results and improve the relevance of search results in the eyes of the end user. Today, among the 200 ranking factors attributed to Google’s algorithm, a fistful point directly to the relevance and originality of content.²⁶ The need to polish Google’s results from the repetition of largely similar websites, which would create a frustrating user experience, now features prominently also on Google’s online “Webmaster Guidelines” and were further sharpened with Google’s “Panda Update” since 2011 (see below).²⁷

These two moves had substantial impact. First, Google was led into an increased editorial control over its website: it might have used it also to favour its own products and services, like it or not, but this does not mean *prima facie* that it committed antitrust abuse, and even less that it should have remained neutral. Second, a number of players that were benefitting from traffic generated towards them by Google felt immediately discriminated against: a major case in point is Foundem, and that’s where our antitrust story begins.

One of the first verticals to suffer from Google’s introduction of Universal Search and active demotion of websites with little original content was Foundem, a UK search engine active in many vertical sectors (product-price-comparison, travel search, jobs search, property search) since 2006, and based on its own patented technology.²⁸ Already in June 2006, Foundem found itself to have been demoted by Google based on a so-called ‘search penalty’, which de facto excluded it from the search page rankings by lowering dramatically its PageRank and Quality Score. The consequences were severe for Foundem: the UK-based service reportedly had to bid 100 times more to achieve the same AdWords placement;²⁹ in addition, Foundem dropped several pages down in the search results: according to the company, during the demotion period, a typical query would result in Foundem ranking first on Yahoo!, seventh on Bing, and 144th on Google.³⁰ When, after several months, Google manually removed the penalty imposed on Foundem, the latter gained significantly in terms of ranking: as the company reports that its organic traffic from Google jumped by roughly 10,000% immediately after Google removed the PageRank penalty.³¹

²⁶ See e.g. <http://backlinko.com/google-ranking-factors>.

²⁷ “Google believes that pure, or “thin” affiliate websites do not provide additional value for web users, especially if they are part of a program that distributes its content to several hundred affiliates. These sites generally appear to be cookie-cutter sites or templates with no original content. Because a search results page could return several of these sites, all with the same content, thin affiliates create a frustrating user experience” (<https://support.google.com/webmasters/answer/76465?hl=en>).

²⁸ See Raff, A. and S. Raff (2015), “Google Antitrust: A Timeline of Significant Events”, first published on April 15, last updated on June 16 (http://www.foundem.co.uk/Foundem_Google_Timeline.pdf).

²⁹ Google ranks AdWords bidders by both the amount of their bids and the quality of their website (their Quality Score). Because Foundem’s Quality Score was lowered, Foundem had to bid higher than before to compensate.

³⁰ See Langford, A. (2013), “gMonopoly: does search bias warrant antitrust or regulatory intervention?”, *Indiana Law Journal*, Vol. 88 No. 4, pp. 1559-1592, reporting that “Google plays a constant cat-and-mouse game with the SEO industry, and the company is known to penalize websites that try to cheat the system by banishing them to the back pages of the search results”.

³¹ *Ibid.*

Foundem argued that Google's demotion strategy was functional to the elimination of a credible competitive threat from a website that displayed an innovative technology, and argued that during the 'demotion period' (for the whole story to unfold, between 2006 and 2009), Google had taken steps to consolidate its Universal Search strategy and promote its comparison shopping service. Hence, Foundem accused Google of having engaged in anticompetitive conduct and had its first meeting with the European Commission in mid-2009, a few months before Google manually whitelisted the company. Later, in 2010, the company also filed a complaint with the US Federal Trade Commission (FTC). Google's reaction to Foundem's requests systematically revolved around the same issue: Foundem was a search service that added very little to search results, and as such deserved demotion in the name of 'relevance', the most important keyword for any search engine.

Whether Google misbehaved vis-à-vis Foundem, misapplied its algorithm or even manipulated its algorithm to intentionally reduce Foundem's market exposure, is difficult to say without an accurate analysis of the facts of the case: some, including Google, have observed that Foundem was simply a lousy service.³² Conversely, Foundem itself reported several successes and significant market expansion exactly during the demotion period, which stands in stark contrast with the allegation that Google foreclosed them from the market.³³ Likewise, the case could probably have been construed as a standard tort case, leading to damages compensation in case it had been demonstrated that Google had made a material mistake in demoting Foundem, and had thus deprived it of prospective revenues (*lucrum cessans*). But the case was framed as an antitrust case, and a search neutrality case: and many more companies gradually joined the chorus of voices against Google, including Microsoft, TripAdvisor and many others that had meanwhile created the FairSearch coalition to denounce Google's allegedly anticompetitive behaviour.³⁴

1.4 The FTC decision and its aftermath

In the United States, the complaint was eventually discarded, for the most part, by the Federal Trade Commission in 2013. The FTC took a very clear stance on the matter, despite a leaked, partial document showing that there had been at least some dissenting views inside the FTC.³⁵

³² Google reportedly pointed at a study that found that "Foundem is pretty much an aggregator of third party content, with very little unique content of its own." See Lake, C. (2009), "Foundem vs. Google: A Case Study in SEO Fail", Econsultancy, at <http://econsultancy.com/us/blog/4456-foundem-vs-google-a-case-study-in-seo-fail>. See also Crane, D. A. (2014), "After Search Neutrality: Drawing a Line between Promotion and Demotion", *I/S: J. L. & Pol'y for Info. Soc'y* 9, No. 3, (2014): 397-406, at 400.

³³ See [http://www.foundem.co.uk/Foundem Google Timeline.pdf](http://www.foundem.co.uk/Foundem%20Google%20Timeline.pdf). For example, Foundem reports that it was named the Sunday Times' Website of the Week in 2007, and that later in 2007 The Times newspaper named it one of the UK's Top Travel Sites.

³⁴ www.fairsearch.org

³⁵ "Google makes most of its WH ties", *Wall Street Journal*, 25 March 2015. FTC commissioners wrote a statement contending that "Not a single fact is offered to substantiate this misleading narrative". See Statement of Chairwoman Edith Ramirez, and Commissioners Julie Brill and Maureen K. Ohlhausen regarding the Google Investigation, at <https://www.ftc.gov/news-events/press-releases/2015/03/statement-chairwoman-edith-ramirez-commissioners-julie-brill> The FTC investigation covered some issues besides Google's use of Universals. These issues included "scraping," Google's AdWords API, and standard essential patents. The aspect of the investigation that drew the most attention concerned Google's use of Universals. See Salinger and Levinson (2013), "The Role for Economic Analysis in the FTC's Google Investigation"

The FTC eventually voted 5-0 to close the investigation after Google had put forward some minor commitments to change its search practices.³⁶ The FTC concluded:

Google adopted the design changes that the Commission investigated to improve the quality of its search results, and that any negative impact on actual or potential competitors was incidental to that purpose. While some of Google's rivals may have lost sales due to an improvement in Google's product, these types of adverse effects on particular competitors from vigorous rivalry are a common by-product of 'competition on the merits' and the competitive process that the law encourages ... these changes to Google's search algorithm could reasonably be viewed as improving the overall quality of Google's search results because the first search page now presented the user with a greater diversity of websites.³⁷

In other words, the FTC simply declared that Google's decision to change its search practices was largely a result of the pro-competitive desire to increasingly meet end users' preferences, and thus preserve its market leadership. The fact that some companies or services have been damaged by this choice is no more than collateral damage, and the natural, welcome result of 'Darwinian' selection when competition on the merits is at play. Most importantly, the FTC clearly rejected the claim that search neutrality could be seen as an antitrust principle, or goal. The FTC found that the evidence "does not support the allegation that Google's display of its own vertical content at or near the top of its search results page was a product design change undertaken without a legitimate business justification." Rather, "the evidence suggests that Google's primary goal in introducing this content was to quickly answer, and better satisfy, its users' search queries by providing directly relevant information." They found that such innovations could indeed be viewed "as an improvement in the overall quality of Google's search product".³⁸

There are several important observations to be made as regards the FTC's final decision. First, the US antitrust authorities have traditionally adopted a 'narrow deferential approach' to product and service design, refraining from using antitrust to trigger changes in the way products and services are conceived and offered to the public.³⁹ A corollary of this approach is that companies that prove that a design change is likely to constitute a product improvement can escape antitrust liability.⁴⁰ This approach was very important also in the Microsoft case at the end of the 1990s, both with respect to the decision to challenge the integration of Windows and Internet Explorer (found to add very little to end users' experience); and to the 2001

³⁶ In particular, for the part that is relevant to this paper, Google agreed to give online advertisers more flexibility to simultaneously manage ad campaigns on Google's AdWords platform and on rival ad platforms; and to refrain from misappropriating online content from so-called "vertical" websites that focus on specific categories such as shopping or travel for use in its own vertical offerings. See <https://www.ftc.gov/news-events/press-releases/2013/01/google-agrees-change-its-business-practices-resolve-ftc>.

³⁷ See Statement of the Federal Trade Commission Regarding Google's Search Practices In the Matter of Google Inc. FTC File Number 111-0163, January 3, (https://www.ftc.gov/sites/default/files/documents/public_statements/statement-commission-regarding-googles-search-practices/130103brillgooglesearchstmt.pdf).

³⁸ Ibid at page 3.

³⁹ See e.g. *Telex Corp. v. IBM* (1973); *Innovation Data Processing v. IBM* (1984).

⁴⁰ Langford (2013), "gMonopoly: does search bias warrant antitrust or regulatory intervention?", *Indiana Law Journal*, Vol. 88 No. 4, pp. 1559-1592, reporting that "Google plays a constant cat-and-mouse game with the SEO industry, and the company is known to penalize websites that try to cheat the system by banishing them to the back pages of the search results" ..

decision by the US Court of Appeals, which denied that Microsoft could be split into two companies notwithstanding the recommendation of District Court Judge Thomas Penfield Jackson.⁴¹ Second, the FTC decision was centred on the issue of consumer harm, which is typically required to challenge any conduct subject to a rule of reason approach.⁴² No significant proof of consumer harm was found by the FTC, and this inevitably led the Commission to reject the complainants' allegations. Third, the FTC decision was not conclusive concerning many other antitrust aspects, such as the definition of the relevant market and the identification of Google's market power.⁴³

The FTC decision has not remained isolated. While the European Commission was still pondering over its investigation (see below for a more detailed account), other authorities around the world have expressed their views on search neutrality and search bias. Notably, in China an antitrust case against the most popular search engine Baidu, accused of strategic demotion of another service (RenRen) and very similar to the Foundem-Google case, was closed for lack of antitrust harm.⁴⁴ More recently, in 2012, a Brazilian court ruled that Google can display its search results in whatever manner it deems most appropriate, and dismissed a complaint lodged by shopping comparison site Buscapé that mirrored also perfectly Foundem's argument. The Court argued that "nothing prevents [Google], in the conduction of its profit corporate business, from developing and using a tool (algorithmic formula) that returns results to a user query in Google search in a display order dictated by Google's quality

⁴¹ See Pardolesi and Renda (2004), "The European Commission's Case against Microsoft: Kill Bill?" *World Competition*, Vol. 27, Issue 4, pp. 513-566. But see also *Microsoft D.C. Circuit 2001*, 253 F.3d at 65-67 ("Judicial deference to product innovation, however, does not mean that a monopolist's product design decisions are per se lawful"; evaluating the technical justifications for the way Microsoft integrated IE into Windows).

⁴² See i.a. Blair, R. D. and D. Sokol (2012), "The Rule of Reason and the Goals of Antitrust: An Economic Approach", *Antitrust Law Journal*, Vol. 78, No. 2, 2012; Minnesota Legal Studies Research Paper No. 13-04. Available at SSRN: <http://ssrn.com/abstract=2039337>.

⁴³ See i.a., Salinger and Levinson (2013), "The Role for Economic Analysis in the FTC's Google Investigation" (http://www.law.northwestern.edu/research-faculty/searlecenter/events/internet/documents/salinger_economics_of_google_and_antitrust_case_searle_conference_version.pdf).

Contrary to what occurs in Google's general search algorithm, search results in Google News relied on 'crawls' just of news sites, and the crawls occurred every hour. Google launched the beta version of Google News in 2002. Smith, B. J. (2012), "Vertical vs. Core Search: Defining Google's Market in a Monopolization Case", 9 *N.Y.U. J.L. & Bus.* 331 (2012). Ratliff, J. D. & D. L. Rubinfeld (2010), "Online Advertising: Defining Relevant Markets", 6 *J. Competition L. & Econ.* 653. And Mays, L. (2015), "The Consequences of Search Bias: How Application of the Essential Facilities Doctrine Remedies Google's Unrestricted Monopoly on Search in the United States and Europe". 83 *Geo. Wash. L. Rev.* 721.

⁴⁴ In 2009 Tangshan Renren Information Services Co. ("Renren"), which operates a medical information consulting website, alleged that Baidu lowered its ranking in search results, and sued Baidu for abuse of dominance. On December 18, 2009, The Beijing No. 1 Intermediate People's Court ruled in favour of Baidu. The judge recognized that junk links on Renren's website was the true reason that Baidu sanctioned Renren by lowering its ranking in search results, and Baidu's alleged conduct is legitimate and justifiable. In that case, the Court said "We believe thatthe punitive measures were directed to all search websites that set up the 'rubbish links', not to the www.qmyy.com website only, and such 'rubbish links' did exist on said website of 'www.qmyy.com', which showed that the listing of the 'www.qmyy.com' were reduced by Baidu as a way of punishment by the antifraud mechanism after the search engine identified the 'rubbish links' on it. Since said antifraud mechanism was implemented to ensure truthful and reliable search results to protect the interests of all the search engine users." See Tong Shu (2010), "Reflections on Baidu Monopoly Litigation: Comments on Renren v. Baidu", 1 *China Patents & Trademarks* 66.

and relevance criteria.”⁴⁵ In 2013, a German court dismissed a claim by a weather trade group modelled on the ‘search bias’ argument, stating that Google can and should modify its search product in order to adapt to a competitive, constantly-changing market: the Court argued that “the notion that Google owed any obligation or duty” to its competitors, holding that it is not the goal of antitrust law to “safeguard traditional business models that can no longer withstand change”.⁴⁶ Finally, in July 2015, Taiwan’s Federal Trade Commission closed a two-year investigation and concluded that Google’s search display practices “could be seen as providing convenience to users and in line with users’ benefits”, and denied that such practices could constitute an anticompetitive refusal to deal.⁴⁷ Also in the United States, case law has generally been hostile to claims that search algorithms and practices could be regulated to favour competing products. Interestingly, US case law has gradually acknowledged that Google’s search results are to be considered as ‘opinions’, as such protected by freedom of expression and under Google’s editorial responsibility.⁴⁸ Recently, also the German *Monopolkommission* also dealt with the issue in a very comprehensive report, which states that “given the free nature of online search, search engines compete, above all, on quality”, and that “search engine’s low degree of user lock-in in comparison with other platform services (e.g. social networks), and the low degree of advertiser lock-in caused by network effects means that the search platform’s attractiveness from a user perspective is of key competitive importance, and this explains why even search engines with high market shares have an interest to further develop their offering with their users in mind, in order to secure their market position going forward.”⁴⁹

Most of these decisions and opinions revolve around the concept of search neutrality, and all of them rejected search neutrality as an antitrust principle. However, many of these decisions do not imply that search engines should be entirely exempt from antitrust scrutiny: they simply mean that if Google’s conduct is to be challenged, the basic argument cannot be one of search neutrality; and also, that mere harm to competitors does not configure any antitrust liability. Rather, a condemnation of Google’s conduct would have to rely on a standard antitrust allegation that Google has adopted anticompetitive behaviour to foreclose competitors from a relevant market, to the detriment of consumer welfare.

⁴⁵ See <http://docslide.us/documents/buscape-vs-google-summary-judgment-ruling.html>.

⁴⁶ Landgericht Hamburg, *Verband deutscher Wetterdienstleister v Google*, order dated 4 April 2013, reference Az 408 HKO 36/13. See also <http://searchengineland.com/google-wins-vertical-search-antitrust-case-in-germany-158544>.

⁴⁷ While Taiwan’s investigation focused on Google Maps placement in searches, the European Commission’s case appeared to be focusing on the placement of shopping sites. See “Taiwan regulator finds no antitrust infringement in Google’s search, Play Store practices”, by Joy C. Shaw, 5 August 2015. And <http://www.ftc.gov.tw/upload/cb6a6873-2c93-4a51-a97c-b0e04277afbe.pdf>.

⁴⁸ See *SearchKing v. Google*, decided in 2003: “[Google] PageRanks are opinions - opinions of the significance of particular Web sites as they correspond to a search query. The court simply finds there is no conceivable way to prove that the relative significance assigned to a given Web site is false. Accordingly, the court concludes Google’s PageRanks are entitled to full constitutional protection.” (US Western District Court of Oklahoma). *KinderStart v. Google*, 2007: “PageRank is a creature of Google’s invention and does not constitute an independently-discoverable value. In fact, Google might choose to assign PageRanks randomly, whether as whole numbers or with many decimal places, but this would not create ‘incorrect’ PageRanks.” (US Northern District Court of California).

⁴⁹ Monopolkommission (2015), “Competition Policy: The Challenges of Digital Markets”, June 2015, at <http://www.monopolkommission.de/index.php/en/home/84-pressemitteilungen/285-competition-policy-the-challenge-of-digital-markets>.

Will the European Commission follow this rather homogeneous trend of public decisions? An important question mark is related to the fact that EU competition law is traditionally stricter, more oriented towards the preservation of market structure and the protection of smaller competitors compared to US antitrust legislation. Even if the wording of sections 1 and 2 of the Sherman Act and Arts 101 and 102 TFEU is *lato sensu* comparable, the two jurisdictions have taken divergent approaches to single-firm conduct, also due to the prevalence of the Chicago school of economics in the United States and the influence of the more structuralist ‘Ordoliberal school’ in Europe, starting from the early days of the debate on the Treaty of Rome.⁵⁰ This has led EU antitrust rules to rely more heavily on the so-called ‘essential facilities’ doctrine, and also to attribute a ‘special responsibility’ to dominant firms vis-à-vis their smaller rivals, the contours of which often appear nebulous and open to interpretation, especially for what concerns the (rather paradoxical) possibility to impose on a dominant firm an obligation to preserve the profitability and growth of their rivals (see the Court of Justice of the European Union’s decision in the *Telia Sonera* case).⁵¹ These differences, and the potential consequences for the Google investigation, will be explored in more detail in Section 4 below.

2. On the impossibility of search neutrality as an antitrust or regulatory claim

Our historical account of the evolution of search engines from the early 1990s until the late 2000s shows that, also due to the growing complexity of the Internet and emerging competitive alternatives, search engines have had to adapt by increasing the ‘intelligence’ of their crawlers, algorithms and user interface. One consequence was that search engines (not only Google) have undergone a transition from being information compilers, towards more edited ‘guides’ to the web ecosystem.⁵² The subsequent years have seen an escalating complexity in the operation of search engines, with Google recently sharing an unprecedented amount of detail on how it runs its ‘Jupiter’ network of servers to preserve its ability to process and retrieve results in real time.⁵³ In addition, search engines increasingly make use of big-data techniques, e.g. to develop autocomplete functions. This level of complexity, despite being a widely acknowledged and inevitable transition in this specific sector, also led to emerging claims that Google had started to violate ‘search neutrality’ in the name of commercial interest.

