

**UNIVERSITY OF BRASILIA
LAW SCHOOL**

PEDRO HENRIQUE ARAÚJO SANTIAGO

**REFUSAL OF ACCESS TO SEARCH DATA IN THE BRAZILIAN
COMPETITION LAW: the facts, the conduct and the law**

Brasilia

2017

PEDRO HENRIQUE ARAÚJO SANTIAGO

**REFUSAL OF ACCESS TO SEARCH DATA IN THE BRAZILIAN
COMPETITION LAW: the facts, the conduct and the law**

Dissertation presented as partial requirement
for the obtention of the title of Bachelor of
Laws from the University of Brasilia.

Supervisor: Professor Amanda Athayde Linhares
Martins Rivera, Doctor of Laws

Brasilia

2017

PEDRO HENRIQUE ARAÚJO SANTIAGO

**REFUSAL OF ACCESS TO SEARCH DATA IN THE BRAZILIAN
COMPETITION LAW: the facts, the conduct and the law**

Dissertation presented as partial requirement
for the obtention of the title of Bachelor of
Laws from the University of Brasilia.

Supervisor: Professor Amanda Athayde Linhares
Martins Rivera, Doctor of Laws

Presentation on December 6th, 2017

Examination committee

Professor Amanda Athayde Linhares Martins Rivera, Doctor of Laws

University of Brasilia

Professor Eric Hadmann Jasper Dutra, Master of Laws

University of Brasilia

Professor Paulo Burnier da Silveira, Doctor of Laws

University of Brasilia

Professor Guilherme Pereira Pinheiro, Doctor of Laws (substitute examiner)

Instituto Brasiliense de Direito Público

To my colleagues at CADE.

ACKNOWLEDGEMENTS

As this is the final work after five and a half years of law school, these acknowledgments are a mix of gratefulness for those who were by my side through all this time, and those more directly related to what I wrote.

Just so that I make the dissertation-related acknowledgements in the same order as the text and do not make the reader confused (I learned this is important in academic writing), I firstly thank Filipe Sateles, my favorite computer engineer. Thank you for the companionship during the writing and the help with the more technical aspects delineated in chapter 2. You showed me a whole new world of data analysis, programming language, and love.

For a second thank-you that should actually be on top of the list, I thank Amanda Athayde for the patience and support in checking up on my writing. I am now somewhat satisfied with the result of this work, and I could never have imagined the structure of this dissertation by myself, neither how useful it would be to describe a conduct from its positive and negative effects, as it is done in chapter 3. I am thankful for you blindly trusting me when you accepted this supervision, and I hope I have not made you totally disappointed.

Chapter 4 would not have been possible without the ability I gained in CADE to analyze its case law, and I am deeply thankful for the trust that Mário Sérgio Rocha Gordilho Júnior, Marcelo Nunes de Oliveira and Kenys Menezes Machado had in me during all these years of civil service. As a complement to the legal thinking that is so appreciated in law schools, you taught me to “think like an economist” and you provided me with the basic notions in antitrust law, a field I will love and probably work in for the rest of my life.

For all the laughter during these years of study, I thank Alexandra Leão, Andreza Alves, Clóvis Pimentel, Isabela Monteiro, Letícia Sobrinho, Natália Segala, Nayanni Enelly and Tâmara Mendes. You made law school much more bearable and I can only wish you go on to live happy lives whatever you settle up on doing.

For all the support and carefulness, I deeply thank my family, mother, father, and sister, all whom have always inspired me and made their best to make me happy. I owe you for everything I am and I could not live among better human beings.

“As to Holmes, I observed that he sat frequently for half an hour on end, with knitted brows and an abstracted air, but he swept the matter away with a wave of his hand when I mentioned it. ‘Data! data! data!’ he cried impatiently. ‘I can’t make bricks without clay’.”

(“The Adventure of the Copper Beeches”, Arthur Conan Doyle)

ABSTRACT

Competition agencies have not yet developed significant case law regarding big data issues, although more data-related concerns are raised inasmuch as more data is collected from ordinary people. This dissertation compares the theoretic effects of a hypothetical conduct of refusal to access to search data to existing case law at the Brazilian competition agency. This is done in order to evaluate the questions that would need to be answered in such a case so that it would be possible to conclude for an illegal violation of the economic order under Brazilian competition law. Case law indicates that violations are usually recognized once there is restriction of access to an essential input, as harm to consumers is commonly perceived as a direct consequence of harm to competitors. Brazilian competition law offers remedies for the hypothetical conduct, but it would face many challenges for the factual and economic analyses resulting from special characteristics of data.

Key words: Brazilian law; competition law; CADE; unilateral conducts; refusal to deal; exclusionary effects; network effects; innovation; search engines; data; internet; consumers.

RESUMO

Autoridades de concorrência ainda não desenvolveram jurisprudência significativa sobre questões envolvendo “big data”, embora mais e mais preocupações relativas a dados são levantadas na medida em que mais dados são coletados de pessoas comuns. Esta monografia compara os efeitos teóricos de uma conduta hipotética de recusa de acesso a dados de busca com a jurisprudência atual da autoridade de concorrência brasileira (CADE). Isso é feito para avaliar as questões que deveriam ser respondidas em um caso assim para que fosse possível concluir por uma infração à ordem econômica. A jurisprudência indica que infrações são geralmente reconhecidas uma vez que existe uma restrição de acesso a um insumo essencial, já que o dano a consumidores é normalmente percebido como uma consequência direta do dano a concorrentes. O direito concorrencial brasileiro oferece soluções para a conduta hipotética, mas ele enfrentaria vários desafios para as análises factuais e econômicas que resultam de características especiais de dados.

Palavras-chave: Direito brasileiro; Direito concorrencial; CADE; condutas unilaterais; recusa de negociar; efeitos exclusionários; efeitos de rede; inovação; ferramentas de busca; dados; Internet; consumidores.

TABLE OF GRAPHS

Graph 1 - Search engines' market shares in the United States from 2013 to 2016	23
Graph 2 - Search engines' market shares in Brazil from 2013 to 2016	23
Graph 3 - Search engines' market shares worldwide from 2013 to 2016	24
Graph 4 - Search engines' market shares in China from 2013 to 2016	25
Graph 5 - Search engines' market shares in South Korea from 2013 to 2016	25
Graph 6 - Search engines' market shares in Japan from 2013 to 2016	26
Graph 7 - Search engines' market shares in Russia from 2013 to 2016	27
Graph 8 - Search engines' market shares in the United States from 2009 to 2013	46

TABLE OF FIGURES

Figure 1 - Google's results for an unusual misspelled query ("torsorophy")	40
Figure 2 - Bing's results for an unusual misspelled query ("torsorophy")	41
Figure 3 - Google's results for a synthetic query ("delhipublicschool40 chdjob")	42
Figure 4 - Bing's results for a synthetic query ("delhipublicschool40 chdjob")	42
Figure 5 - User scale-service quality feedback loop	52
Figure 6 - Monetization feedback loop	53