⁵⁰ See Gerber, D. (1994), “Constitutionalizing the Economy: German Neo-liberalism, Competition Law and the ‘New’ Europe”, *American Journal of Comparative Law*, Vol. 42, pp. 25-84. And Akman, P., (2009), “Searching for the Long-Lost Soul of Article 82”, *Oxford Journal of Legal Studies*, Vol. 29, No. 2, pp. 267-303.

⁵¹ See Petit, N. (2014), “Price Squeezes with Positive Margins in EU Competition Law: Economic and Legal Anatomy of a Zombie”, Available at SSRN: <http://ssrn.com/abstract=2506521>.

⁵² See Singh, A. J. Ong, A. Agarwal, G. Anderson, A. Armistead, R. Bannon, S. Boving, G. Desai, B. Felderman, P. Germano, A. Kanagala, J. Provost, J. Simmons, E. Tanda, J. Wanderer, U. Hölzle, S. Stuart, and A. Vahdat (2015), “Jupiter Rising: A Decade of Clos Topologies and Centralized Control in Google’s Datacenter Network”, Available at <http://conferences.sigcomm.org/sigcomm/2015/pdf/papers/p183.pdf>.

⁵³ Google’s algorithm today reportedly depends on more than two hundred different factors; Google makes about 500 changes to it a year, based on ten times as many experiments. Google now processes over 40,000 search queries every second on average, which translates to over 3.5 billion searches per day and 1.2 trillion searches per year worldwide. Reportedly, between 16% and 20% of the queries the algorithm handles daily are queries it has never seen before. See <http://www.internetlivestats.com/google-search-statistics/>.

Although an official definition of the term does not exist, search neutrality is most often associated with the idea that search results should be sorted only by relevance, not by privately motivated choices of the search engine's owner.⁵⁴ The underlying idea is that search engines should not assert "full and undisclosed editorial control of what content you see and what you don't", since this would fundamentally alter the openness of the Internet.⁵⁵ Search neutrality advocates also argue that "allowing a search engine to control what people see and do online is fundamentally undermining the principles that have made the Internet such a success".⁵⁶ As a result, search neutrality is invoked as a necessary complement to network neutrality in the fight for preserving the openness of the Internet. In this respect, search neutrality can be seen as essentially a regulatory stance, more than an antitrust remedy.

The dominant rationale behind the search neutrality idea implies two main observations. First, search engines are considered as the 'gatekeepers' of the Internet, and as such they have an enormous power to direct Internet traffic towards certain websites, and not others.⁵⁷ Second, and relatedly, search engines might have an incentive to award a preferential treatment both to their 'own' websites, and to websites that invest heavily in advertising on the search engine's home page. Accordingly, these critical actors of the Internet ecosystem must be prevented from distorting reality to their advantage.

The academic literature in the United States has explored at length the concept of search neutrality and its relevance for antitrust law. In line with the prevailing orientation of courts around the world, also academia largely opposed the idea. Already in 2011, in a widely read paper, James Grimmelmann argued that regulation of the search industry would likely prevent search engines from helping users find the websites they want. After deconstructing the idea of search neutrality into eight possible principles (equality, objectivity, bias, traffic, relevance, self-interest, transparency, manipulation), Grimmelmann convincingly argues that none of these can justify a regulatory or antitrust stance in favour of search neutrality.⁵⁸ Likewise, Daniel Crane from the University of Michigan Law School observed that search neutrality would pose a threat to the organic growth of search by locking dominant search engines into a dated model and freeze their evolution. All in all, Crane argued that antitrust intervention would prevent Google from meeting customers' needs, and that antitrust law should never seek to destroy dominance by preventing dominant companies from developing a better product for consumers. Similarly, Marina Lao, Professor of Law at Seton Hall, concluded that antitrust law does not prohibit companies from seeking competitive advantage through

⁵⁴ Foundem describes search bias as an editorial policy that generates search rankings in any way except to yield comprehensive, impartial, and relevant returns, while Professors Bracha and Pasquale deem any phenomenon that involves "the manipulation or shaping of search engine results" as bias. See Bracha, O. & F. Pasquale (2008), "Federal Search Commission? Fairness, Access, and Accountability in the Law of Search", 93 *Cornell L. Rev.* pp. 1149, 1165. See also Grimmelmann, J. (2011), "Some Skepticism about Search Neutrality", in Szoka, B. and A. Marcus. (eds) (2010) *The Next Digital Decade* 435, pp. 442-443; Gasser, U. (2006), "Regulating Search Engines: Taking Stock and Looking Ahead", 9 *Yale J.L. & Tech.* 124. Pasquale, F. (2008), "Internet Non-discrimination principles: Commercial Ethics for Carriers and Search Engines", 2008 *U. Chi. Legal F.* 263 (2008).

⁵⁵ <http://www.searchneutrality.org/search-neutrality>

⁵⁶ Ibid.

⁵⁷ See i.a. Foundem's slides on Google's response (http://www.foundem.co.uk/fmedia/Foundem_Jun_2015_Analysis/).

⁵⁸ See Grimmelmann, J. (2011), "Some Skepticism about Search Neutrality", in Szoka, B. and A. Marcus. (eds) (2010), *The Next Digital Decade*, Vol. 435, pp. 442-43.

preferential treatment of their own property, and that search neutrality would impede the natural evolution of search engines and restrain innovation. Mark Jamison, Director of the Public Utility Research Center at the University of Florida's Warrington College of Business Administration, argued that Google is not a monopoly because it competes among a number of commercially viable rivals in an industry that is constantly evolving.⁵⁹

Scholars have also looked at the impact of potential neutrality-oriented remedies. Marvin Ammori and Luke Pelican, for example, observed that the proposed remedies to Google's 'search bias' would only benefit the short-term economic interests of Google's competitors.⁶⁰ And Joshua Wright, who served as FTC Commissioner until August 2015, denounced that most attention has been focused on the impact of different search engine algorithms on individual websites but ignores the welfare of consumers.⁶¹ Wright also observed that Google references its own content more favourably than rival engines for only a small fraction of terms, whereas other search engines like Microsoft Bing appear to be even more biased in their own practice.⁶² Geoffrey Manne and Joshua Wright take a similar stance by observing that search bias is the product of the competitive process, and regulatory restriction on search would not benefit consumers.⁶³ In a word, the economic costs associated with net neutrality would outweigh any such benefits. Much in the same vein, Michael Salinger observed that allegations that Google's search results were biased towards its own content were framed to suggest that Google was seeking to leverage its dominance in the general search market into adjacent markets for thematic (vertical) search, and that there is no evidence to support these allegations.⁶⁴ And Hal Singer, in two short pieces, broadened the picture by pointing at the real competitors to Google, and thus in some way questioning the relevant market definition proposed by Google's rivals (and apparently used since the first day by the European Commission): the market suggests that Google is constrained by the market behaviour of other large companies such as Apple, Facebook and Amazon, even if their core business is not entirely overlapping with that of Google.⁶⁵ In addition, Chicago School guru Robert Bork co-authored with Greg Sidak a paper that strongly opposed search neutrality and even explicitly rejected the possibility of antitrust infringements on the side of Google, observing that

⁵⁹ Jamison, M. A. (2012), "Should Google Search Be Regulated as a Public Utility?", Available at SSRN: <http://ssrn.com/abstract=2027543>.

⁶⁰ Ammori, M. and L. Pelican (2012), "Competitors' Proposed Remedies for Search Bias: "Neutrality" and Other Proposals", 15 No. 11 *J. Internet L.* 1.

⁶¹ Wright, J. D. (2011), "Defining and Measuring Search Bias: Some Preliminary Evidence", International Center for Law & Economics, November 2011; George Mason Law & Economics Research Paper No. 12-14 (<http://ssrn.com/abstract=2004649>).

⁶² Ibid (quoting Danny Sullivan, Study: Google "Favors" Itself Only 19% of the Time, <http://searchengineland.com/survey-google-favors-itself-only-19-of-the-time-61675>).

⁶³ Manne, G.A. & J. D. Wright (2012), "If Search Neutrality is the Answer, What's the Question?", 2012 *Colum. Bus. L. Rev.* 151.

⁶⁴ Salinger and Levinson (2013), "The Role for Economic Analysis in the FTC's Google Investigation" (http://www.law.northwestern.edu/research-faculty/searlecenter/events/internet/documents/salinger_economics_of_google_and_antitrust_case_searle_conference_version.pdf).

⁶⁵ See Singer, H. (2012), "Who Competes with Google Search? Just Amazon, Apple and Facebook", *Forbes*, 18 September (<http://www.forbes.com/sites/halsinger/2012/09/18/who-competes-with-google-in-search-just-amazon-apple-and-facebook/>).

competitors' claims are tantamount to requesting protection against the interests of consumers.⁶⁶

All in all, the academic literature is almost unanimous in rejecting search neutrality as an antitrust claim.⁶⁷ The main arguments brought forward by academics that have published their work on this issue are: i) Google's non-neutral conduct seems to meet the preferences of consumers, and there is very little evidence of consumer harm; ii) there is no easy way to define search neutrality, nor an obvious way to imagine its practical application;⁶⁸ iii) there seems to be very little evidence of harm to innovation or competition; iv) the relevant market should be broader to encompass various ways of searching for information online; v) Google does not seem to hold monopoly power due to competitive pressures exerted by other large-content aggregators and giant retailers; and vi) antitrust is not meant to protect competitors, but rather to foster a vibrant competitive process, and any harm suffered by a competitor cannot be a stand-alone justification for an antitrust remedy.

While most of these arguments were formulated with respect to the idea of search neutrality as an antitrust principle (and/or search bias as an antitrust offense), some of them are valid also if one considers search neutrality as a regulatory objective, and thus are worthy of a regulatory intervention that did not differentiate between search engines with market power, and search engines without market power. As with all regulation, this intervention would need to be based on a careful assessment of the prospective impacts on social welfare. But this would be very difficult for the reasons discussed below.

First, if search engines behave neutrally, the rest of the Internet would make them non-neutral. SEO practices and widespread duplication and syndication of content over the Internet would make search engines unworkable and almost useless for Internet users, with a consequent reduction in social welfare: in this respect, 'search neutrality' would amount to 'search neutering': end users would then have to rely on alternative (although possibly suboptimal) means of retrieving information about the Internet.

Second, search neutrality might even thwart competition, rather than enhancing it: as observed by many scholars, the race to innovate to meet the preferences of end users would be stifled by a neutrality requirement. All innovation in the field of search engines over the past decade has systematically violated the neutrality principle, even if in some cases it has taken into account legitimate concerns, such as *i.a.*, ensuring that the search engine does not

⁶⁶ Bork, R. H. & J. G. Sidak (2012), "What Does The Chicago School Teach About Internet Search And The Antitrust Treatment Of Google?", American Enterprise Institute, (http://aei.org/files/2012/10/05/-what-does-the-chicago-school-teach-aboutinternet-search-and-the-antitrust-treatment-of-google_132249480630.pdf).

⁶⁷ Partly against, see Lianos, I. and E. Motchenkova (2012), "Market Dominance and Quality of Search Results in the Search Engine Market", TILEC Discussion Paper No. 2012-036 (<https://www.ucl.ac.uk/cles/research-paper-series/research-papers/cles-2-2012>). And Hazan, J. G. (2013), "Stop Being Evil: A Proposal for Unbiased Google Search", 111 Mich. L. Rev. 789. Available at: <http://repository.law.umich.edu/mlr/vol111/iss5/5>

⁶⁸ Search neutrality is an elusive and unworkable concept. Ammori and Pelican make the argument that imposing search neutrality via judicial or regulatory means is impossible because "no one has articulated a specific formula or metric for determining when or if Google's display opinions improperly disadvantage rivals." See Ammori, M. & L. Pelican (2012), "Competitors' Proposed Remedies for Search Bias: "Neutrality" and Other Proposals", 15 No. 11 *J. Internet L.* 1 (2012). Other scholars have similarly argued that search neutrality is a nonstarter because search results are inherently subjective opinions.

track the search history (think about DuckDuckGo, who seems to be meeting the preferences of some users without the need for any regulation imposing neutrality).

Third, it would be important to clarify what the underlying objective of a search neutrality regulatory measure would be. If the regulatory intervention is seen as a way to avoid that search engines of all sorts manipulate traffic to their own advantage, then the measure should be backed by detailed evidence of how this has or is likely to hamper consumers and society as a whole. In addition, the measure should be based on a clear analysis of the status quo, as well as the identification of a clear policy problem: do search engines really have an incentive to manipulate traffic to the detriment of end users? Furthermore, how would the lack of neutrality be recognized, monitored and policed by public authorities? What remedies would be imposed in case of lack of neutrality? And what would be the resulting impact in terms of allocative, productive, and dynamic efficiency? None of these questions have received a convincing answer to date: such an answer would be needed in order to successfully complete an *ex ante* impact assessment that would back a proposed legislation in this field.

Fourth, search neutrality has been proposed as a key pillar of a policy that would promote media pluralism and freedom of expression.⁶⁹ The related argument would be that if search engines could filter out content they dislike or is somehow ‘unaffiliated’, this would inevitably lead to a loss of variety on the Web, to the disadvantage of end users. However, there are many reasons to believe that this argument is flawed: as already mentioned in a previous paper, a search engine based on relevance only would not be sufficient to promote ‘niche’ content.⁷⁰ If a user were to be exposed to, say, Czech *avant-garde* movies, a neutral search engines would not make such movies any closer or reachable for that user. More generally, it’s hard to imagine a neutral search engine that promotes content that is, by definition, of interest to a minority of end users (pluralism is inevitably aimed at preserving content that is not the most ‘relevant’ in terms of popularity among users). To the contrary, a search engine that can try to tailor search results based on available data (e.g. the user’s search history, or any other evidence of the user’s preferences) is more likely to offer an interesting and diverse selection of content to its users, even preserving the ‘long tail’ content that is of interest to a tiny fraction of the population of end users.⁷¹ Interestingly, the long tail is more likely to be promoted or preserved by very large search engines, than by the co/existence of rather small search engines at the same time.

⁶⁹ See i.a., Irion, K. and P. Valcke, (2015), “Cultural diversity in the digital age: EU competences, policies and regulations for diverse audiovisual and online content”, In E. Psychogiopoulou (Ed.), *Cultural Governance and the European Union*. Houndmills and New York: Palgrave Macmillan. On the broader debate on platform regulation and pluralism, see Gillespie, T. L. (2010), “The Politics of ‘Platforms’”, *New Media and Society*, Vol. 12, No. 3 (available at SSRN: <http://ssrn.com/abstract=1601487>); Helberger, N. (2012), “Exposure diversity as a policy goal”, *Journal of Media Law*, 4 (1), 65-92. doi: 10.5235/175776312802483880; Latzer et al. (2015), “The Economics of Algorithmic Selection on the Internet”, in Bauer, J. and M. Latzer (eds), *Handbook on the Economics of the Internet*, Cheltenham: Edward Elgar; and Goodman, E. P. (2014), “Informational justice as the new media pluralism”, LSE blog, 19 November (<http://blogs.lse.ac.uk/mediapolicyproject/2014/11/19/informational-justice-as-the-new-media-pluralism/>).

⁷⁰ See Renda (2015a), “Antitrust, Regulation and the Neutrality Trap”, CEPS Special Report No. 104, CEPS, Brussels.

⁷¹ See Foster, R. (2015), *News Plurality in a Digital World*, Reuters Institute for the Study of Journalism, at http://reutersinstitute.politics.ox.ac.uk/sites/default/files/News%20Plurality%20in%20a%20Digital%20World_0.pdf.

Finally, search neutrality would need to be verified, and this might require that Google, as well as all competing search engines, disclose their algorithms in a fully transparent way. However, apart from the fact that this would chill innovation by denying trade secret protection to the result of massive R&D investment, it would also expose the algorithm to attacks, as well as strategic behaviour aimed at exploiting the weaknesses of the algorithm to rank better in its results. Even this outcome would not be neutral in the end.

In summary, search neutrality is a flawed remedy, both in antitrust terms and even more as a general regulatory measure, and both scholars and judges have confirmed this view over the past few years. In terms of antitrust, it amounts to throwing the baby out with the bath water, runs counter to consumer welfare and should be defined at a minimum as a disproportionate remedy under EU law. In regulation, it is simply an ill-conceived extension of the important, but *per se* controversial, principle of network neutrality.

3. The Google investigation: Beyond search neutrality

As observed already in the introductory section of this paper, the Google investigation has been mostly, but not exclusively revolving around the concept of search neutrality. Interestingly, the European Commission does not seem to be actively pursuing a search neutrality goal in its investigation on Google, although this can only be inferred from some statements recently issued by Commissioner Vestager.⁷²

3.1 The Almunia years

The European Commission's antitrust investigation against Google started in 2010 following a complaint lodged by two small 'vertical' search engines, Foundem and ejustice.fr (a French legal search engine).⁷³ Over the following three years, the number of complainants rose to 18 and now includes companies like Microsoft, Expedia and TripAdvisor. The first press release of the European Commission reported that "the opening of formal proceedings follows complaints by search service providers about unfavourable treatment of their services in Google's unpaid and sponsored search results coupled with an alleged preferential placement of Google's own services".⁷⁴ In other words, a number of Internet companies active in specialised (or 'vertical') search services accused Google of intentionally 'demoting' them, while 'promoting' its own results. Such players are defined by the Commission, already in 2010, as 'competing services', which already provides some information about the market definition the Commission had in mind. Also, the Commission refers to a relevant market for 'online search', in which Google is considered as holding a dominant position. The Commission also announced that it would investigate the alleged imposition of exclusivity obligations by Google on its advertising and distribution partners and suspected restrictions on advertisers as to the portability of campaign data to competing online advertising platforms. The allegedly anticompetitive conduct referred specifically to unpaid search results: Google was accused of not being 'objective' in using its algorithm to retrieve results in

⁷² See Reuters (2015), "Highlights: EU charges Google over shopping searches, to probe Android", (<http://www.reuters.com/article/2015/04/15/google-eu-vestager-idUSB5N0T900T20150415>).

⁷³ Foundem filed the first search complaint against Google with the European Commission in Autumn 2009.

⁷⁴ See European Commission (2010), "Antitrust: Commission probes allegations of antitrust violations by Google", 30 November 2010, at http://europa.eu/rapid/press-release_IP-10-1624_en.htm?locale=en

response to users' queries. Such lack of objectivity resulted in the demotion of certain content and the (inevitable) promotion of other content: in a word, in a non-neutral behaviour vis-à-vis Internet content mapped and crawled by the search engine in order to provide end users with an answer.

The issue had become even more complex since Google's transition from the 'ten blue links' model to Universal Search motivated even more vertical search providers to complain with competition authorities (in the US and in the European Union), lamenting an alteration of the level-playing field in the alleged relevant market. The Commission soon clarified that its antitrust concerns related mostly to such specialised search services, since "on its web search results, Google was displaying its own specialised search services in a more prominent manner than services of competitors", and what's more, the Commission argued that "Google was also using content from competing specialised search services without their consent".⁷⁵ In addition, two other concerns related to online advertising, as the Commission accused Google of imposing exclusivity agreements on publishers who wanted to use its advertising programmes and restrictions on advertisers who were using those programmes.