TABLE OF CONTENTS

1 INTRODUCTION	12
2 FACTUAL BACKGROUND: SEARCH DATA AND COMPETITION LAW	15
2.1 HISTORY AND OPERATION OF SEARCH ENGINES	15
2.2 EVOLUTION OF THE SEARCH ENGINE MARKET	20
2.3 DATA AND COMPETITION	29
3 THE CONDUCT AND THE EFFECTS OF A REFUSAL OF ACCESS TO SEARCH DATA	35
3.1 A HYPOTHETICAL CONDUCT OF REFUSAL OF ACCESS TO SEARCH DATA	35
3.2 ACCESS TO SEARCH DATA IN THE REAL WORLD	36
3.2.1 The search bias and multi-homing restriction investigations	36
3.2.2 The distribution agreements investigation	39
3.2.3 Copy of competitor's results (scraping)	40
3.2.4 Joint agreement for the provision of a search engine	44
3.3 RELEVANT MARKET DEFINITION	47
3.3.1 Market definition in unilateral conduct cases	48
3.3.2 Search engines as multi-sided platforms	49
3.4 NEGATIVE EFFECTS	51
3.5 POSITIVE EFFECTS	55
3.6 CONTROVERSIAL ASPECTS FOR ASSESSING THE CONDUCT	57
4 LEGAL FRAMING IN THE BRAZILIAN COMPETITION LAW	59
4.1 LEGAL FRAMING OF UNILATERAL CONDUCTS IN THE BRAZILIAN COMPETITION LAW	59
4.2 RELEVANT MARKET DEFINITION: SEARCH ENGINES AND DATA IN THE BRAZILIAN COMPETITION LAW	62
4.2.1 Merger No. 08012.005478/2006-01 (Buscapé / Bondfaro)	63
4.2.2 Merger No. 08012.005304/2007-11 (Google / DoubleClick)	65
4.2.3 Merger No. 08012.006419/2009-94 (Microsoft / Yahoo)	66
4.2.4 Administrative Proceedings Nos. 08012.010483/2011-94 (Google Shopping's search bias case) and 08700.009082/2013-03 (Google's scraping case)	68
4.2.5 Administrative Proceeding No. 08700.005694/2013-19 (Google's multi-homing restriction case)	70
4.2.6 Merger No. 08700.006084/2016-85 (Microsoft / LinkedIn)	71
4.2.7 Conclusion	72
4.3 EXISTING CASE LAW OF REFUSAL TO DEAL CASES IN THE BRAZILIAN COMPETITION LAW	73
4.3.1 Administrative Proceeding No. 53500-000359/1999 (TVA vs. Globo)	75

4.3.2 Administrative Proceeding No. 08000.022579/1997-05 (Messer Grieshem vs. White Martins)	79
4.3.3 Administrative Proceeding No. 08012.000172/1998-42 (Power-Tech vs. Maltec)	83
4.3.4 Administrative Proceeding No. 08012.007443/1999-17 (SDE vs. TECONDI, Libra Terminais, Usiminas and Tecon)	84
4.3.5 Administrative Proceeding No. 08012.003048/2001-31 (Neo TV vs. Globosat and Globopar)	85
4.3.6 Administrative Proceeding No. 08012.010208/2005-22 (Cimento Liz vs. Camargo Correa)	87
4.3.7 Conclusion	88
4.4 THE PROPOSED CONTROVERSIAL ASPECTS IN CADE’S CASE LAW	89
4.4.1 Necessity of the dominant firm’s search data	90
4.4.2 Harm to consumers	91
4.4.3 Incentives for innovation in the long-term	91
5 CONCLUSION	92
REFERENCES	96
APPENDIX A - Cases cited in the consulted sources and the reason for their non-inclusion in topic 4.3	108

1 INTRODUCTION

In May 6th, 2017, the headlines in the covers of *The Economist* all around the world were “The world’s most valuable resource: data and the new rules of competition”¹. Competition agencies officials are frequently touching upon data collection concerns in public events, such as Margrethe Vestager from the European Commission, who said “data shouldn’t become a way to shut rivals out of the market” at a summit in November 7th, 2017 in Lisbon², or as Maureen Ohlhausen from the Federal Trade Commission, who said “data is becoming an increasingly valuable asset - the question is: ‘how can it be an entry barrier if others can go out and collect the same data and analyze it using different algorithms or the same algorithms to come up with the same input?’” at an event in George Mason University in March 18th, 2015 in Arlington, VA, in the United States³.