The first strategy adopted by the European Commission was to seek an agreement with Google. For more than three years, Google proposed various rounds of commitments, which were subject to two 'market tests': in other words, the Commission has been asking to what it considers to be Google's 'competitors' whether the proposed commitments would be sufficient to satisfy their thirst for a genuine level-playing field. In February 2014, EU competition Commissioner Joaquín Almunia finally announced that Google's last round of proposals were "capable of addressing the competition concerns". He warned that any alternative route (i.e. a more adversarial proceeding) "would take many years, with many uncertainties, and would not have the same immediate impact"⁷⁶.

At that time, Google had committed to guarantee that whenever it would promote its own specialised search services on its page, the services of (at least three) rivals would also be displayed in a comparable way. This principle would apply not only for existing specialised search services, but also for future ones. And since it would be impossible to show all vertical rivals, such rivals would be chosen "based on their ranking in natural search" in those cases in which Google does not charge for inclusion in its specialised services, and on a 'dedicated and transparent auction mechanism' in other cases.⁷⁷ Almunia also clarified that "the objective of the Commission is not to interfere in Google's search algorithm", and that "Google should not be prevented from trying to provide users with what they're looking for".⁷⁸ Also in other areas, the agreement between the Commission and Google appeared very close: Google would give content providers an extensive opt-out from the use of their content in Google's specialised search services; it would remove exclusivity requirements in its agreements with publishers for the provision of search advertisements; and it would also remove exclusivity clauses for advertisers. Finally, an independent monitoring trustee would be appointed to

⁷⁵ See Joaquín Almunia, Press conference, Statement on the Google investigation, Brussels, 5 February 2014. At http://europa.eu/rapid/press-release_SPEECH-14-93_en.htm.

⁷⁶ Ibid.

⁷⁷ Ibid adding that "Some complainants or competitors have expressed the view that Google should not require them to pay to feature prominently on Google's page. Google's proposals do not require payment for all forms of rival links. It is only required for the commercial categories such as shopping comparators, where Google charges for inclusion in its own specialised search service. For these commercial categories I consider the auction mechanism an efficient way to select rival links".

⁷⁸ Ibid.

oversee the implementation of the commitment. Furthermore, Almunia decided that there was no need for a third market test, and instead proceeded through bilateral contacts with all the 18 formal plaintiffs to outline transparently and in detail in ‘pre-rejection letters’ the reasons why the Commission believed Google's final offer could now address the competition concerns that have been identified. Meanwhile, the Commission was already expanding the investigation into mobile practices related to the Android operating system, as well as in the domain of Standard Essential Patents (the ‘Motorola case’).

3.2 The Vestager years: Away from search neutrality?

Almunia’s big attempt, however, did not succeed. No compromise was finally struck during his mandate, and the dossier moved on to the desk of the new competition Commissioner of the Juncker Commission, the Danish Margrethe Vestager.⁷⁹ After a few months of silence, on 15 April 2015, the new Commissioner announced that the time was ripe for a more proper, adversarial litigation procedure, rather than a commitment decision, and filed a Statement of Objections⁸⁰. In what the Commission now calls “general Internet search services in the European Economic Area” (i.e. the relevant product and geographical market identified), Google is accused of having “systematically favoured its own comparison shopping product in its general search results pages”.⁸¹ And Vestager swiftly added that she “considers that overall, previous commitment proposals from Google were insufficient to address its competition concerns”:⁸² as a result, Google should treat its own comparison shopping service and those of rivals “in the same way”.

Google published a first response in a blog post on the same day in which the Statement of Objections was publicly announced and privately delivered. In its response, Google argued that there is no antitrust harm to be found in its practices, and showed a number of graphs in which Google’s travel and shopping site are shown to occupy a rather tiny share of their specific segments.⁸³ This arguably demonstrated that there is no way to prove that Google’s conduct had led to market foreclosure; however, Google’s arguments have been heavily challenged by plaintiffs, who claim that market data have been artificially manipulated to show the absence of harm.⁸⁴ This has been so far the most in-depth public debate on Google’s past market conduct, and as such deserves careful analysis.

⁷⁹ See e.g. FairSearch (2014), Google’s Proposed Commitments are Worse than Nothing (<http://www.fairsearch.org/statement-fairsearch-europe-googles-proposed-commitments-worse-nothing/>). Chris Sherwood of the Allegro Group, added that “the solutions that the European Commission presented could be out of date in no more than a few weeks”. See <http://www.euractiv.com/innovation-enterprise/eu-commission-reaches-antitrust-news-533302>

⁸⁰ See European Commission - Press release, “Antitrust: Commission sends Statement of Objections to Google on comparison shopping service; opens separate formal investigation on Android”, Brussels, 15 April 2015 (http://europa.eu/rapid/press-release_IP-15-4780_en.htm). See also the Commission’s memo (http://europa.eu/rapid/press-release_MEMO-15-4781_en.htm). Google announced its response to the European Commission in a blog post authored by Posted by Kent Walker, SVP & General Counsel, titled “Improving quality isn’t anti-competitive” (<http://googlepolicyeurope.blogspot.com/2015/08/improving-quality-isnt-anti-competitive.html>).

⁸¹ Ibid.

⁸² Ibid.

⁸³ See the Blog Post published on April 15, *The Search for Harm* (<http://googleblog.blogspot.com/2015/04/the-search-for-harm.html>).

⁸⁴ http://www.foundem.co.uk/fmedia/Foundem_Jun_2015_Analysis/

Plaintiffs have not only pointed at Google's move to Universal Search back in 2007 as the original source of antitrust harm. Rather, two additional events have altered the competitive landscape in the following years. First, the introduction of the 'Panda' update to Google's search algorithm, officially aimed at capturing even more low-quality or harmful websites, turned out having negative consequences for comparison sites like Foundem. First released in February 2011, Panda affected an estimated 12% of search results, and reportedly led to a surge in the rankings of news websites and social networking sites, and a drop in rankings for sites containing large amounts of advertising. The update was very controversial, and required significant adjustment, patches and subsequent releases by Google (currently already at version 4.2); according to the plaintiffs in the Google investigation, it marked a move from previous practice aimed at demoting emerging, and still largely unknown, competitors, into a practice aimed at "penalising many established vertical search players".⁸⁵ In particular, Foundem has recently argued that the Panda update, when implemented in the UK (April 2011), led to a major surge in Google's share of the comparison shopping market, to the detriment of all its competitors (from which Foundem excludes, anyway, Amazon and eBay, for reasons that will be discussed in more detail below). However, a recent independent review by CNET found that that sites like Twitter or Facebook have generally benefited from the Panda update, contrary to 'content farms' that were demoted in the organic search list.⁸⁶

Second, in 2013 Google's share of the comparison shopping segment seems to have decreased significantly, at least in terms of traffic, compared to the pre-2013 period. To be clear, this was not argued by Google itself, as in its blog post on 'the search for harm' the company only shows post-2013 data, starting when its Google product search service was renamed Google Shopping. However, Foundem shows ComScore data on monthly visitors to specific comparison websites, which go back to January 2007. Such data show a surge in the number of visitors from 2011 (Panda update) to 2013 (move to Google Shopping), and then a drastic reduction of traffic. The latter, however, is described by Foundem as an illusion: indeed Google has implemented in its new Shopping service a number of changes that have led to an increase in its revenues, albeit coupled with a decrease in the amount of traffic being attracted to its site.⁸⁷ Such changes include the move towards a pay-per-placement business model for its shopping service: in other words, while prior to Google Shopping the dedicated Universal Search box on Google's page would show one general link to the shopping website ('shopping results for x'), coupled with five links to specific results found on the same Google vertical, after 2013 the general link has been coupled with directly monetised listings from third-party sites. Product Listing Ads appear when someone searches for a given product on google.com and google.com/shopping: Google then directs customers to the advertiser's website. In other words, Google Shopping potentially (and actually) diverts more traffic towards other sites than its predecessor, but it does this at a cost, determined through auctions: while it is difficult to capture the antitrust relevance of such conduct, the plaintiffs argue that it has consolidated Google's alleged market power in the comparison shopping 'market'.⁸⁸

This specific course of events, including the three moves to Universal Search (2007), Panda (2011) and Google Shopping (2013), is likely to be the core skeleton of the European

⁸⁵ http://www.foundem.co.uk/Foundem_Google_Timeline.pdf

⁸⁶ See Körber, T. (2015), "Common errors regarding search engine regulation – and how to avoid them", (2015) 36 *E.C.L.R.*, Issue 6. See also the CNET study, *Testing Google's Panda algorithm: CNET analysis* (<http://www.cnet.com/news/testing-googles-panda-algorithm-cnet-analysis/>)

⁸⁷ http://www.foundem.co.uk/fmedia/Foundem_Jun_2015_Analysis/

⁸⁸ *Ibid.*

Commission's investigation on Google, even if recently the scope of the investigation has reportedly been broadened to include (or better, reintroduce) exclusivity obligations imposed on websites.⁸⁹ As will be explained in section 4 below, the issue is easily misunderstood, and even more easily manipulated: at stake in the antitrust case is not whether Google has made more or less money with one practice or the other, but whether Google has foreclosed the market for its competitors by eliminating or threatening to eliminate all or almost all competition through these practices, and by doing so harmed consumers. This is why the next section focuses on the steps that the European Commission will need to follow in order to complete its investigation, and summarises some of the key milestones and challenges that are likely to characterise each step.

4. Beyond search neutrality: The Google investigation as a standard antitrust case

Just as in the US and in more than a hundred jurisdictions around the world, also in the EU antitrust law does not prohibit the mere possession of significant market power (in legal terms, dominance); rather, it challenges its abuse.⁹⁰ And Google is under investigation since 2010 for having possibly committed such an abuse of dominance. Under EU antitrust law, various types of conduct have been considered as belonging to the 'family' of abuses of dominance: these include both exploitative abuses (such as price discrimination and charging excessive prices) and so-called 'exclusionary abuses', which have as a primary effect that of driving competitors outside the relevant market or in certain cases even preventing the growth of such competitors.⁹¹ Exclusionary abuses are by far the most recurrent form of abuse of dominance, and include a variety of specific practices, from refusal to deal to exclusive dealing, tying, loyalty rebates, predatory pricing and margin squeeze. In the Google investigation, the European Commission is looking for an exclusionary conduct, which could be considered as close to a refusal-to-deal conduct.⁹² Emphasis is indeed placed on the harm imposed on alleged competitors, and only indirectly on consumers.

All abuse of dominance cases must follow a specific sequence, which starts from the definition of a relevant market to the finding of dominance, the determination of the abusive conduct and related remedies. The next sections provide an analysis of some key issues that are likely to emerge as the European Commission handles the investigation, which largely dismiss the search neutrality issue, and focus on Google's abusive conduct as a standard antitrust offense.

⁸⁹ See <http://www.wsj.com/articles/eu-deepens-antitrust-investigation-into-googles-practices-1440178863>

⁹⁰ See <http://www.internationalcompetitionnetwork.org/uploads/library/doc317.pdf>. All jurisdictions agree that unilateral conduct laws address specific conduct and its anticompetitive effects, rather than the mere possession of dominance/substantial market power or its creation through competition on the merits.

⁹¹ See *Intel*. Another category recognised by some scholars is that of so-called "reprisal abuses", see e.g. Temple Lang, J. (2003), "Anticompetitive Non-Pricing Abuses Under European and National Antitrust Law", Chapter 14 - International Antitrust Law & Policy: *Fordham Corporate Law*.

⁹² This conduct can imply also "applying dissimilar conditions to equivalent transactions", or be addressed through an essential facilities approach. Salinger, M. A. and R. J. Levinson (2013), "The Role for Economic Analysis in the FTC's Google Investigation" (http://www.law.northwestern.edu/research-faculty/searlecenter/events/internet/documents/salinger_economics_of_google_and_antitrust_case_searle_conference_version.pdf), argue that it fits no specific category.

4.1 The relevant market quagmire

No company holds market power in a vacuum: rather, antitrust analysis requires that the possession of significant market power is analysed with respect to a ‘relevant product market’, defined as the group of products or services that are sufficiently substitutable with the one at hand, from a demand-side as well as from a supply-side perspective.⁹³ The relevant product market is thus the group of those products and/or services that “are regarded as interchangeable or substitutable by the consumer, by reason of the products’ characteristics, their prices and their intended use”.⁹⁴ In addition, a ‘relevant geographic market’ has to be defined, namely “the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas”.⁹⁵ Based on these definitions, it seems clear that the relevant market would need to comprise products that are broadly similar. And indeed, in the Google investigation the European Commission seems to have had clear ideas from the very beginning, and pointed at general online search as the relevant market in which Google has exercised and abused its dominance.⁹⁶

Reality, however, suggests that market definition in certain high-tech settings is likely to prove much more complicated and controversial than in more traditional markets.⁹⁷ Already in the 1990s the Microsoft saga in the United States showed that in markets dominated by network externalities and learning effects, which tend to feature winner-take-all competition and ‘tipping’ effects, the definition of the relevant market can prove very difficult, and sometimes of limited use.⁹⁸ For example, in the antitrust case concerning Microsoft’s alleged anticompetitive tying of Windows with Internet Explorer, the US antitrust authorities had problems identifying the relevant market, since competition was occurring between two products that were far from interchangeable in the strictest sense of the word: an operating system and a browser do not perform the same functions, but they could still be competitors because the browser (Netscape Navigator) could be seen as a future platform for applications (thanks to the Java programming language), potentially replacing Windows as the *de facto* industry standard, i.e. the most prominent multi-sided platform available to end users and application developers. This triggered Microsoft’s reaction, described as ‘defensive leveraging’: but already at that time, the fact that Microsoft could be described at one and the same time as a quasi-monopolist and a fierce competitor raised many eyebrows among

⁹³ See the European Commission (1997), “Notice on the definition of relevant market for the purposes of Community competition law”, *Official Journal C 372*, 9.12.1997, pp. 5–13.

⁹⁴ *Ibid* §7.

⁹⁵ *Ibid* §8.

⁹⁶ It’s not the first case this definition is given. See Case IV/JV.1, *Telia/Telenor/Schibstedt*, 27 May 1998, Case IV/M.1439, *Telia/Telenor*, 3 October 1999 and Case IV/M.0048, *Vodafone/Vivendi/Canal Plus*, 20 July 2000; COMP/M.4731 *Google/DoubleClick*, 11 March 2008 and COMP/ M.5727, *Microsoft/Yahoo! Search business*, 18 February 2010.

⁹⁷ See Abramson, B. (2008), “Are “Online Markets” Real and Relevant? From the Monster-HotJobs Merger to the Google-DoubleClick Merger”, 4 *J. Competition L. & Econ.* 655 (2008). And Ratliff and Rubinfeld, “Online Advertising: Defining Relevant Markets”, 6 *J. Competition L. & Econ.* 653.

⁹⁸ See Pardolesi and Renda (2004), “The European Commission’s Case against Microsoft: Kill Bill?” 27 *World Competition*, Issue 4, pp. 513–566.

academics.⁹⁹ In 1999 the FTC faced an even clearer *impasse* when it defined Intel as a monopolist in the production of Intel processors.¹⁰⁰ Also the European Commission made a very questionable use of market definition in its Microsoft decision in 2004, by identifying a market for entry-level workgroup server operating systems that was very difficult to justify in antitrust (and economic) terms.¹⁰¹ Since then academics and practitioners have increasingly questioned the usefulness of market definitions, especially in high-tech markets, and especially whenever the market at hand features dynamic competition between multi-sided platforms. For example, in the first ever judgment issued by the Chinese Supreme Court in an antitrust case, in the case *Qihoo 360 v. Tencent*, the Court has argued that it is not necessary to define a clear relevant market in every abuse-of-dominance case, especially since competition has important dynamic features, and the use of tools such as the SSNIP test can be of very limited help.¹⁰²

The Google investigation will make no exception to this ongoing trend. A number of elements suggest that market definition is going to be (or at least, should reasonably be) a puzzle for the European Commission. First, the use of quantitative tools such as the SSNIP test appears very challenging given that the presumed relevant product markets, general and vertical search, are all free (at least in monetary terms) for end users.¹⁰³ The reason is not limited to the fact that that a small but significant percentage increase in price would not be imaginable if the price is zero; what is more important, capturing competitive pressure through a static observation of price elasticity in a context dominated by competition ‘for’ the market makes very little sense from a methodological standpoint.

Moreover, absent price indicators, it might be difficult to draw a dividing line between online search engines and other forms of search performed by end users: as suggested (in what is perhaps a too extreme portrait) by Manne and Wright (2014), any act of online search potentially falls in the same relevant market as searching on Google, also due to the total absence of any barrier to switching from one course of action to the other.¹⁰⁴ And importantly,

⁹⁹ Ibid and see also Renda, A. (2004), “Catch me if you Can! The Microsoft Saga and the Sorrows of Old Antitrust”, *Erasmus Law and Economics Review*, 1/2004. And see McKenzie, R.B. (2000), *Trust on Trial*, Perseus Books, Cambridge, MA.

¹⁰⁰ See *Intergraph Corp. v. Intel Corp.*, 3 F. Supp. 2d 1255 (N.D. Ala., 1998), vacated, 1999 US App. LEXIS 29199 (Fed. Cir., 1999).

¹⁰¹ Pardolesi and Renda (2004), “The European Commission’s Case against Microsoft: Kill Bill?”, *World Competition*, Vol. 27, Issue 4, pp. 513–566.

¹⁰² See Evans, D., V. Y. Zhang and H. Chang (2013), “Analyzing Competition among Internet Players: Qihoo 360 v. Tencent”, *Antitrust Chronicle*, Vol. 12.

¹⁰³ At least some courts have argued that search cannot represent a relevant market due to the absence of a price. In *KinderStart.com, LLC v. Google, Inc.*, a district court ruled that horizontal search cannot be a relevant market because consumers do not pay for it. *KinderStart.com, LLC v. Google, Inc.*, No. C06-2057JF(RS), 2007 WL 831806, at §5 (N.D. Cal. Mar. 16, 2007) (“KinderStart cites no authority indicating that antitrust law concerns itself with competition in the provision of free services. Providing search functionality may lead to revenue from other sources, but KinderStart has not alleged that anyone pays Google to search. Thus, the Search Market is not a ‘market’ for purposes of antitrust law.”).

¹⁰⁴ See also Bork and Sidak (2012), “What Does The Chicago School Teach About Internet Search And The Antitrust Treatment Of Google?”, American Enterprise Institute (<http://aei.org/files/2012/10/05/-what-does-the-chicago-school-teach-about-internet-search-and-the-antitrust-treatment-of-google-132249480630.pdf>), quoting White, R.W. & S. T. Dumais (2009), “Characterizing and Predicting Search Engine Switching Behavior”, paper presented at the 18th ACM Conference on Information and Knowledge Management; and arguing the probability that a user will switch between search engines

the fact that Google only crawls and indexes a tiny fraction of the web, and the fact that end users can directly look for information by clicking on their mobile apps or typing their URLs to access large selections of content (e.g. on Amazon, or Facebook) makes it easy to identify these modes of search as substitutable with Google online search by end users.¹⁰⁵ And indeed, it is reasonable to think about them as substitutes from a demand-side perspective.