At the same time big data increasingly becomes a matter of competition concern, search engines keep being under the spotlight in the antitrust world. The European Commission has fined Google for abuse of dominant position in June⁴; Yelp accused Google in September of not complying with a settlement to end investigations of the Federal Trade Commission⁵; a United States representative from Minnesota asked the Federal Trade Commission for documents on a previous investigation on Google⁶; the state of Missouri in the United States opened a probe in November to investigate the company⁷.

Despite the growing interest, there is not much case law involving big data and competition law yet. It is not clear how antitrust agencies will behave if a case touching upon

¹ THE ECONOMIST. Print Edition: May 6th 2017. **The data economy demands a new approach to antitrust**, 6 May 2017. Retrieved from <<https://www.economist.com/printedition/2017-05-06>>. Accessed on 29 Nov. 2017.

² EUROPEAN COMMISSION. **Clearing the path for innovation**, 7 Nov. 2017a. Retrieved from <https://ec.europa.eu/commission/commissioners/2014-2019/vestager/announcements/clearing-path-innovation_en>. Accessed on 29 Nov. 2017.

³ OHLHAUSEN, Maureen. Keynote Address. In: BRIEFING ON BIG DATA, PRIVACY, AND ANTITRUST, 2017, Arlington. **Welcome & Keynote Address**. Retrieved from: <<https://vimeo.com/122601187>>. Accessed on: 30 Nov. 2017, 44:14:00.

⁴ EUROPEAN COMMISSION. **Antitrust: Commission fines Google €2.42 billion for abusing dominance as search engine by giving illegal advantage to own comparison shopping service**, 27 Jun. 2017b. Retrieved from <http://europa.eu/rapid/press-release_IP-17-1784_en.htm>. Accessed on 15 Nov. 2017.

⁵ TIKU, Natasha. Yelp claims Google broke promise to antitrust regulators. In: **WIRED**, 12 Sep. 2017. Retrieved from <<https://www.wired.com/story/yelp-claims-google-broke-promise-to-antitrust-regulators/>>. Accessed on 30 Nov. 2017.

⁶ REP. Ellison letter to the Federal Trade Commission on Google investigation. **Congressman Keith Ellison**, 11 Oct. 2017. Retrieved from <<https://ellison.house.gov/media-center/press-releases/rep-ellison-letter-to-the-federal-trade-commission-on-google>>. Accessed on 30 Nov. 2017.

⁷ OFFICE OF THE MISSOURI ATTORNEY GENERAL. **AG Hawley Issues Investigative Demands to Google, Inc.**, 13 Nov. 2017. Retrieved from <<https://www.ago.mo.gov/home/breaking-news/ag-hawley-issues-investigative-demands-to-google-inc->>. Accessed on 15 Nov. 2017.

data matters is ever taken before them. It is possible to evaluate, nevertheless, how case law presents adequate framework for the analysis of data-related cases.

Restriction of access to search data (big amounts of data used for the provision of search engine services) was one of the topics discussed in the Herbert Smith Freehills Competition Law Moot 2017⁸. The network effects related to search engines and the dubious characters of big data relating to its essentiality both make up for a big challenge to competition law.

This work will analyze precedents of the Administrative Council for Economic Defense (hereinafter referred to as “CADE”, the Brazilian competition agency) concerning refusal to deal. This will be done in order to indicate what makes a hypothetical conduct of refusal of access to search data inspired by the fictitious conduct presented in the aforementioned moot court competition different from previous cases.

In the second chapter of this dissertation, there will be a brief description of the history and the operation of search engines so that it is possible to understand how the market evolved and based on what kind of data. Some information on market shares of search engines around the world will be presented. For a good understanding of what is involved in the conduct, there will also be some comments about data and competition law.

In the third chapter, the hypothetical conduct will be delineated. This comprises a definition of what data would be included in the “search data” that is part of the facts of the conduct. There will also be a comparison between the hypothetical conduct and real conducts and practices which have happened in the real world. After that, there will be an overview of the antitrust aspects of the conduct: what is different about the relevant market definition and what are the negative and positive effects of the conduct. Finally, there will be a proposition of questions that should be answered by a competition authority when analyzing the hypothetical conduct.

In the fourth chapter, there will be a review of relevant Brazilian case law to analyze how the proposed questions have been considered by CADE in cases of refusal to deal and what could change in the assessment of the hypothetical conduct. The case law review will consider cases concerning search engines as well as cases concerning refusals to deal.

In the fifth chapter, the main points of this dissertation will be summarized in a final conclusion.

⁸ The 2017 files are no longer available online. Information of the 2018 competition can be accessed at <<https://www.kcl.ac.uk/law/study/mooting/herbertsmithfreehills-2018.aspx>> (accessed on 14 Nov. 2017).

The views expressed here are solely those of the author in his private capacity and do not in any way represent the views of CADE or any other entity of the Brazilian government.

2 FACTUAL BACKGROUND: SEARCH DATA AND COMPETITION LAW

Understanding a market is essential for analyzing the legality of a conduct. To describe competitive effects arising from a restriction of access to search data, one must first understand what search data is⁹ and where it comes from. A brief explanation is laid out in this chapter: firstly, there will be an overview of the history and operation of search engines (topic 2.1); secondly, there will be some information about the structure of the search engine market around the world (topic 2.2); thirdly, there will be an overview of the implications of data for competition policy (topic 2.3).

2.1 HISTORY AND OPERATION OF SEARCH ENGINES

The internet is a means for connecting different computers. This is done through the adoption of many standard protocols and the use of physical infrastructure. Equipments connected to the internet receive each one a single identification¹⁰ that allows packages of data to be transferred back-and-forth, such as letters can be sent from one physical address to the other with a mail service¹¹. Each time someone writes a website address in their web browser, they are actually telling their computers to request information from a computer located elsewhere.

In the very beginning, finding information in the internet meant connecting with another known location. Considering the academic use of the early internet, one university was able to connect with another because it knew the other one was in the web¹². With the

⁹ This work will refer to “data” as a singular mass abstract noun (in the fashion of “information”) in accordance with current common use, as registered by the Oxford and Merriam-Webster dictionaries. *See* DATA. **Merriam-Webster.com**, [n.d.].a. Retrieved from <<https://www.merriam-webster.com/dictionary/data>>. Accessed on 2 nov. 2017, DATA. **Oxford Dictionaries**, [n.d.].b. Retrieved from <<https://en.oxforddictionaries.com/definition/data>>. Accessed on 2 nov. 2017. A comparison of results from Google Scholar for “big data is” and “big data are”, as well as for “search data is” and “search data are” also shows that, at least in the concerning academic field, “data is” is more prevalent.

¹⁰ The identification is called “IP address” (part of a limited naming protocol such as IPV4 or IPV6), which is a series of numbers that may be translated to more recognizable addresses via the Domain Name System (or DNS). The domain <www.google.com.br>, for example, allows access to a server located in the United States that can also be identified by the IP 172.217.7.19. DNS-to-IP converters and IP geolocators can be easily found on the internet, and the ones used for this example were <<https://www.whatismyip.com/dns-lookup/>> and <<https://www.iplocation.net/>>.

¹¹ For more on the history and structure of the internet, *see* LEINER, Barry M. et al. A brief history of the Internet. **ACM SIGCOMM Computer Communication Review**, v. 39, No. 5, p. 22-31, 2009.

¹² Seymour, Frantsvog and Kumar state that “during the early development of the web, there was a list of web servers edited by Tim Berners-Lee and hosted on the CERN web server. As more web servers went online the central list could not keep up”. *See* SEYMOUR, Tom; FRANTSVOG, Dean; KUMAR, Satheesh. History of search engines. **International Journal of Management and Information Systems**, v. 15, n. 4, p. 47, 2011. Similarly, before the DNS system, the association of IPs and web addresses was done at a simple text file (the

growth of the internet, connection with strangers presented as an attractive feature. Nowadays, people use the internet for everyday searches because they hope an unknown user somewhere else who is also connected to the internet might have the information they want. Thus, the growth of the internet presented a new challenge: how could someone find information stored in unknown computers connected to the web?