Furthermore, and relatedly, the definition of the relevant market provided by the European Commission, which includes general-purpose search engines such as Bing and Yahoo! as well as verticals such as ejustice.fr and Foundem, does not seem to mirror what happens in reality. As a matter of fact, Foundem's proposed differentiation between 'shopping' and 'price comparison' appears acrobatic at best: if one takes demand-side substitution (rather than product or service characteristics) as the key criterion for market definition, such a distinction would entail that any website that enables shopping from various sources, through a comparison of products offered by different suppliers, could alternatively be used (and in fact is used) by consumers interchangeably. In addition, if one takes a more comprehensive look at platform competition on the Internet, reality seems to suggest that Google's market conduct is inspired by the need to respond to competitive pressure exerted by players that are not currently included in the relevant market. This is, in technical terms, platform competition applied to 'competition for eyeballs', with multi-homing (i.e. users can use more than one search tool at the same time): just like Microsoft's Windows was threatened by a middleware product that had no operating system function, Google strongly feels the pressure of emerging and consolidated internet platforms that are not primarily search engines, even if they include search functions (e.g. Facebook). Such platforms compete on several fronts: suffice it to observe that Samsung and Apple are emerging as competitors in the news aggregation segment, and that Facebook recently overtook YouTube in terms of video visualisations, an outcome that few would have predicted only a few months ago.¹⁰⁶

This is a very important observation for the future of the case, and deserves a careful explanation. As discussed in section 2 above, the evolution of search engines on the Internet has led to the emergence of advertising-based models. This evolution is of course not limited to search engines and applies to many other 'free' (for the end users) services that are based on the sale of advertising spaces in what has been described in the literature as a multi-sided platform model.¹⁰⁷ Accordingly, the real threat to Google's competitive positioning might well

increases with the length of a search session. The quoted survey documented that 70.5 per cent of respondents switched to a different engine during a session or in between sessions. Of those users, 66.8 per cent reported switching search engines within one session at least "sometimes," and 24.4 per cent said they switched "often" or "always." The study concluded that users switched for a variety of reasons, including perceived poor quality of products or services on the original search engine, desire for verification of information or additional coverage, and user preferences.

¹⁰⁵ See i.a. Crane, D. (2010), "Search Neutrality and Referral Dominance", 8 *J. Competition L. & Econ.* 459, 467 (2012) (citing also Bing Pan et al. (2007), "In Google We Trust: Users' Decisions on Rank, Position, and Relevance", 12 *J. Computer Mediated Comm.* 801). And Manne & Wright (2012), "If Search Neutrality is the Answer, What's the Question?", 2012 *Colum. Bus. L. Rev.* 151.

¹⁰⁶ <http://www.businessinsider.com/facebook-video-v-youtube-market-share-data-2014-12>

¹⁰⁷ See Rochet, J.-C. and J. Tirole, (2003), "Platform competition in two-sided markets". *Journal of the European Economic Association* 1 (4), 990–1029. Rochet, J.-C. and J. Tirole (2006), "Two-sided markets: a progress report". *RAND Journal of Economics* 35, pp. 645–667. Gawer, A. (2009), *Platforms, Markets and Innovation*, Edward Elgar, Cheltenham, UK and Northampton, MA. Gawer, A. and M. A. Cusumano, (2002), *Platform Leadership: How Intel, Microsoft, and Cisco Drive Industry Innovation*, Harvard Business

come from a 'better mousetrap' (i.e. a better search engine); but also and perhaps more likely, from the emergence of a service that is more effective at capturing users' attention and selling opportunities for targeted advertising. In this respect, Google competes both on capturing user attention, and on selling advertising spaces: on both fronts, large retailers and online intermediaries such as social networks are the most dangerous rivals for Google. Furthermore, it is unlikely that more than one large search engine emerges at any given moment in time on the Internet, due to the fact that search engines feature economies of scale and self-reinforcing effects. While history has shown that overtaking a dominant search engine is possible (just as Google did with Altavista), geography shows that where Google has not entered the market (or has been practically forced out of the market), another player has taken the lead and now holds a very large share of search queries (Yandex in Russia, Baidu in China). While some commentators have argued that this makes monopolisation inevitable in search, or even that search is a natural monopoly, these arguments appear weak.¹⁰⁸ Rather, it is important to observe that also in countries where Google is not the leader in search, platform competition is emerging between players offering a rather different mix of services and applications: for example, while Baidu is the most frequently used search engine in China, its share of online advertising is gradually being eroded by other players like Alibaba, which potentially compete for the attention of end users as much as Baidu thus through its bundle of services.

In summary, from a more academic perspective, as a result of network effects and Schumpeterian competition, the history of the Internet shows that competitive pressure is seldom exerted by players that are already present in a given relevant market; on the contrary, competition sometimes comes from other existing markets and most often from future products or platforms (as in the case of Navigator for Windows). It is this type of competitive pressure that most effectively disciplines successful players: the urge to compete to survive is not put to rest, on the Internet, by the mere fact of having conquered a stronghold in a province of an ever-changing ecosystem.

Against this background, the usefulness of defining the relevant market on a product-specific basis can reasonably be challenged. This casts rather dark shadows on the reasoning of the European Commission, also since the size and extent of the relevant product market are essential elements for the finding of dominance (see below): shares below 40% of the relevant market are normally considered to be incompatible with a finding of dominance, as stated by the European Commission itself.¹⁰⁹

School Press, Boston, MA. Gawer, A. and M.A. Cusumano (2008), "How companies become platform leaders", *MIT/Sloan Management Review* 49 (2), pp. 18–35.

¹⁰⁸ Some scholars have argued that the search engine market is a natural monopoly. Among the scholars that have fuelled this debate, see Moffat, V. R. (2009) "Regulating Search", 22 *Harv. J.L. & Tech.* 475; Pasquale, F. (2010), *Dominant Search Engines: An Essential Cultural & Political Facility*, in Szoka, B. and A. Marcus. (Eds.) (2010), *The Next Digital Decade* 401, at 402 ("It is now time for scholars and activists to move beyond the crabbed vocabulary of competition law to develop a richer normative critique of search engine dominance."); and of the same author, "Rankings, Reductionism, Responsibility", 54 *Clev. St. L. Rev.* 115, 117 (2006); *contra*, see Grimmelmann, J. (2007), "Don't Censor Search", 117 *Yale L.J. Pocket Part* 48, 51.

¹⁰⁹ See the Commission's guidance on exclusionary abuses, "Guidance on its enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings", *Official Journal* C 45, 24.2.2009, pp. 7–20, at §14 (The Commission's experience suggests that dominance is not likely if the undertaking's market share is below 40 % in the relevant market").

So, what should be the relevant market (if any) in the Google investigation? In order to provide a correct answer to this question, the European Commission would need to go back to the roots of market definition, to understand its purpose and underlying rationale, rather than simply adopting its tools and instruments. Market definition essentially aims at capturing the group of products and firms that exert a significant competitive pressure on the undertaking under investigation. The fact that this has been starting from the physical characteristics and commercial uses of the product or service is only an *escamotage* aimed at making life easier for competition authorities: it is useful to the extent that the markets and the competitive landscape at hand reflect that type of substitutability; but as the dynamics of competition change, as occurs in certain high tech markets, the ‘product features’ approach to market definition seems unlikely to remain fit for purpose.

If one agrees with this view, then the next step is to identify a good way to describe the perimeter within which the competitive race is taking place. Some authors have suggested a ‘follow the money’ approach to market definition, which would entail that the Commission gives up the definition of an ‘online search’ market in favour of the relevant market for online advertising: this would imply the inclusion of players such as Facebook in the relevant market.¹¹⁰ Others simply contemplate the possibility of expanding the ‘product search’ market, especially since the current investigation of Google is limited to the company’s online comparison shopping service, which (as observed above) clearly competes with other, large(r) online retail shops such as Amazon.¹¹¹ Another alternative is that the Commission decides to skip the market definition altogether, as suggested recently by some scholars, and concentrate on identifying sources of competitive pressure that might exert a disciplining effect on Google.¹¹² What is sure is that limiting the market definition to general and/or vertical search engines, or even defining a specific market for online comparison shopping websites provided through a search engine (and not by equivalent platforms) is likely to constitute an ill-advised approach: whatever the alternative, it is likely that the relevant market would incorporate some or all of the other letters in the GAFTAM acronym, thus portraying more accurately what seems to be an aggressive competitive race between large internet platforms in many emerging markets, from cloud services to social networking, to the Internet of Things.

¹¹⁰ For a preliminary discussion of this issue, see Van Gorp, N. and O. Batura (2015), *Challenges for Competition Policy in a Digitalised Economy*, Report for the European Parliament ([http://www.europarl.europa.eu/RegData/etudes/STUD/2015/542235/IPOL_STU\(2015\)542235_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/542235/IPOL_STU(2015)542235_EN.pdf)).

¹¹¹ See Lianos and Motchenkova (2012), “Market Dominance and Quality of Search Results in the Search Engine Market”, TILEC Discussion Paper No. 2012-036 (<https://www.ucl.ac.uk/cles/research-paper-series/research-papers/cles-2-2012>), observing that “Google may not however dispose of a high enough market share if one includes among its competitors Amazon in the category of ‘product search’”. See also the recent discussion of this issue by Claire Caine Miller & Stephanie Clifford, “Google Struggles to Unseat Amazon as the Web’s Most Popular Mal”, *New York Times* (September 9, 2012) and see also Hal Singer (2012), “Who Competes with Google Search? Just Amazon, Apple and Facebook”, *Forbes*, 18 September (<http://www.forbes.com/sites/halsinger/2012/09/18/who-competes-with-google-in-search-just-amazon-apple-and-facebook/>).

¹¹² See Kaplow, L. (2010), “Why (Ever) Define Markets?”, 124 *Harv. L. Rev.* 437 (“This Article advances the immodest claim that the market definition process is incoherent as a matter of basic economic principles and hence should be abandoned entirely”). Werden, G. J. (2012), “Why (Ever) Define Markets? An Answer to Professor Kaplow” (<http://ssrn.com/abstract=2004655>); and later Kaplow, L. (2012) “Market Definition Alchemy”, 57 *Antitrust Bull.* 915 (2012).

4.2 Doing justice to dominance

Just like market definition, also the assessment of dominance has its own established tradition. And just like market definition, the assessment of dominance has run into trouble with the advent of the Internet era. As confirmed by the Court of Justice since the early *United Brands* and *Hoffman-La Roche* cases, and restated by the European Commission in its 2009 Guidance on the treatment of exclusionary abuses under EU competition law, dominance is defined as “a position of economic strength enjoyed by an undertaking, which enables it to prevent effective competition being maintained on a relevant market, by affording it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately of consumers”. The Commission also clarifies that “this means that the undertaking’s decisions are largely insensitive to the actions and reactions of competitors, customers and, ultimately, consumers”.¹¹³ The Commission also explains that the assessment of dominance should take into account the competitive structure of the market, and in particular: i) constraints imposed by the existing supplies from, and the position on the market of, actual competitors (the market position of the dominant undertaking and its competitors); ii) constraints imposed by the credible threat of future expansion by actual competitors or entry by potential competitors (expansion and entry); and iii) constraints imposed by the bargaining strength of the undertaking’s customers (countervailing buyer power).¹¹⁴

In reality, in most cases the European Commission relies on market shares as a first indication of the possession of market power, and it is highly likely that the same approach will be adopted in the Google investigation. However, this approach is far from straightforward and should not be taken for granted without further reflection. First, as explained in the previous section, the relevant market seems to be too narrowly defined in the current investigation, and this is likely to distort the results of the investigation if market shares were to play a very prominent role. Second, in settings characterised by ‘tipping’ and competition ‘for’ the market, the observation of market shares is unlikely to fully account for the existence of contestability and the threat of future entry. To quote i.a. Rubinfeld and Hoven (2001): “Many network industries are dynamic, in which case the market is a moving target, evolving as technology changes in response to innovation. Antitrust analysis must occasionally focus, therefore, not only on static competition within the market as it is currently constituted, but also on dynamic competition for the market of the future, that is, competition to control the next market standard (if there is one).”¹¹⁵

More generally, it is important to recall that the concept of dominance has been developed through subsequent decisions of the Court of Justice of the European Union with direct reference to an overarching concept: that of independence of behaviour. A company that is heavily constrained in its behaviour by competitors, suppliers, consumers or emerging new players cannot be considered as dominant, regardless of the market share it holds today.¹¹⁶

¹¹³ See the Guidance paper, “Guidance on its enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings”, *Official Journal* C 45, 24.2.2009, at §10.

¹¹⁴ *Ibid* at §12.

¹¹⁵ See Rubinfeld, D., and J. Hoven (2001), “Innovation and Antitrust Enforcement”, in Ellig, J. (ed.) *Dynamic Competition and Public Policy: technology, innovation, and antitrust issues*, USA: Cambridge University Press. See also Evans, D.S. and R. Schmalensee (2008), “Markets with two-sided platforms?”, *Issues in Competition and Law and Policy* (ABA Section of Antitrust Law) 1 (28), pp. 667–693.

¹¹⁶ This finding is consistent also with the so-called theory of “contestable markets”. See Baumol, W. J. (1982), “Contestable markets: An uprising in the theory of industry structure”, *American Economic*

Accordingly, simply stating that a company is dominant because it has 95% of a (too narrowly defined) market confuses the proxy for the underlying principle. And while the principle is certainly still valid, the proxy may not be. This, of course, does not mean that market shares are entirely useless as a proxy for market power: the view that market shares should be abandoned altogether has been authoritatively criticised as too extreme in the literature.¹¹⁷ However, there is consensus on the fact that ‘Schumpeterian’ competition calls for increased attention for the competitive conditions of the market under analysis, including competitive pressure exerted by alternative platforms.

The European Commission has confirmed on several occasions that it will look at the overall market conditions, not just at market shares, when assessing dominance. In this respect, one way to define Google as dominant under the current interpretation of EU competition law would be to base such a finding on the existence of barriers to entry and expansion in the market.¹¹⁸ In particular, the Commission tends to consider the existence of economies of scale and scope as drivers of barriers to the expansion of as efficient competitors, a case that potentially applies to many online markets, including search engines. However, the history of search engines shows that there is no real barrier to the expansion and scaling-up of an existing search engine, if not the need to keep investing in gradually more sophisticated hardware, network equipment and software solutions to keep the search engine sufficiently shielded from external attacks, and able to process growing amounts of data. The existence of widespread multi-homing makes barriers to entry and switching even more evanescent. As a result, it would be very difficult to justify a finding of dominance based on the existence of structural barriers to the expansion of competitors in the (supposedly correct) relevant market defined by the European Commission: if there were very high barriers to entry in such a market, Google would never have succeeded in its attempt to overtake established players who enjoyed a first-mover advantage, and an unequivocally larger size.¹¹⁹ However, a number of commentators have argued that scale and data availability constitute a significant entry barrier in search, although most of them add that the near-zero switching costs counterbalance the impact of these barriers.¹²⁰

Against this background, it would be very important to clarify even further what conditions will be considered by the European Commission in the assessment of dominance when dealing with context characterised by platform competition and ‘competition for eyeballs’, even more when products are offered on the relevant market by multi-sided platforms, which typically

Review, Vol. 72, No. 1, pp. 1-15 (March). And Baumol, W. J., J. C. Panzar and R. D. Willig (1982), *Contestable Markets and the Theory of Industry Structure*, New York: Harcourt Brace Jovanovich, Inc.

¹¹⁷ Katz, Michael L. and H. A. Shelanski (2005), “‘Schumpeterian’ Competition and Antitrust Policy in High-Tech Markets”, *Competition*, Vol. 14, p. 47 (<http://ssrn.com/abstract=925707>).

¹¹⁸ See the Commission’s Guidance on exclusionary abuses, “Guidance on its enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings”, *Official Journal C* 45, 24.2.2009 at §16.

¹¹⁹ One could say that things have changed today, and the market has become unassailable. To some extent this risk is suggested by Hazan, J. G. (2013), “Stop Being Evil: A Proposal for Unbiased Google Search”, *111 Mich. L. Rev.* 789 (<http://repository.law.umich.edu/mlr/vol111/iss5/5>).

¹²⁰ Harbour, P. J. & T. I. Koslov (2010), “Section 2 in a Web 2.0 World: An Expanded Vision of Relevant Product Markets”, *76 Antitrust L. J.* 769, 784 (“Google search engine has become further entrenched as the dominant search site, and the firm has accumulated even more search data. Given the role of network effects, one might wonder whether any other firm will be able to chip away at Google’s search supremacy without access to a comparable trove of data.”).

charge platform users prices that have little to do with the underlying cost of the service, and can reach even zero or negative levels on specific sides of the market (typically, the end-user side). From a legal perspective, as observed i.a. by Giorgio Monti (2012), the announced transition towards a more effects-based treatment of exclusionary abuses has left an aura of uncertainty as regards the evolution of the concept of dominance, and in particular as regards its exclusive reference to the economic concept of substantial market power¹²¹. Should it turn out that dominance is not broader than substantial market power, then the European Commission would need to engage in a thorough demonstration of Google's market power intended as appreciable independence of behaviour, not as a power to raise prices.

So, will Google be considered as dominant or not? This would depend i.a. on what relevant market is defined, and what definition of dominance is chosen: neither of the two is very clear at this stage, not only in the Google investigation but more generally in EU antitrust law. This is also due to the fact that the Court of Justice has not had the chance to issue a decision in previous similar cases such as Microsoft. It is very important that the European Commission adopts a sound theoretical framework to ascertain whether Google can be considered as dominant for the purposes of the application of Article 102 TFEU, and thus whether Google can be described as significantly constrained by sources of competitive pressure in its behaviour. In doing this, as already recalled, the Commission will have to take into account that competitive pressure does not exclusively come, in these types of markets, from existing players producing similar products.

In summary, if market definition is already a quagmire, the finding of dominance might prove even more elusive in the EU Google investigation. Not surprisingly, the few scholarly papers that have been published to date in Europe about the EU investigation tend to reject the possibility that Google holds significant market power.¹²² At this stage, it can only be observed that the more it will emerge that Google has been incessantly innovating and reinvesting the bulk of its profits to preserve its competitive position in the Internet ecosystem, the harder it will (or should be) to find substantial market power. Put differently, antitrust rules are there to protect consumers and society as a whole from situations in which a company uses its market power to, i.a. directly or indirectly impose unfair purchase or selling prices or other unfair trading conditions, or limit production, markets or technical development to the prejudice of consumers. A company that is 'born to run' and cannot rest on its laurels is

¹²¹ See Monti, G. (2010), "The Concept of Dominance in Article 82" (<http://www.lse.ac.uk/collections/law/staff%20publications%20full%20text/monti/ECJdominancepaper.pdf>).

¹²² See e.g. Kersting, C. and S. Dworschak (2014), "Does Google Hold a Dominant Market Position? – Addressing the (Minor) Significance of High Online User Shares", Ifo Schnelldienst 16/2014, 7. (<http://ssrn.com/abstract=2495300>); and Wagner-von Papp, F. (2015), "Should Google's Secret Sauce Be Organic?" July 31 (<http://ssrn.com/abstract=2639081>). For a more general perspective, see also Patterson, M. R. (2013), "Google and Search Engine Market Power", 2013-07-01 *Harv. J.L. & Tech.* 1. For a slightly different view, arguing that Google is dominant in the search market but not indicating a specific antitrust solution, see Herz, M. (2014), "Google Search and the Law on Dominance in the EU. An Assessment of the Compatibility of Current Methodology with Multi-Sided Platforms in Online Search" (<http://ssrn.com/abstract=2497932>); and Vanberg, D. (2012), "From Archie to Google - Search engine providers and emergent challenges in relation to EU competition law", *European Journal for Law and Technology*, Vol. 3, No. 1, addressing market power but questioning the usefulness and suitability of using Article 102 TFEU to challenge it. See, finally, Falce, V. and M. Granieri (2015), "Searching a Rationale for Search Neutrality in the Age of Google" (<http://eale.org/content/uploads/2015/08/falce-granieri-eale-2015.pdf>).

unlikely to be considered dominant under sound antitrust law¹²³. The mere ability to exclude some competitors is not conclusive evidence of market power, if the company is found to be chasing other rivals.

4.3 Anticompetitive foreclosure: The core of the investigation

The EU antitrust investigation into Google started a few months after the European Commission had adopted the above-mentioned “Guidance document on the treatment of exclusionary abuses under Article 82 TEU (now 102 TFEU)”.¹²⁴ In that document, the Commission clarified that it would only prosecute an alleged exclusionary abuse by a dominant company if such conduct led to so-called ‘anticompetitive foreclosure’: this rather obscure term requires that two criteria are simultaneously met: i) that “as efficient” competitors are being driven outside the relevant market or deprived of the possibility to grow; and ii) that the allegedly anticompetitive conduct harms consumers¹²⁵. Interestingly, the new framework was applied for the first time in the *Intel* investigation, and later in other important cases such as *Telia Sonera* and *Post Danmark*, but significant uncertainties remain over its implementation and its consistency with sound economics.

4.3.1 The foreclosure element and the puzzle of positive externalities

The first pillar of the analysis aims at ascertaining whether the allegedly anticompetitive conduct has determined, or is likely to determine, the exit from the market of all actual and potential competitors. This is already going to prove a very difficult step for the European Commission, for many reasons. To begin with, the Commission will have to prove that the conduct is likely to foreclose competitors. This would require that “effective access of actual or potential competitors to supplies or markets is hampered or eliminated as a result of the conduct of the dominant undertaking whereby the dominant undertaking is likely to be in a position to profitably increase prices ... to the detriment of consumers”.¹²⁶

There are, of course, many questions hidden in these sentences. First, it is important to ascertain whether Google’s conduct has hampered the success of any of its actual or potential competitors by limiting their access to supplies or markets. This is the main argument that has

¹²³ Hal Singer (2013), “Who Competes with Google Search? Just Amazon, Apple and Facebook”, *Forbes*, 18 September (<http://www.forbes.com/sites/halsinger/2012/09/18/who-competes-with-google-in-search-just-amazon-apple-and-facebook/>), reports that Forrester Research found that a third of online users started their product searches on Amazon compared to 13 per cent who started their search from a traditional search site; and comScore found that product searches on Amazon have grown 73 per cent over the last year while shopping searches on Google have been flat. “These impressive statistics suggest that Google lacks market power in a critical segment of search – namely, product searches. Even though searches for items such as power tools or designer jeans account for only 10 to 20 per cent of all searches, they are clearly some of the most important queries for search engines from a business perspective, as they are far easier to monetize than informational queries like ‘Kate Middleton’”.

¹²⁴ See European Commission’s Communication, “Guidance on its enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings”, *Official Journal* C 45, 24.2.2009, pp. 7–20.

¹²⁵ *Ibid* at §23.

¹²⁶ *Ibid* at §11. See Temple Lang and Renda (2008), *Treatment of Exclusionary Abuses under Article 82 of the EC Treaty: Comments on the European Commission's Guidance Paper*, Report of a CEPS Task Force, October (<http://www.ceps.be/book/treatment-exclusionary-abuses-under-article-82-ec-treaty-comments-european-commissions-guidance>).

been used by the plaintiffs, at least in the US case, to argue that Google was limiting market access of smaller, vertical search engines by intentionally demoting them in its own service (or by actively promoting its own results to the detriment of competing ones). Whether this form of limitation is relevant from an antitrust perspective, is however to be demonstrated: not being able to access a market because the dominant player is acting to impede access to distribution channels or forms of supply is very different from a situation in which a dominant player fails to actively promote competing services through its own service. The concept of market foreclosure was essentially developed to capture the dominant undertaking's behaviour in the upstream and downstream markets, not to ensure that a consumer entering a shop owned by a dominant undertaking is offered detailed advice on competing offers available in other shops.

In this respect, the European Commission has already shown in the past its *impasse* when dealing with foreclosure. A key example is the Microsoft case, with specific reference to the part related to the allegedly anticompetitive tying between Windows and Windows Media Player. In the US Microsoft case, one of the main reasons for condemning Microsoft was that the company had, through tying, foreclosed the main distribution channel available to Netscape Navigator to reach consumers, i.e. the pre-installation on personal computers. The main reason why this was considered the main distribution channel is technological: at the time of the US investigation (so-called 'Microsoft III' case), Internet connectivity was still mostly dial-up, and as a result downloading a copy of a browser from the Internet was a very implausible alternative to the pre-installation by the computer vendor. Conversely, when the European Commission handled the Windows Media Player case in 2000-2004, pre-installation was no longer the main distribution channel for a media player (direct download from the Internet was already easy and widespread), and indeed most users had at least two, and often three media players installed on their PCs. The European Commission did not observe this difference, and the case was dealt with under a rather mystifying vision of market foreclosure.¹²⁷

To put it differently, and more in line with the language used in the Google investigation, it is difficult to imagine market foreclosure in a context in which competition is 'one click away'. Users have countless ways to obtain their information, and large platform operators are always looking for alternatives to reduce their dependence on a single service: for example, Apple recently added DuckDuckGo to its list of default browsers and regularly uses Yahoo! as its default search engine, whereas Firefox uses Bing as its default search engine. And with the development of new technologies, such as vocal search, players like Microsoft and Apple are competing to fill a space that Google seems not ready to fill, with their Cortana and Siri applications, not to mention the Amazon-sponsored Echo, which could become a very aggressively competing platform in the months to come. Customers also can type their favourite URLs on their desktop computers, especially now that browsers increasingly use an 'app-like configuration', which enables end users to click directly on their preferred icon. Finally, end users increasingly rely on their mobile apps to reach their preferred content aggregators, thus entirely bypassing the search engine. There would be no need to highlight these issues, of course, if the Commission captured all these alternatives in its market definition in the first place: but even if it does not, such issues should surface during the anticompetitive foreclosure test.

¹²⁷ See Pardolesi and Renda (2004), "The European Commission's Case against Microsoft: Kill Bill?" 27 *World Competition*, Issue 4, pp. 513-566.

An alternative way to handle the foreclosure issue would be to focus on the so-called ‘deprivation of scale’, or ‘prevention of expansion’ argument, which, however paradoxical it might seem, seems to have gained some consensus at the EU level. Under this view, which directly descends from the so-called ‘special responsibility’ attributed to allegedly dominant companies, Google would now be tasked with a general duty to ensure that its competitors survive and thrive in the relevant market (even if the relevant market is not the environment in which Google believes to be competing). This could potentially be translated into a duty to promote competitors in Google’s algorithmic search, in a way that ensures their profitability and survival. A similar argument is thought to have been developed by the CJEU in the *Telia Sonera* case, in which the Court even argued that there could also be an exclusionary abuse when rivals’ margins are ‘positive’, due to ‘reduced profitability’.¹²⁸ This highly controversial idea, which was authoritatively labelled as a ‘legal zombie’, coupled with a very narrow and incorrect market definition, could offer the European Commission an easy way to make the case for foreclosure in the Google investigation, unless there are reasons to believe that Google has acted to foreclose the market in other ways (for example, through long-term exclusivity contracts with advertisers).¹²⁹ But the price to pay would be very high, as the idea that a successful competitor should be challenged for its lack of care for rivals is alien to a modern vision of antitrust – and even to the most extreme ordoliberal position.

Finally, it is important to qualify the contours of Google’s allegedly anticompetitive conduct as things stand, and on the basis of available information, it seems that the most accurate description of such conduct would come close to a leveraging of market power from universal search into comparison shopping. However, many scholars have already analysed this issue during the US investigation, and expressed several doubts on the viability of Google’s leveraging strategy both in economic terms, and in terms of its specific relevance for antitrust authorities.¹³⁰ In addition, it is important to stress that the contested conduct is replicated in a very similar way also by other search engines: this applies both to the coupling of vertical search with universal search, and also to the practice of favouring own content, in which Google appears to be even less aggressive than other prominent search engines.¹³¹ This,

¹²⁸ See Case C-52/09, *Konkurrensverket v TeliaSonera Sverige AB*, [2011] ECR I-00527, §73-74. And the comment by Nicolas Petit (2014), “Price Squeezes with Positive Margins in EU Competition Law: Economic and Legal Anatomy of a Zombie” (<http://ssrn.com/abstract=2506521>).

¹²⁹ *Ibid.*

¹³⁰ See *i.a.* Bork and Sidak (2012), “What Does The Chicago School Teach About Internet Search And The Antitrust Treatment Of Google?”, American Enterprise Institute, (http://aei.org/files/2012/10/05/-what-does-the-chicago-school-teach-aboutinternet-search-and-the-antitrust-treatment-of-google_132249480630.pdf); and Salinger and Levinson (2013), “The Role for Economic Analysis in the FTC’s Google Investigation” (http://www.law.northwestern.edu/research-faculty/searlecenter/events/internet/documents/salinger_economics_of_google_and_antitrust_case_searle_conference_version.pdf).

¹³¹ See Edelman, B. and B. Lockwood (2011), “Measuring Bias in ‘Organic’ Search” (<http://www.benedelman.org/searchbias>). The study concludes that “After conducting searches for each of these 32 terms across search engines, the authors examine whether these search engines are more likely to exhibit a bias in favour of their own affiliated pages and conclude that both Yahoo and Google are much more likely to place their own pages first, relative to other search engines, and these differences are significant at the 1% level for Yahoo and the 2% level for Google”. Danny Sullivan has observed that the timing of the study is an issue for generalizing its results because at the time of the study, Yahoo! was providing its own results, but is now powered by Bing. See Sullivan (2011), “Study: Google ‘Favors’ Itself Only 19% of the Time”, Search Engine Land (<http://searchengineland.com/survey-google-favors-itself-only-19-of-the-time-61675>). See also Wright (2011), “Defining and Measuring

although not excluding *in toto* the applicability of antitrust law, suggests that consumers consider this way of displaying results as improving their user experience.¹³²

Even once the notion of foreclosure has been addressed, there remain many other aspects to discuss and define. Two, in particular, appear very delicate. Would Google be in a position to increase prices as a result of its conduct? And, does the conduct eliminate competition from all ‘as efficient’ actual and potential competitors?

With respect to prices, the obvious limitation of the argument is that Google is free (in monetary terms) for end users, who contribute their attention (‘eyeballs’) in what is a giant multi-sided platform business based on revenues from advertising and ancillary products and services.¹³³ Accordingly, the effect on prices would be observed in the relationship between Google and advertisers: and indeed, there are commentators who argue, although anecdotally, that Google’s AdWords has gradually become more expensive over time, even if the click-thru rate and the overall exposure of the ads has also increased.¹³⁴ If the European Commission proved that Google was able to raise prices above competitive levels, taking into account the different quality of existing services, due to its prominent position as a seller of advertising spaces, this would also demonstrate that Google is not sufficiently exposed to competition in the sale of ad spaces. Unfortunately, although the European Commission has reportedly taken steps to analyse Google’s contracts with advertisers and website operators, this part of the investigation appears less prominent than the foreclosure allegations based on failure to actively promote other comparison shopping websites.

On the elimination of competition from ‘as efficient’ actual and potential competitors, there are important observations to be made besides the already-mentioned problem of identifying who the competitors are, and the utmost importance that future, potential competitors have in the context of online markets, including search engines. In particular, the condition of being ‘as efficient’ has been traditionally associated by the European Commission with the fact that competitors feature broadly similar costs compared to the allegedly dominant company. However, this criterion has been mostly developed to enable a more transparent treatment of

Search Bias: Some Preliminary Evidence”, International Center for Law & Economics, November; George Mason Law & Economics Research Paper No. 12-14 (<http://ssrn.com/abstract=2004649>), showing that “Microsoft content appears as results on the first page of a Bing search about 7 times more often than Microsoft content appears on the first page of rival engines. Also, Google is much more likely to refer to Microsoft content than Blekko, though both refer to significantly less Microsoft content than Bing”. Wright also heavily criticises a study by Ben Edelman (2011), “Bias in Search Results?: Diagnosis and Response,” 7 *Indiana J. Law & Tech.* 16 (www.nls.ac.in/ojs-2.2.3/index.php/IJLT/article/viewFile/92/72). (Edelman is a consultant to Microsoft, Wright was consulting with Google).

¹³² As recalled by Bork and Sidak (2012), “What Does The Chicago School Teach About Internet Search And The Antitrust Treatment Of Google?”, American Enterprise Institute, (http://aei.org/files/2012/10/05/-what-does-the-chicago-school-teach-aboutinternet-search-and-the-antitrust-treatment-of-google_132249480630.pdf), “Bing, Yahoo, and Ask.com all produce general search results pages that also include specialized search results grouped together near the top or middle of the first results page. Therefore, it is reasonable to infer that this display has ‘competitive virtues’ –it reflects consumer preferences. If consumers did not prefer this display of specialized results, then any competing search engine could increase its number of users by presenting only general search results or by interspersing specialized results within general search results”.

¹³³ In 2013, 91 percent of Google’s revenues came from advertisers, and 79 percent of Yahoo!’s total revenue came from display and search advertising.

¹³⁴ See Rampton, J. (2014), “5 Reasons you shouldn’t use AdWords”, *Forbes*, 7 July (<http://www.forbes.com/sites/johnrampton/2014/07/07/5-reasons-you-shouldnt-use-adwords/>).

price-based exclusionary abuses, which are different from the type of conduct at stake in the Google investigation. Broadly speaking, the ‘as efficient competitor test’ will probably apply in general terms to ensure that the European Commission does not bail out competitors that do not have the same potential to compete, and only protects competition ‘on the merits’: however, such a reasoning becomes very tortuous in a context in which one company tends to take the lead, and the market ‘tips’ in its favour. How can one determine whether a competitor like Foundem is as efficient as Google? Here, the existence of economies of scale and scope in search engines, and the concomitant emergence of diseconomies of scope in other services, would probably offer the European Commission an opportunity to invoke the provision, included in the Guidance document on exclusionary abuses, which mentions “not yet as efficient” competitors as relevant to the analysis, i.e. competitors that, with greater scale, would become as efficient as the dominant undertaking.¹³⁵

Finally, it is important to reflect, more generally, on the concept of harm to competitors as an antitrust offense. Without indulging too much in the well-known *refrain* that antitrust is there to protect consumers, not competitors, a more general and important point awaits due consideration. Since the early days of antitrust in cyberspace, the issue of mutual externalities has become as important as largely disregarded by competition authorities. In the first Microsoft case (launched by the FCC for tying of MS-DOS with Windows back in the early 1990s), the key issue was whether Microsoft had innovated by adding a product to its OS, or whether the dominant effect was harm to its competitor Novell, which was not in a position to fully replicate Microsoft’s integrated offer. Already at that embryonic stage, the issue was whether antitrust should place incentives on competitors to build their own killer app (just like Microsoft had done with Windows), or whether antitrust should force successful companies to refrain from tying products, and offer the same bundling possibility to its rivals. The latter option (allowing Novell to offer Windows on its DR-DOS) would probably mean reducing Microsoft’s incentives to innovate in the future, and offering Novell the possibility to free ride on Microsoft’s innovation. Either solution would thus have led to pros and cons: in the end, the shortcomings did not materialise for Microsoft due to the fact that, by the time the investigation was closed (with a consent decree), the company has already had the time to consolidate its market position and market share to the detriment of its only rival. A few years later, the Microsoft-Netscape dispute was largely approached with attention to the disadvantage caused by Microsoft to Netscape through a contractual and later technological tying strategy: no sufficient attention was devoted to the positive externalities that had been generated by Windows for Navigator: the mere existence of windows had been a key precondition for the success of Netscape Navigator.

Today, this rather under-researched aspect becomes gigantic in the Google case. In its recent blog post announcing the response to the Commission’s Statement of Objections, Google observed that it “delivered more than 20 billion free clicks to aggregators over the last decade in the countries covered by the SO, with free traffic increasing by 227% (and total traffic increasing even more)”.¹³⁶ Should antitrust authorities look at the effect of Google’s active promotion of its own content, at the impact of Google’s algorithmic demotion of certain non-

¹³⁵ On diseconomies of scope, see Bresnahan, T., S. M. Greenstein, and R. M. Henderson, (2011), “Schumpeterian Competition and Diseconomies of Scope; Illustrations from the Histories of Microsoft and IBM”, Harvard Business School General Management Unit Working Paper No. 11-077; Harvard Business School Strategy Unit Working Paper No. 11-077. Available at SSRN: <http://ssrn.com/abstract=1752410>.

¹³⁶ <http://googlepolicyeurope.blogspot.be/2015/08/improving-quality-isnt-anti-competitive.html>

Google content or at the positive impacts of Google's search engine on the exposure of rival content to the attention of end users? In other words, should antitrust authorities only look at the costs generated by dominant undertakings, or also at the benefits they generate for competitors? And should these benefits constitute an established 'right to referral' for competitors, or could the allegedly dominant company decide at some point to act to reduce the positive externalities it generates for them?¹³⁷ These questions are of course very different from an antitrust perspective, and possibly all wrong: the real question should be whether Google has been harming consumers and social welfare with its conduct, and it is to this issue that we now turn.

4.3.2 Consumer harm

The second pillar of the anticompetitive foreclosure test is the proof of consumer harm. Here too, antitrust practice has proven to be very complex and controversial in the past. To start with, the extent to which consumer harm has really become an essential pillar of antitrust scrutiny of exclusionary conducts is itself an open question.¹³⁸ The European Commission, in the 2009 Guidance document, observes that consumer harm would rather be a 'defence', not part of its analysis but rather left to the defendant. In other words, allegedly dominant undertakings would need to offer a demonstration of the positive impact of their conduct on consumer welfare; absent such proof, consumer harm would essentially be presumed by the Commission in the presence of foreclosure (see section above). The Commission also clarified that it considers that a dominant undertaking may justify conduct leading to foreclosure of competitors "on the ground of efficiencies that are sufficient to guarantee that no net harm to consumers is likely to arise", and that this *probatio diabolica* would need to be based on an illustration of the efficiencies that have been, or are likely to be, realised as a result of the conduct; that the conduct is indispensable to the realisation of those efficiencies; that the likely efficiencies brought about by the conduct outweigh any likely negative effects on competition and consumer welfare in the affected markets; and that the conduct does not eliminate effective competition, by removing all or most existing sources of actual or potential competition (the latter being a rather 'circular' requirement compared to the foreclosure pillar above). The Commission added that "rivalry between undertakings is an essential driver of economic efficiency, including dynamic efficiencies in the form of innovation. In its absence the dominant undertaking will lack adequate incentives to continue to create and pass on efficiency gains. Where there is no residual competition and no foreseeable threat of entry, the protection of rivalry and the competitive process outweighs possible efficiency gains. In the Commission's view, exclusionary conduct which maintains, creates or strengthens a market

¹³⁷ A similar argument can probably be formulated with respect to aftermarkets, in particular on conducts similar to the one in *Eastman Kodak Company v. Image Technical Services, Inc.*, 504 U.S. 451 (1992), a United States Supreme Court case in which the Court held that a lack of market power in the primary equipment market does not necessarily preclude antitrust liability for exclusionary conduct in derivative aftermarkets. See, for a comment, Goldfine & K. Vorrasi (2004), "The Fall of the Kodak Aftermarket Doctrine: Dying A Slow Death In The Lower Courts", 72 *Antitrust L.J.* 209.

¹³⁸ See Temple Lang & Renda (2008), *Treatment of Exclusionary Abuses under Article 82 of the EC Treaty: Comments on the European Commission's Guidance Paper*, Report of a CEPS Task Force, October (<http://www.ceps.be/book/treatment-exclusionary-abuses-under-article-82-ec-treaty-comments-european-commissions-guidance>).

position approaching that of a monopoly can normally not be justified on the grounds that it also creates efficiency gains.”¹³⁹

In other words, a company defined as a quasi-monopolist is unlikely to have access to a possible efficiency defence, since consumer harm would also be gauged on the basis of remaining competitors and possible losses of product variety and opportunities for innovation¹⁴⁰. This raises two important questions. First, if one assumes that a given market setting exhibits platform competition and tipping effects, how can the Commission’s structuralist approach capture these competitive dynamics? Second, how would consumer harm be defined anyway? Consumer harm has not been defined clearly by the European Commission, and has largely been left to a devilish proof that still looks very much like an uphill battle: not surprisingly, no company to date has ever managed to escape liability in an Article 102 TFEU case on the basis of an efficiency defence.

The fact that the consumer harm pillar of anticompetitive foreclosure appears as a ‘no go’ for an allegedly dominant undertaking is deplorable, and most often leads the Commission to focus on harm to competitors, rather than to consumers. This seems to be happening also in the Google investigation; the inevitable comparison is with the FTC investigation in the United States, in which the absence of consumer harm (and on the contrary, evidence of consumer benefit) was the basis for the decision not to condemn Google for anticompetitive conduct. In Europe, both the European Commission and Google itself seem to be shaping their arguments based on whether competitors have been harmed or not. And plaintiffs like Foundem seem to concentrate mostly on the harm they suffered, at least in publicly available documents. Against this backdrop, it seems reasonable to expect that Google will be acquitted only if it successfully and convincingly proves, in the first instance, that it did not harm competitors, and secondarily that it did not harm consumers.

One of the only real analyses of potential consumer harm published so far is the study by Luca et al. (2015), sponsored by Yelp, which argues that Google’s decision to leverage its power in general searches to promote its own content in specialised searches negatively impacts consumers: their randomised controlled trials based on click surveys of 2,690 users suggest that “users are 45% more likely to engage with universal search results (i.e. prominently displayed map results on Google) when the results are organically determined”. This, according to the authors, suggests that “by leveraging dominance in search to promote its internal content, Google is reducing social welfare - leaving consumers with lower quality results and worse matches”.¹⁴¹ The analysis offered by Luca et al (2015) is certainly interesting, but more data and larger samples would be needed to consolidate evidence of consumer harm through lower search quality: in addition, the propensity to click is probably an imperfect proxy for consumers’ willingness to pay and user experience when using a search engine, and

¹³⁹ See Commission Guidance Paper, “Guidance on its enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings”, *Official Journal C* 45, 24.2.2009 at §30.

¹⁴⁰ This is confirmed by the findings of Hans Friederiszick and Lisa Gratz, who in a recent article conclude that “past Article 102 TFEU cases shows that efficiency defences are of limited importance under the current practice”. See Friederiszick, Hans W., and L. Gratz (2012), “Dominant and efficient: On the relevance of efficiencies in abuse of dominance cases”, ESMT White Paper No. WP- 12-01. And Friederiszick, Hans Wolfgang and Gratz, Linda, Hidden Efficiencies: On the Relevance of Business Justifications in Abuse of Dominance Cases (September 10, 2013). ESMT Working Paper No. 13-10.

¹⁴¹ See Luca, M. T. Wu, and the Yelp Data Science Team (2015), “Is Google degrading search? Consumer Harm from Universal Search” (<http://www-scf.usc.edu/~csci572/papers/yelpGoogleBias.pdf>).

this too should be further discussed in the future literature. Interestingly, in a recent article, Stucke and Ezrachi (2015) make the case for intentional quality degradation as a possible strategy of search engines, also based on the description of a number of behavioural biases that limit the ability of end users to fully assess search quality. However, they find that search engines may decide to lower quality also for what appear to be legitimate business reasons (striking a balance between the interest of users and those of advertisers, as in any multi-sided platform strategy); and also in the presence of competition (even when competition is ‘one click away’).¹⁴² But even if the proof of possible quality degradation in Google’s search results were offered convincingly, this would only represent a partial view of the behaviour’s social impact, as countervailing efficiencies would still have to be factored into the analysis. In any event, if the European Commission were to look at consumer harm seriously, it would have to dig a lot deeper into these types of issues, and possibly come up with a convincing analysis of whether Google’s behaviour does more harm than good to consumers: the fact that the FTC rejected this idea does not mean that new evidence could lead to a different result. Available evidence, at this stage, is way too thin and partisan to support this scenario.

4.3.3 *The anticompetitive foreclosure test: How strict?*

Based on the arguments exposed in the previous two sections, it appears evident that the anticompetitive foreclosure test that should be applied to exclusionary abuses is surrounded by substantial uncertainty, and a significant level of arbitrariness. Among the most pressing questions, the following appear of utmost importance.

First, should the foreclosure pillar imply the actual or likely elimination of ‘all’ or ‘most’ competitors from the market, or could it also be consistent with deprivation of scale or with failure to enable the growth or the profitability of competitors? Clarification in this respect would be needed, also since market players in the Internet ecosystem might have to significantly change their business strategy, depending on the standard that applies. If the interpretation is a narrow one, then even the evidence presented by Foundem for the comparison shopping market would not qualify as a demonstration that competitors have exited the market.¹⁴³ The Commission’s Guidance document on exclusionary abuses requires, for cases of refusal to deal, the likelihood that the refusal will “lead to the elimination of effective competition on the downstream market”, and that it will “lead to consumer harm”.¹⁴⁴ Apart from the issues of market definition (see above, section 4.1) and the highly controversial definition of consumer harm (discussed in section 4.3.2), an important question here is whether a reshuffling of market shares is sufficient to qualify as “elimination of effective competition”. It is difficult to draw conclusions at this stage, and whatever clarification the Commission will offer in this respect will be beneficial for the whole Internet ecosystem. A similar issue emerged already between 2004 and 2007 in the application of the *Magill/IMS* test to Microsoft’s refusal to grant full interoperability to competing producers of operating systems for servers: notwithstanding the CJEU’s insistence on the need for the refusal to be likely to eliminate “all” competition from the secondary market, the Court of First Instance validated the Commission’s 2004 decision, ignoring the fact that most of the plaintiffs were still active in the

¹⁴² See Stucke, M. E. and A. Ezrachi (2015), “When Competition Fails to Optimise Quality: A Look at Search Engines”, University of Tennessee Legal Studies Research Paper No. 268 (<http://ssrn.com/abstract=2598128>).

¹⁴³ http://www.foundem.co.uk/fmedia/Foundem_Jun_2015_Analysis/

¹⁴⁴ See “Guidance on its enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings”, *Official Journal* C 45, 24.2.2009.

relevant market, and one of them (Linux) was actually gaining market share even without having access to the allegedly “essential”, or “indispensable” interoperability information.¹⁴⁵

Second, can the anticompetitive foreclosure test, in its current form, be taken as a suitable theoretical framework for the analysis of competition in the Internet ecosystem? The arguments explored in this section have highlighted a sense of unease when applying structuralist tests to markets characterised by fast innovation. Over the past two decades, a wealth of economic literature has demonstrated that companies in many high-tech markets compete for the future, and consistently that competitive pressure also comes from future players. If one concedes that the companies that legitimately win a competitive race will enjoy high market shares for a limited period of time to the detriment of the losing players, it is difficult to imagine that the same company could be charged with anticompetitive conduct for the same reason, and the same behaviour. Accordingly, many scholars have observed that the real antitrust concern lies in so-called ‘monopoly maintenance’ strategies, especially when such strategies create a straight-jacket effect on innovation: whether Google has engaged in such strategies, or rather has innovated to continue its quest for market leadership, is perhaps the most important question to address in the current investigation.

4.4 Remedies

Once the Commission has completed the previous steps, i.e. market definition, finding of dominance and identification of anticompetitive foreclosure, the remaining issue will be finding suitable remedies for the identified violations, apart from the monetary fine to be expected (capped at 10% of global turnover) in case of a finding of liability, and possible follow-up private enforcement cases.¹⁴⁶ Here, too, the past track record of the Commission is not always laudable, especially in the Internet environment. Examples of remedies that proved ineffective include the so-called ‘stripped-down’ version of Windows (without the Media Player), an unbundling remedy that proved totally ineffective; and also the ‘ballot screen’ remedy imposed on Microsoft during the *Opera* case, which was only marginally important in the reshuffling of the browser market that was brought about by technological evolution and the emergence of new products.¹⁴⁷ Bad examples also include the three rounds of commitments proposed by Google in its attempt to settle the issue with the European Commission: its alleged competitors ended up rejecting the remedies as they seem more likely to crystallise Google’s position as the one and only search engine, rather than restoring competition on the merits.

¹⁴⁵ See Pardolesi, R. and A. Renda (2007), “Kill Bill Vol. 2”, *Mercato Concorrenza Regole* 3/2007 (in Italian). And First, H/ (2008), “Strong Spine, Weak Underbelly: The CFI Microsoft Decision”, New York University Law and Economics Working Papers, No. 129 (http://lsr.nellco.org/nyu_lewp/129).

¹⁴⁶ See www.grip.eu. GRIP is a new initiative to evaluate the potential damage claims arising from Google’s anticompetitive behaviour. It is an independent platform run by Avisa, a consultancy that filed a complaint against Google in early 2010, assisted by Hausfeld, a specialist competition law firm with experience on both sides of the Atlantic.

¹⁴⁷ See i.a. Manne and Wright (2012), showing that “The changes in Internet Explorer’s market share in Europe almost perfectly mirror its changes worldwide, and differ only slightly from changes in its US market share, demonstrating that its declining share of the European market cannot be attributed to the browser choice screen”. The authors show also complementary evidence that Chrome’s market share increased almost identically in Europe, in the United States, and worldwide, despite the operation of the ballot screen in Europe.

As a matter of fact, the suitability of a proposed remedy (apart from the obvious fact that it should be backed by sound analysis) depends very much on the idea of competition that will inspire the actions of the European Commission. If the Commission will end up imposing a remedy to force the co-existence of a plurality of players in the search engine space, including smaller verticals, then the remedy will have to consist of some modification of Google's search engine to accommodate more verticals on Google's search page (let alone the removal of exclusivity clauses, if found anticompetitive). However, this would largely replicate the model that competitors have already rejected during the market tests, which casts dark shadows on the likelihood that they will be perceived as effective and sufficient.¹⁴⁸

One possible remedy, on which rather wide consensus seems to have emerged in the academic literature, is enhanced transparency in the characterisation of Google's own results as 'own' results, placed in the search page in a way that does not directly relate to the algorithm. While this remedy would certainly not satisfy the requests of plaintiffs (and would as such have been labelled as insufficient during the market tests run by the European Commission under the Almunia mandate), it might provide an answer to those that have expressed concern that Google is not fully informing end users about the way in which results are selected. Also for this type of remedy, of course, the European Commission should convincingly show the existence of a problem, and devise a proportionate, sustainable and verifiable solution.¹⁴⁹ Also the United States Federal Trade Commission has been considering whether Google's conduct would be subject to scrutiny under Section 5 of the FTC Act (on unfair methods of competition, in particular deceptive conduct), but no significant evidence so far has been brought to the table, which would suggest that this avenue is more promising than a standard antitrust case.

Alternatively, the remedy could consist in the obligation, for Google, to refrain from posting its own shopping services outside the general search results, or to avoid having its results appear often or always on top of the search engine page. This remedy would only focus on what Google does 'outside the algorithm', not on the internal workings of Google's search engine, but would still interfere with 'screen design', a possibility so far excluded by Commissioner Vestager. But this remedy would have the obvious disadvantage of offering Google the possibility to incorporate in its algorithm the same type of criteria that are currently managed outside: the result would be that Google could decide to modify its algorithm to fall within the 'safe harbour' offered by the deferential approach so far predicated by the US and (timidly) EU authorities in this case. This would not be the first time that a company 'adapts' to an antitrust decision by modifying its product. For example, the product integration of Windows 98 and Internet Explorer is attributed by many commentators to the need to comply with the consent decree signed by Microsoft with the Department of Justice in 1995, related to the previous, contractual tying between the two products.¹⁵⁰

¹⁴⁸ See FairSearch (2014), "Google's Proposed Commitments are worse than nothing" (<http://www.fairsearch.org/statement-fairsearch-europe-googles-proposed-commitments-worse-nothing/>). Chris Sherwood of the Allegro Group, added that "the solutions that the European Commission presented could be out of date in no more than a few weeks". See <http://www.euractiv.com/innovation-enterprise/eu-commission-reaches-antitrust-news-533302>.

¹⁴⁹ See *i.a.* Körber, T. (2015), "Common errors regarding search engine regulation – and how to avoid them", 36 *E.C.L.R.*, Issue 6. See also the CNET study, *Testing Google's Panda algorithm: CNET analysis* (<http://www.cnet.com/news/testing-googles-panda-algorithm-cnet-analysis/>).

¹⁵⁰ See Renda (2004), "Catch me if you Can! The Microsoft Saga and the Sorrows of Old Antitrust", *Erasmus Law and Economics Review*, 1/2004.

On a sliding scale from lighter to more intrusive remedies, the European Commission could also imagine the imposition of more structural remedies. Here too, there are various types that could be imagined. The Commission could, for example, mandate that Google post its own search results in the part of the screen devoted to commercial search, in order to clearly distinguish them from algorithmic searches (but here too, technology is very plastic and the impact of this remedy would likely be small). Or the Commission could decide to impose a structural or functional separation on Google, by asking the company to refrain from going beyond general search: in other words, Google would end up being forced out of the ‘verticals’ business. Finally, the Commission could end up venturing into neutrality-oriented options, such as requiring that Google does not apply its Quality Score to alleged competitors, or that such score is deprived of any element that would potentially be conducive to the demotion of a rival comparison shopping service.

None of these remedies appears convincing at this stage, let alone their verifiability and administration over time; and it is still difficult to imagine a remedy that would benefit consumers more than the ‘do nothing’ option, or variants thereof.¹⁵¹ The selection of a remedy would have to obey a simple benefit-cost criterion from a social welfare standpoint: besides making the case for a finding of abuse of dominance, the European Commission should explain how the proposed remedy is likely to improve consumer welfare, possibly going one step beyond the mere statement that the survival of competitors in the market is going to increase consumer choice (or meta-choice, in this respect, since the case deals with comparison-shopping services), create incentives for innovation and ultimately contribute positively to consumer and social welfare¹⁵². This, after all, is the declared objective of antitrust law.

¹⁵¹ As former Assistant Attorney General for Antitrust Thomas Barnett has put it, even in circumstances where competitive harm theoretically could occur, the difficulty of designing a proper remedy may reveal that antitrust litigation cannot effectively remedy that harm. Since the Sherman Act's enactment in 1890, certain kinds of conduct appearing to harm competition have proven themselves beyond the limits of effective antitrust control. Barnett, T.O. (2008), Presentation at the American Bar Association Conference on Monopolization Remedies: “Section 2 Remedies: What to Do after Catching the Tiger by the Tail” (<http://www.justice.gov/atr/public/speeches/233884.htm>). Also, Harvard Law School Professor Phillip Areeda observed that “No court should impose a duty to deal that it cannot explain or adequately and reasonably supervise. The problem should be deemed irremedia[ble] by antitrust law when compulsory access requires the court to assume the day-to-day controls characteristic of a regulatory agency. Areeda, P. (1990), “Essential Facilities: An Epithet in Need of Limiting Principles”, 58 *Antitrust L.J.* 841, 853 (1990). See also Ammori and Pelican (2012), “Competitors’ Proposed Remedies for Search Bias: “Neutrality” and Other Proposals”, 15 No. 11 *J. Internet L.* 1, “A court (or agency) could not “adequately and reasonably supervise” this remedy—regardless of the debatable success of the airline CRS remedy decades ago and even with the help of a technical committee. To supervise this remedy, a court or agency would have to adjudicate complaints from a potential “competitor” for existing algorithms—about which Google’s competitors already complain⁷³—and potentially adjudicate every one of the 500 tweaks that Google makes to the algorithms every year, while applying an undefined metric”.

¹⁵² See Averitt, N. W. & R. H. Lande (2007), “Using the “Consumer Choice” Approach to Antitrust Law”, 74 *Antitrust L.J.* 175, 183 (asserting that antitrust harm is properly defined as activities—that unreasonably restrict ... the totality of price and non-price choices that would otherwise have been available). See Lande, R. H. (2001), “Consumer Choice as the Ultimate Goal of Antitrust”, 62 *Univ. Pitt. L. Rev.* 503.

5. Concluding remarks: four temptations that the EU should resist

As the Google saga reaches its culminating moments, at least with respect to the European Commission's investigation, the time is ripe to put forward some preliminary reflections on what the case is likely to mean for the present and future of EU antitrust law, as well as for the overall debate over online intermediaries and platforms that is currently taking place in Brussels (and even more in Paris and Berlin). Of course, these considerations have to be taken with caution, as the details of the Commission's Statement of Objections and the report sent by Google in response are not known; but some comments can be formulated even in the absence of more transparent information on the investigation.

To be sure, the Google investigation is bringing antitrust back under the spotlight, and is also triggering many questions concerning the suitability of the toolkit used by competition authorities when dealing with cyberspace. As shown in section 4, many concerns can be raised as regards the practice of market definition, as well as on the proxies that are traditionally used to detect market power and its abuse. The dynamic nature of competition, the abundance of network externalities and platform rivalry, the evolving end-to-end architecture of the Web and its breathtaking pace of change urgently call for a reflection on how tools such as the SSNIP test, the reliance on market shares, the anticompetitive foreclosure test, the definition of harm and more generally the structuralist view of competition that has traditionally dominated the scene of EU antitrust should be adapted and modified to better reflect the features of cyberspace.

This is not the first time that cyber-antitrust faces trouble: problems have been evident since the days of the Microsoft investigation, and many of them are now bouncing back in an exacerbated form, to the extent that the distance between the European Commission and market reality seems likely to grow as the Internet continues its incessant evolution. Put differently, it is time to realise that in the Internet ecosystem competition almost never comes from players that already exist in the 'relevant market': it almost always comes from other markets, or from future markets. To look for damaged competitors in the traditionally defined relevant product market means falling into a 'keys and lamp-post' syndrome, i.e. making the mistake of looking for problems only where you have the tools to find them, but not where problems are likely to be found. In other words, there might be something wrong if policymakers systematically identify different competitors compared to those that the companies themselves consider to be their rivals.

Moreover, and relatedly, a sneaky sensation is that the final outcome in the Google investigation heavily depends on whether the European Commission will eventually decide to apply its 'Microsoft economics' to Google. Already in 2004, when the European Commission issued its decision on the Microsoft case, several concerns could be raised about the way in which antitrust law had been stretched to fit the specifics of the case: not only market definition, but also the application of key tests such as the cumulative conditions identified by the CJEU in *Magill* and in *IMS Health* for a refusal to deal to be considered as anticompetitive behaviour under EU competition law could be (and indeed were) heavily criticised in that decision¹⁵³. And the 2007 decision of the Court of First Instance worsened the situation by drawing a *trompe l'oeil* in which the Commission decision was endorsed, and the *Magill/IMS*

¹⁵³ See i.a. Ahlborn, C. and D. S. Evans (2009), "The Microsoft Judgment and its Implications for Competition Policy towards Dominant Firms in Europe", *Antitrust Law Journal*, Vol. 75, No. 3 (<http://ssrn.com/abstract=1115867>). And P. Larouche (2008), "The European Microsoft Case at the Crossroads of Competition Policy and Innovation", *Antitrust Law Journal*, Vol. 75.

test was also confirmed.¹⁵⁴ Just like in the case of Google, also for Microsoft this does not amount to saying that the company should have been acquitted altogether: it only means that the way it was condemned did not appear in line with sound economics and with correct antitrust practice. In a perfect world, condemnation would require a detailed and thorough demonstration of why the observed behaviour is considered as a welfare-reducing course of action. In addition, the sanction should be proportionate with the extent of the infringement, and also with the obviousness (also from the ex-ante perspective of the defendant) of the infringing conduct; and the additional remedies imposed should be proportionate and credible.

Furthermore, it is important to launch a thorough discussion on the purpose of EU antitrust law, as well as its place in the overall EU regulatory framework. For example, attributing a pro-SME role to antitrust can be tricky in cyberspace, where even small companies become big for a limited amount of time whenever they manage to establish themselves as market leaders or major platforms. For example, Uber is originally an SME, but has recently been growing so much that it is difficult to qualify it as a small company today, and even more recently obtained almost 1 billion Euros in funding in a single business trip to China.¹⁵⁵ Moreover, an analysis of the evolution of cyberspace suggests that the growth of large online intermediaries on the Internet is opening new spaces and lowering barriers to entry for many companies active in the application layer. For example, Google itself offers very competitive and cheap (if not zero-priced) cloud services that include advanced storage, and traffic acceleration services. Platform competition is making this possible by fostering rivalry between large players (Apple, Amazon and Microsoft), which must secure a large application portfolio and thus offer very attractive packages to app developers. Even in Europe, a land that has traditionally been relatively hostile to innovation and entrepreneurship over the past years, the app economy is thriving, and this is happening mostly due to the Internet's growing platformisation. This makes the job of the trustbuster even more complicated: not only competitors are to be located outside the relevant market, but even the impact of Internet giants on entry barriers has to be assessed across the Internet value chain to be fully appraised.

More generally, the fact that the Internet world and the European Commission seem to be dancing to a different drummer not only jeopardises the suitability of the EU legal environment for the emergence of innovation and new business models; it can also heavily affect the application of related pieces of legislation, e.g. the electronic communications regulatory framework, which is largely based on tools such as market definition and significant market power. Overall, the importance of a well-crafted competition policy framework for innovation is increasingly being highlighted in the academic literature.¹⁵⁶ This is even more relevant since the European Commission is carrying out a sectoral inquiry on the emerging role of e-commerce platforms and will soon launch a consultation on online platforms in view of a potential future regulatory intervention.¹⁵⁷

¹⁵⁴ See Pardolesi & Renda (2007), "Kill Bill Vol. 2", *Mercato Concorrenza Regole* 3/2007 (in Italian).

¹⁵⁵ See *i.a.*, <http://fortune.com/2015/09/07/uber-china/>

¹⁵⁶ See Büthe, T. and C. Cheng (2015), "The Effect of Competition Law on Innovation: A Cross-National Statistical Analysis" (forthcoming). Presented at the World Bank Conference on "Promoting Effective Competition Policies for Shared Prosperity and Inclusive Growth", 2015. And see also Pelkmans and Renda (2014), "Does EU Regulation Hinder or Stimulate Innovation?", November 19, CEPS Special Report, No. 96 (<http://ssrn.com/abstract=2528409>).

¹⁵⁷ See European Commission - Press release, "Antitrust: Commission launches e-commerce sector inquiry", Brussels, 6 May 2015 (http://europa.eu/rapid/press-release_IP-15-4921_en.htm). The

One of the risks of these investigations is that search neutrality stances will emerge as possible policy recipes. As observed in this paper, whatever the outcome of the Google investigation, there are reasons to believe that the issue of search or platform neutrality should never be invoked as an antitrust principle, nor be made the basis for regulatory intervention. The future of search engines, just as in their past and present, cannot be one of neutrality. As eloquently explained by Grimmelman (2011), “whether it ranks sites by popularity, by personalization, or even by the idiosyncratic whims of its operator, a search engine provides an alternative to the Hobbesian world of the unmediated Internet, in which the richest voices are the loudest, and the greatest authority on any subject is the spammer with the fastest server”.¹⁵⁸ Just like our brain simplifies reality to make the abundance of information in the outside world more manageable and useful, a search engine has to reduce complexity to help us find our way through the Internet. In other words, as confirmed also by the German *Monopolkommission*, search engines need to be non-neutral to continue to remain relevant and compete for quality and product differentiation.

In the upcoming European reflection on competition policy, e-commerce and online intermediaries, EU policymakers should try to focus on sound economics and resist a number of temptations, which come from the overall debate taking place in Brussels but have generally very little to do with antitrust. First, EU institutions should resist the temptation to use antitrust to solve problems that are not strictly related to competition. Just as competition policy was used for a period of time to regulate the banking sector during the recent financial crisis, a similar tendency seems to be emerging in the public debate on ‘Internet giants’. Privacy concerns, tax concerns, regulatory and consumer protection stances, and copyright concerns are being translated into antitrust issues, to be solved through ad-hoc investigations or sectoral inquiries. But antitrust is a very technical field, governed by the rules of industrial economics: it cannot be used to solve non-antitrust matters. That said, it could even be that Google’s conduct creates intellectual property problems, or tax problems, or consumer protection or privacy concerns; and it is even conceivable that the public debate confuses these into one single anti-platform sentiment without identifying the right legal instruments to address the concern. But the European Commission cannot make the same mistake, and this is why the investigation of Google should remain essentially an antitrust investigation, deprived of any industrial policy or non-antitrust purpose.

Second, it is important to clarify that neutrality stances cannot co-exist with enhanced platform responsibility. As I already observed in a previous paper, EU institutions should refrain from asking platforms to be neutral, and also to be increasingly responsible for the conduct of their subscribers or for the content that flows through their servers and networks.¹⁵⁹ This is an ‘either or’ decision (indeed, ‘neither of the two’ is also possible). And there are reasons to believe that asking more responsible cooperation on the side of Internet platforms is a much more grounded policy option than pretending neutrality from players whose role is essentially that of eschewing neutrality to help users navigate through cyberspace without drowning in the over-abundance of information that characterises it. Online intermediaries are in an increasingly favourable position to help policymakers monitor and enforce the application of

consultation on platforms is expected in the second half of September 2015 (<https://ec.europa.eu/digital-agenda/en/digital-me/consultations>).

¹⁵⁸ See Grimmelman (2011), “Some Skepticism about Search Neutrality”, in Szoka, B. and A. Marcus. (eds) (2010) *The Next Digital Decade* 435, pp. 442-443.

¹⁵⁹ See Renda (2015a), “Antitrust, Regulation and the Neutrality Trap”, CEPS Special Report No. 104, CEPS, Brussels.

legal rules, even if this does not automatically mean that they should be held liable for the behaviour of their subscribers or for the infringing nature of content that flows through their networks. A very delicate balance must be struck between the need to ensure the effectiveness of legal rules in cyberspace and the need to preserve the Internet's original design, based on end-user freedom and limitations to the liability of intermediaries. Various streams of the EU debate on cyberspace law (from copyright to the review of the e-commerce Directive) are potentially dealing with this delicate balance: it is of utmost importance that the solution devised by the EU institutions in this respect is consistent and sustainable.

Third, another temptation to be resisted is the 'too-big-to-fail' problem, applied to the European Commission. This refers to the fact that the Google investigation has become so big that the Commission might feel somehow forced to end the investigation with a condemnation of Google's anti-competitive behaviour. This is the same problem that emerged in the first EU Microsoft case, especially in 2007, when the CFI issued its decision in the case: the overall sensation in Brussels was that, had the Court overturned the Commission's 2004 decision, this would have represented a major backlash for DG Competition and its overall reputation. This charged the case with a political importance that made the overall outcome almost impossible to change, and affected the judges' peace of mind as well as the quality of the final decision.

Finally, it is important to resist the temptation to retain a regulatory framework that simultaneously penalises company failure and company success. As a matter of fact, Europe has been traditionally considered as a place where the failure of a firm is viewed more negatively than in other parts of the world, thus becoming an obstacle to entrepreneurship. At the same time, incentives to compete are severely undermined by regulatory frameworks that aim at punishing successful competitors in the name of market structure or the protection of smaller companies: the very famous *refrain* in US antitrust law, coined by Judge Learned Hand, is that "[t]he successful competitor, having been urged to compete, must not be turned upon when he wins".¹⁶⁰ Similarly, the image of a company that is forced to invest and expand not to lose its competitive edge is far from that of a large, established player in a mature market, which is so shielded from competitive pressure that it eventually indulges in *x*-inefficiency. Looking at Google's recent activities (including a myriad of acquisitions, an ongoing massive internal restructuring, a number of ambitious trial-and-error projects from glasses to art, broadband, smart cells, etc.), it is much easier to find traces of a competitor having been urged to compete than those of a lazy monopolist.

To be clear, it is important to reiterate that this series of arguments does not mean that Google should be given a wild card when it comes to antitrust scrutiny: on the contrary, if the European Commission find evidence of an antitrust infringement, based on sound law and economics, such infringement will have to be sanctioned in a proportionate and effective way. In order to reach this admirable and commendable result, the Commission will have to look in-depth at the economics of cyberspace and, most importantly, ignore the sirens of all those stakeholders that would like to see Google condemned for reasons that have nothing to do with sound antitrust, or that invoke conspiracy theories to advocate the dismantling or break-up of a company that, as far as is known, built its success out of business acumen, not superior size, financial strength or first-mover advantage. If a meaningful debate does not take place this time, the whole Internet community will remain, once again, deprived of the predictable legal framework it needs to develop and thrive in the EU Internal Market.

¹⁶⁰ *United States v. Aluminum Co. of America*, 148 F.2d 416, 430 (2d Cir. 1945).

References

- Abramson, B. (2008), "Are 'Online Markets' Real and Relevant? From the Monster-HotJobs Merger to the Google-DoubleClick Merger", *Competition Law and Economics*, Vol. 4, No. 3, pp. 655-662.
- Agence France Presse (2014), "Facebook Challenging Google in Online Advertising Market", 15 October (<http://gadgets.ndtv.com/social-networking/features/facebook-challenging-google-in-online-advertising-market-607019>).
- Ahlborn, C. and D.S. Evans (2009), "The Microsoft Judgment and its Implications for Competition Policy towards Dominant Firms in Europe", *Antitrust Law Journal*, Vol. 75, No. 3 (<http://ssrn.com/abstract=1115867>).
- Akman, P., (2009), "Searching for the Long-Lost Soul of Article 82", *Oxford Journal of Legal Studies*, Vol. 29, No. 2, pp. 267-303.
- Almunia, J. (2014), Press conference, Statement on the Google investigation, Brussels, 5 February (http://europa.eu/rapid/press-release_SPEECH-14-93_en.htm).
- Ammori, M. and L. Pelican (2012), "Competitors' Proposed Remedies for Search Bias: "Neutrality" and Other Proposals", *Journal of Internet Law*, Vol. 15, No. 11.
- Areeda, P. (1990), "Essential Facilities: An Epithet in Need of Limiting Principles", *Antitrust Law Journal*, Vol. 58, pp. 841-853.
- Averitt, N.W. and R.H. Lande (2007), "Using the 'Consumer Choice' Approach to Antitrust Law", *Antitrust Law Journal*, Vol. 74, p. 175.
- Barnett, T.O. (2008), Presentation at the American Bar Association Conference on Monopolization Remedies: "Section 2 Remedies: What to Do after Catching the Tiger by the Tail" (www.justice.gov/atr/public/speeches/233884.htm).
- Baumol, W.J. (1982), "Contestable markets: An uprising in the theory of industry structure", *American Economic Review*, Vol. 72, No. 1, pp. 1-15, March.
- Baumol, W.J., J.C. Panzar and R.D. Willig (1982), *Contestable Markets and the Theory of Industry Structure*. New York, NY: Harcourt Brace Jovanovich, Inc.
- Blair, R.D. and D. Sokol (2012), "The Rule of Reason and the Goals of Antitrust: An Economic Approach", *Antitrust Law Journal*, Vol. 78, No. 2, Minnesota Legal Studies Research Paper, No. 13-04 (ssrn.com/abstract=2039337).
- Bork, R.H. and J.G. Sidak (2012), "What Does the Chicago School Teach about Internet Search and the Antitrust Treatment of Google?", *Journal of Competition Law & Economics*, Vol. 8, Issue 4, pp. 663-700 (<http://jcle.oxfordjournals.org/content/8/4/663.full.pdf+html>).
- Bostrom, N. (2014), *Superintelligence, Paths, Dangers, Strategies*, Oxford: Oxford University Press.
- Bracha, O. and F. Pasquale (2008), "Federal Search Commission? Fairness, Access, and Accountability in the Law of Search", *Cornell Law Review*, Vol. 93, Cornell University Law School, pp. 1149-1165.
- Bresnahan, T., S.M. Greenstein and R.M. Henderson (2011), "Schumpeterian Competition and Diseconomies of Scope: Illustrations from the Histories of Microsoft and IBM", Harvard

- Business School General Management Unit Working Paper, No. 11-077 (<http://ssrn.com/abstract=1752410>).
- Büthe, T. and C. Cheng (2015), "The Effect of Competition Law on Innovation: A Cross-National Statistical Analysis", (forthcoming), presented at the World Bank Conference on "Promoting Effective Competition Policies for Shared Prosperity and Inclusive Growth".
- Cisco, Visual Networking Index: Forecast and Methodology, 2014-2019 White Paper.
- Claffy, K.C. and D. D. Clark (2013), "Platform Models for Sustainable Internet Regulation", TPRC 41: The 41st Research Conference on Communication, Information and Internet Policy, 15 August (<http://dx.doi.org/10.2139/ssrn.2242600>).
- Clark, D.D. and K.C. Claffy (2015), "Anchoring policy development around stable points: an approach to regulating the co-evolving ICT ecosystem", *Telecommunications Policy*, Volume 39, Issue 7, August.
- Crane, D. A. (2010), "Search Neutrality and Referral Dominance", *Journal of Competition Law & Economics*, Vol. 8, pp. 459-467.
- Crane, D.A. (2014), "After Search Neutrality: Drawing a Line between Promotion and Demotion", *I/S: Journal of Law and Policy for the Information Society*, Vol. 9, No. 3, pp. 397-406.
- Dewey, C. (2015), "If you could print out the whole Internet, how many pages would it be?", *Washington Post*, 18 May (www.washingtonpost.com/news/the-intersect/wp/2015/05/18/if-you-could-print-out-the-whole-internet-how-many-pages-would-it-be/).
- Edelman, B. (2011), "Bias in Search Results? Diagnosis and Response", *Indiana Journal of Law & Technology* 7:16 (www.nls.ac.in/ojs-2.2.3/index.php/IJLT/article/viewFile/92/72).
- Edelman, B. and B. Lockwood (2011), "Measuring Bias in 'Organic' Search", (www.benedelman.org/searchbias).
- European Commission (1997), "Notice on the definition of relevant market for the purposes of Community competition law", *Official Journal C 372*, 9.12.1997, pp. 5-13.
- European Commission (2009), Communication, "Guidance on its enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings". *Official Journal C 45*, 24.2.2009, pp. 7-20.
- European Commission (2010), "Antitrust: Commission probes allegations of antitrust violations by Google", 30 November (http://europa.eu/rapid/press-release_IP-10-1624_en.htm?locale=en).
- European Commission (2015), Press release, "Antitrust: Commission sends Statement of Objections to Google on comparison shopping service; opens separate formal investigation on Android", Brussels (http://europa.eu/rapid/press-release_IP-15-4780_en.htm).
- European Commission (2015), Press release, "Antitrust: Commission launches e-commerce sector inquiry", Brussels, 6 May (http://europa.eu/rapid/press-release_IP-15-4921_en.htm).

- European Parliament (2011), Resolution of 17 November 2011 on the open Internet and net neutrality in Europe (www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P7-TA-2011-0511+0+DOC+XML+V0//EN).
- Evans, B. (2014), "Why Amazon has no Profits and why it Works" (<http://ben-evans.com/benedictevans/2014/9/4/why-amazon-has-no-profits-and-why-it-works>).
- Evans, D., V.Y. Zhang and H. Chang (2013), "Analyzing Competition among Internet Players: Qihoo 360 v. Tencent", *Antitrust Chronicle*, 2013, Vol. 12.
- Evans, D.S. and R. Schmalensee (2008). "Markets with two-sided platforms?", *Issues in Competition and Law and Policy* (ABA Section of Antitrust Law) 1 (28), pp. 667–693.
- FairSearch (2014), Google's Proposed Commitments are worse than nothing (www.fairsearch.org/statement-fairsearch-europe-googles-proposed-commitments-worse-nothing/).
- Falce, V. and M. Granieri (2015), "Searching a Rationale for Search Neutrality in the Age of Google" (<http://eale.org/content/uploads/2015/08/falce-granieri-eale-2015.pdf>).
- Federal Trade Commission (2011), Statement Regarding Google's Search Practices in the Matter of Google Inc. FTC File Number 111-0163, January (www.ftc.gov/sites/default/files/documents/public_statements/statement-commission-regarding-googles-search-practices/130103brillgooglesearchstmt.pdf).
- First, H. (2008), "Strong Spine, Weak Underbelly: The CFI Microsoft Decision", New York University Law and Economics Working Papers, No. 129, New York University (http://lsr.nellco.org/nyu_lewp/129).
- Foster, R. (2015), *News Plurality in a Digital World*, Reuters Institute for the Study of Journalism (http://reutersinstitute.politics.ox.ac.uk/sites/default/files/News%20Plurality%20in%20a%20Digital%20World_0.pdf).
- Foundem (2015), slides on Google's response (www.foundem.co.uk/fmedia/Foundem_Jun_2015_Analysis/).
- Friederiszick, Hans W. and L. Gratz (2012), "Dominant and efficient: On the relevance of efficiencies in abuse of dominance cases", ESMT White Paper, No. WP- 12-01.
- _____ (2013), "Hidden Efficiencies: On the Relevance of Business Justifications in Abuse of Dominance Cases", ESMT Working Paper, No. 13-10, September.
- Gasser, U. (2006), "Regulating Search Engines: Taking Stock and Looking Ahead", *Yale Journal of Law & Technology* 9, pp. 124-157.
- Gawer, A. (2009), *Platforms, Markets and Innovation*, Cheltenham, UK and Northampton, MA: Edward Elgar.
- Gawer, A. and M.A. Cusumano (2002), *Platform Leadership: How Intel, Microsoft, and Cisco Drive Industry Innovation*, Harvard Business School Press, Boston, MA.
- _____ (2008), "How companies become platform leaders", *MIT/Sloan Management Review* 49 (2), pp. 18-35.
- Geradin, D. (2010), "Is the Guidance Paper on the Commission's Enforcement Priorities in Applying Article 102 TFEU to Abusive Exclusionary Conduct Useful?" (<http://ssrn.com/abstract=1569502>).

- _____ (2010), "The Decision of the Commission of 13 May 2009 in the Intel Case: Where is the Foreclosure and Consumer Harm?" TILEC Discussion Paper No. 22, Tilburg Law and Economics Center, Tilburg University.
- _____ (2015), "Loyalty Rebates after Intel: Time for the European Court of Justice to Overrule Hoffman-La Roche", forthcoming in 11 (2015) *Journal of Competition Law & Economics*; George Mason Law and Economics Research Paper No. 15-15 (<http://ssrn.com/abstract=2586584>).
- Gerber, D. (1994), "Constitutionalizing the Economy: German Neo-liberalism, Competition Law and the 'New' Europe", *American Journal of Comparative Law*, Vol. 42, pp. 25-84l.
- Gillespie, T.L. (2010), "The Politics of 'Platforms'", *New Media and Society*, Vol. 12, No. 3 (<http://ssrn.com/abstract=1601487>).
- Goldfine D. and K. Vorrasi (2004), "The Fall of the Kodak Aftermarket Doctrine: Dying a Slow Death in the Lower Courts", *Antitrust Law Journal* 72:209.
- Goodman. E. P. (2014), "Informational justice as the new media pluralism", LSE blog, 19 November (<http://blogs.lse.ac.uk/mediapolicyproject/2014/11/19/informational-justice-as-the-new-media-pluralism/>).
- Google (2015), blog post by Posted by Kent Walker, SVP & General Counsel, "Improving quality isn't anti-competitive" (<http://googlepolicyeurope.blogspot.com/2015/08/improving-quality-isnt-anti-competitive.html>).
- Grimmelmann, J. (2007), "Don't Censor Search", *Yale Law Journal Pocket Part*, Vol. 117:48, p. 51.
- Grimmelmann, J. (2011), "Some Skepticism About Search Neutrality", in Szoka, B. and A. Marcus (eds) (2010), *The Next Digital Decade* 435, pp. 442-443;
- Harbour, P. J. & T. I. Koslov (2010), "Section 2 in a Web 2.0 World: An Expanded Vision of Relevant Product Markets", *Antitrust Law Journal*, Vol. 76, p. 769-797.
- Hazan, J. G. (2013), "Stop Being Evil: A Proposal for Unbiased Google Search", *Michigan Law Review*, Vol. 111, Issue 5, p. 789 (<http://repository.law.umich.edu/mlr/vol111/iss5/5>).
- Helberger, N. (2012), "Exposure diversity as a policy goal", *Journal of Media Law*, 4 (1), pp. 65-92, doi: 10.5235/175776312802483880.
- Herz, M. (2014), "Google Search and the Law on Dominance in the EU. An Assessment of the Compatibility of Current Methodology with Multi-Sided Platforms in Online Search" (<http://ssrn.com/abstract=2497932>).
- Hornby, T. (2013), "The Rise of Google: Beating Yahoo at Its Own Game", *Tech History* (<http://lowendmac.com/2013/the-rise-of-google-beating-yahoo-at-its-own-game/>).
- Ibáñez Colomo, P. (2014), "Intel and Article 102 TFEU Case Law: Making Sense of a Perpetual Controversy", *LSE Legal Studies Working Paper* No. 29, London School of Economics and Political Science.
- Irion, K. and P. Valcke (2015), "Cultural diversity in the digital age: EU competences, policies and regulations for diverse audiovisual and online content", in E. Psychogiopoulou (ed.), *Cultural Governance and the European Union*, Houndmills and New York: Palgrave Macmillan.
- Jamison, M. A. (2012) "Should Google Search Be Regulated as a Public Utility?" (<http://ssrn.com/abstract=2027543>).

- Jeppesen, J.-H. (2015), "French and German Ministers Should Not Confuse Platform Neutrality with Net Neutrality" (<https://cdt.org/blog/french-and-german-ministers-should-notconfuse-platform-neutrality-with-net-neutrality/>).
- Kaplow, L. (2010), "Why (Ever) Define Markets?", *Harvard Law Review* Vol. 124, pp. 437-517.
- Kaplow, L. (2012) "Market Definition Alchemy", *Antitrust Bulliten*, Vol. 57, pp. 915-952.
- Katz, Michael L. and H. A. Shelanski (2005), "'Schumpeterian' Competition and Antitrust Policy in High-Tech Markets", *Competition*, Vol. 14, p. 47 (<http://ssrn.com/abstract=925707>).
- Kersting, C. and S. Dworschak (2014), "Does Google Hold a Dominant Market Position? – Addressing the (Minor) Significance of High Online User Shares", *Ifo Schnelldienst* 16/2014, 7 (<http://ssrn.com/abstract=2495300>).
- Kharpal, A. (2015), "Amazon's bid to beat Facebook, Google in ad battle", *CNBC*, 14 May (<http://www.cnbc.com/2015/05/14/amazon-launches-ad-service-for-apps-in-bid-to-challenge-facebook-google.html>).
- Kokalitcheva, K. (2015), "Mobile is Facebook's cash cow", *Fortune*, (<http://fortune.com/2015/07/29/facebook-mobile-ad-revenue/>).
- Körber, T. (2015), "Common errors regarding search engine regulation – and how to avoid them", *European Competition Law Review* 36, Issue 6, Thomson Reuters.
- Kuratko, D. F. (2013), *Entrepreneurship. Theory, Process and Practice*, South-Western, Cengage Learning, p. 133.
- Lake, C. (2009), "Foundem vs. Google: A Case Study in SEO Fail", *Econsultancy* (<http://econsultancy.com/us/blog/4456-foundem-vs-google-a-case-study-in-seo-fail>).
- Lande, R. H. (2001), "Consumer Choice as the Ultimate Goal of Antitrust", *University of Pittsburgh Law Review* 62:503.
- Lande, R. H. (2009), "The Price of Abuse: Intel and the European Commission Decision", *GCP: The Online Magazine for Global Competition Policy*, No. 2, June (<http://ssrn.com/abstract=1434985>).
- Langford, A. (2013), "gMonopoly: does search bias warrant antitrust or regulatory intervention?", *Indiana Law Journal*, Vol. 88 No. 4, pp. 1559-1592;
- Larouche, P. (2009), "The European Microsoft Case at the Crossroads of Competition Policy and Innovation", *Antitrust Law Journal* 75:933.
- Latzer et al. (2015), "The Economics of Algorithmic Selection on the Internet", in Bauer, J. and M. Latzer (eds), *Handbook on the Economics of the Internet*, Cheltenham: Edward Elgar.
- Le Monde* (2015), "Loi Macron: l'amendement anti-Google adopté", *Le Monde*, 16 April (http://www.lemonde.fr/economie/article/2015/04/16/loi-macron-l-amendement-anti-google-adopte_4617393_3234.html).
- Lianos, I. and E. Motchenkova (2012), "Market Dominance and Quality of Search Results in the Search Engine Market", *TILEC Discussion Paper No. 36*, Tilburg Law and Economics Center, Tilburg University (http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2169343).

- Luca, M. T. Wu, and the Yelp Data Science Team (2015), "Is Google degrading search? Consumer Harm from Universal Search" (<http://www-scf.usc.edu/~csci572/papers/yelpGoogleBias.pdf>).
- Manne, G.A. & J. D. Wright (2012), "If Search Neutrality is the Answer, What's the Question?", *Columbia Business Law Review*, Vol. 151.
- Mays, L. (2015), "The Consequences of Search Bias: How Application of the Essential Facilities Doctrine Remedies Google's Unrestricted Monopoly on Search in the United States and Europe", *George Washington Law Review*, Vol. 83, p. 721.
- McKenzie, R.B. (2000), *Trust on Trial*, Perseus Books, Cambridge, MA.
- Miller, C. C. & S. Clifford (2012), "Google Struggles to Unseat Amazon as the Web's Most Popular Mal", *New York Times*, 9 September.
- Moffat, V. R. (2009), "Regulating Search", *Harvard Journal of Law & Technology*, Vol. 22, No. 2, Spring, p. 475 and pp. 487-490
- Monopolkommission (2015), "Competition Policy: The Challenges of Digital Markets", June (www.monopolkommission.de/index.php/en/home/84-pressemitteilungen/285-competition-policy-the-challenge-of-digital-markets).
- Monti, G. (2010), "The Concept of Dominance in Article 82" (<http://www.lse.ac.uk/collections/law/staff%20publications%20full%20text/monti/ECJdominancepaper.pdf>).
- Page, W. H. and S.J. Childers (2011), "Antitrust, Innovation, and Product Design in Platform Markets: Microsoft and Intel" Available at SSRN: <http://ssrn.com/abstract=1914737>;
- Palacin, M., M. Oliver, J. Infante, S. Oechsner and A. Bikfalvi (2013), "The Impact of Content Delivery Networks on the Internet Ecosystem", *Journal of Information Policy*, Vol. 3, pp. 304-330.
- Pan, B. et al. (2007), "In Google We Trust: Users' Decisions on Rank, Position, and Relevance", *Journal of Computer Mediated Communication*, Vol. 12, pp. 801-823.
- Pardolesi, R. and A. Renda (2004), "The European Commission's Case against Microsoft: Kill Bill?", *World Competition*, Vol. 27, Issue 4, pp. 513-566.
- Pardolesi, R. and A. Renda (2007), "Kill Bill Vol. 2", *Mercato Concorrenza Regole 3/2007* (in Italian).
- Pasquale, F. (2006), "Rankings, Reductionism, Responsibility", *Cleveland State Law Review*, Vol. 54, pp. 115, 117.
- Pasquale, F. (2008), "Internet Non-discrimination principles: Commercial Ethics for Carriers and Search Engines", *University of Chicago Legal Forum*, Vol. 263.
- Pasquale, F. (2010), Dominant Search Engines: An Essential Cultural & Political Facility, in Szoka, B. and A. Marcus. (eds) (2010), *The Next Digital Decade*, Vol. 401.
- Pasquale, F. (2010), "Beyond Innovation and Competition: The Need for Qualified Transparency in Internet Intermediaries", *104 Northwestern University Law Review* 105, No. 1, p. 108.
- Patterson, M. R. (2013), "Google and Search Engine Market Power", *Harvard Journal of Law & Technology*, Vol. 1.

- Pelkmans, J. and A. Renda (2014), "Does EU Regulation Hinder or Stimulate Innovation?", CEPS Special Report, No. 96, CEPS, Brussels (<http://ssrn.com/abstract=2528409>).
- Petit, N. (2009), "From Formalism to Effects? – The Commission's Communication on Enforcement Priorities in Applying Article 82 EC", *World Competition*, Vol. 32, Issue 4, pp. 485-503.
- Petit, N. (2014), "Price Squeezes with Positive Margins in EU Competition Law: Economic and Legal Anatomy of a Zombie" (<http://ssrn.com/abstract=2506521>).
- Petit, N. (2015), "Intel, Leveraging Rebates and the Goals of Article 102 TFEU" (<http://ssrn.com/abstract=2567628>).
- Raff, A. and S. Raff (2015), "Google Antitrust: A Timeline of Significant Events", first published on April 15, last updated on June 16 (http://www.foundem.co.uk/Foundem_Google_Timeline.pdf).
- Rampton, J. (2014), "5 Reasons you shouldn't use AdWords", *Forbes*, 7 July (<http://www.forbes.com/sites/johnrampton/2014/07/07/5-reasons-you-shouldnt-use-adwords/>).
- Ratliff, J. D. & D. L. Rubinfeld (2010), "Online Advertising: Defining Relevant Markets", 6 *Journal of Competition Law and Economics* 6 (3), Oxford University Press, Oxford, pp. 653-686
- Renda, A. (2004), "Catch me if you Can! The Microsoft Saga and the Sorrows of Old Antitrust", *Erasmus Law and Economics Review*, 1/2004.
- Renda, A. (2015), "Antitrust, Regulation and the Neutrality Trap", CEPS Special Report No. 104, CEPS, Brussels, April.
- Renda, A. (2015), "Antitrust on the 'G string': What's behind the Commission's investigations of Google and Gazprom?", CEPS Commentary, CEPS, Brussels, April 15 (<http://www.ceps.eu/system/files/150615%20AR%20Antitrust%20Google%20and%20Gazprom%20final.pdf>).
- Renda, A. and C. Yoo (2015), "Telecommunications and Internet Services: The digital side of the TTIP", Paper No. 8 in the CEPS-CTR project 'TTIP in the Balance' and CEPS Special Report No. 112, July 2015, now published as Chapter 12 in Hamilton, D. and J. Pelkmans (2015), *Rule-Makers or Rule-Takers? Exploring the Transatlantic Trade and Investment Partnership*, Rowman & Littlefield.
- Reuters (2015), "Highlights: EU charges Google over shopping searches, to probe Android", (<http://www.reuters.com/article/2015/04/15/google-eu-vestager-idUSB5N0T900T20150415>).
- Rochet, J.-C., J. Tirole (2006), "Two-sided markets: A progress report", *RAND Journal of Economics* 35, pp. 645-667.
- Rochet, J.-C. and J. Tirole, (2003), "Platform competition in two-sided markets", *Journal of the European Economic Association* 1 (4), pp. 990-1029.
- Rubinfeld, D. and J. Hoven (2001), "Innovation and Antitrust Enforcement", in Ellig, J. (ed.) *Dynamic Competition and Public Policy: technology, innovation, and antitrust issues*, USA: Cambridge University Press.
- Salinger, M. A. and R. J. Levinson (2013), "The Role for Economic Analysis in the FTC's Google Investigation" (<http://www.law.northwestern.edu/research-faculty/searlecenter/>

- [events/internet/documents/salinger_economics_of_google_and_antitrust_case_searle_conference_version.pdf](#).
- Singer, H. (2012), "Who Competes With Google Search? Just Amazon, Apple and Facebook", *Forbes*, 18 September (<http://www.forbes.com/sites/halsinger/2012/09/18/who-competes-with-google-in-search-just-amazon-apple-and-facebook/>).
- Singh, A. J. Ong, A. Agarwal, G. Anderson, A. Armistead, R. Bannon, S. Boving, G. Desai, B. Felderman, P. Germano, A. Kanagala, J. Provost, J. Simmons, E. Tanda, J. Wanderer, U. Hölzle, S. Stuart, and A. Vahdat (2015), "Jupiter Rising: A Decade of Clos Topologies and Centralized Control in Google's Datacenter Network" (<http://conferences.sigcomm.org/sigcomm/2015/pdf/papers/p183.pdf>).
- Smith, B. J. (2012), "Vertical vs. Core Search: Defining Google's Market in a Monopolization Case", *NYU Journal of Law & Business*, Vol. 9, Fall, No. 1, p. 331.
- Stucke, M. E. and A. Ezrachi (2015), "When Competition Fails to Optimise Quality: A Look at Search Engines", University of Tennessee Legal Studies Research Paper No. 268, University of Tennessee (<http://ssrn.com/abstract=2598128>).
- Sullivan, D. (2011), "Study: Google "Favors" Itself Only 19% Of The Time", Search Engine Land (<http://searchengineland.com/survey-google-favors-itselfonly-19-of-the-time-61675>).
- Temple Lang, J. (2003), "Anticompetitive Non-Pricing Abuses Under European and National Antitrust Law", Chapter 14 - International Antitrust Law & Policy: *Fordham Corporate Law* 2003.
- Temple Lang, J. and A. Renda (2008), *Treatment of Exclusionary Abuses under Article 82 of the EC Treaty: Comments on the European Commission's Guidance Paper*, Report of a CEPS Task Force, October (<http://www.ceps.be/book/treatment-exclusionary-abuses-under-article-82-ec-treaty-comments-european-commissions-guidance>).
- Tong Shu (2010), "Reflections on Baidu Monopoly Litigation: Comments on Renren v. Baidu", 1 *China Patents & Trademarks* 66.
- Van Gorp, N. and O. Batura (2015), *Challenges for Competition Policy in a Digitalised Economy*, Report for the European Parliament, ([http://www.europarl.europa.eu/RegData/etudes/STUD/2015/542235/IPOL_STU\(2015\)542235_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/542235/IPOL_STU(2015)542235_EN.pdf)).
- Vanberg, D. (2012), "From Archie to Google -Search engine providers and emergent challenges in relation to EU competition law", *European Journal for Law and Technology*, Vol. 3, No. 1, 2012;
- Wagner-von Papp, F. (2015), "Should Google's Secret Sauce Be Organic?", July 31 (<http://ssrn.com/abstract=2639081>).
- Wall Street Journal (2015), "Google makes most of its WH ties", *Wall Street Journal*, 25 March.
- Waterworth, J. (2015) "French farce: search neutrality rules Moliere would delight in", Project DisCo, 1 May (<http://www.project-disco.org/competition/050115-searching-for-satisfaction/>).
- Werden, G. J. (2012), "Why (Ever) Define Markets? An Answer to Professor Kaplow" (<http://ssrn.com/abstract=2004655>).

White, R.W. & S. T. Dumais (2009), "Characterizing and Predicting Search Engine Switching Behavior", paper presented at the 18th ACM Conference on Information and Knowledge Management.

Wright, J. D. (2011), "Defining and Measuring Search Bias: Some Preliminary Evidence", International Center for Law & Economics, November 2011; George Mason Law & Economics Research Paper No. 12-14 (<http://ssrn.com/abstract=2004649>).



ABOUT CEPS

Founded in Brussels in 1983, the Centre for European Policy Studies (CEPS) is widely recognised as the most experienced and authoritative think tank operating in the European Union today. CEPS acts as a leading forum for debate on EU affairs, distinguished by its strong in-house research capacity, complemented by an extensive network of partner institutes throughout the world.

Goals

- Carry out state-of-the-art policy research leading to innovative solutions to the challenges facing Europe today,
- Maintain the highest standards of academic excellence and unqualified independence
- Act as a forum for discussion among all stakeholders in the European policy process, and
- Provide a regular flow of authoritative publications offering policy analysis and recommendations,

Assets

- Multidisciplinary, multinational & multicultural research team of knowledgeable analysts,
- Participation in several research networks, comprising other highly reputable research institutes from throughout Europe, to complement and consolidate CEPS' research expertise and to extend its outreach,
- An extensive membership base of some 132 Corporate Members and 118 Institutional Members, which provide expertise and practical experience and act as a sounding board for the feasibility of CEPS policy proposals.

Programme Structure

In-house Research Programmes

Economic and Social Welfare Policies
Financial Institutions and Markets
Energy and Climate Change
EU Foreign, Security and Neighbourhood Policy
Justice and Home Affairs
Politics and Institutions
Regulatory Affairs
Agricultural and Rural Policy

Independent Research Institutes managed by CEPS

European Capital Markets Institute (ECMI)
European Credit Research Institute (ECRI)

Research Networks organised by CEPS

European Climate Platform (ECP)
European Network for Better Regulation (ENBR)
European Network of Economic Policy
Research Institutes (ENEPRI)
European Policy Institutes Network (EPIN)