This challenge results from the structure of the internet itself. The internet was designed as a series of hyperlinks leading to another, which makes it easy to browse (to “jump” between pages), but not to search, as one does not know, in the myriad of pages possible, where a certain information might be. Browse might be useful when someone knows where to start - if a person is interested in what led to the French Revolution of 1848, the Wikipedia pages on history of France might be useful and might even mark the beginning of the search. However, if someone does not know Wikipedia or any other educational website, the task might prove difficult. In a comparison, browsing is like looking at the books in a certain library sector, while searching is like using the library’s classification system to look for a specific book¹³.

There are two main approaches for making searching the internet easier, both based on services that browse the internet and classify the information beforehand: (i) search directories (also called “classified lists”) and (ii) search engines (or, more specifically, “query-based engines”). The way each one classifies and shows the information to the searcher is different: search directories present the user to systematically arranged categories, each one with a selection of predetermined resource links; search engines, on the other hand, use algorithms to respond to user-input text expressions and provide a personalized list of results¹⁴.

Search directories (i) organize website links in a hierarchical structure of man-made categories and subcategories. In this sense, someone looking for information on the French Revolution of 1848 would look into a general “history” category, go further into a “19th century history” category, then into an “european history” category, and so on, until finding a list of links (which might be exhibited together with comments from the directory editors or not) that is relevant for the search. Due to its manual operation, web directories tend to cover a limited amount of websites, be subject to editorial policies (which could actually

“hosts.txt” file) that was centrally maintained and distributed to all hosts in the internet. *See* MOCKAPETRIS, Paul; DUNLAP, Kevin J. Development of the domain name system. *ACM*, v. 18, No. 4, p. 123-133, 1988.

¹³ SHERMAN, Chris; PRICE, Gary. Information seeking on the visible web. In: _____. **The invisible Web: Uncovering information sources search engines can't see**. Medford: Information Today, Inc., 2001.

¹⁴ SCHWARTZ, Candy. Web search engines. **Journal of the Association for Information Science and Technology**, v. 49, No. 11, p. 973-982, 1998.

discriminate the visibility of websites based on how much they pay to appear in the directory), have update limitations and hardly cover the whole of the internet¹⁵. More popular in the beginning of the internet¹⁶, web directories could not follow the growth in the number of web pages, and are not common anymore¹⁷. The DMOZ is an example of web directory maintained by volunteers (instead of specialized editors) which is no longer available, but whose information can still be accessed¹⁸. A DMOZ editor attributed the end of the directory to “Wikipedia’s [better] approach to topic curation” and to the improvement of search engines¹⁹.

Search engines (ii) work in a different way in which they give results based on queries entered by users. The first search engine, created in 1990, was Archie²⁰, whose software downloaded lists of files available in public anonymous archives (it looked for computer files, and not for its contents, contents which are usually directly read when a web user access a website nowadays)²¹. Users could search the file names, but nothing was returned if they looked for information that was inside a file. In November 1993, Aliweb allowed searches in an index based on notifications from website administrators about the existence of their sites. In December 1993, Jump Station was the first to use an automated tool to read the content of websites: a bot (a web robot) which found web pages, read their titles and headings, and created an index in which users could make searches. In 1994, WebCrawler used bots to read all the text in a web page, which is the standard ever since. The three current essential features

¹⁵ SHERMAN, Chris; PRICE, Gary, 2001.

¹⁶ Early commercial internet also saw the publication of physically printed web directories: actual books with organized lists of web sites in the style of telephone lists. Used books of this kind can still be found for sale, such as in <<http://a.co/1PXfDs2>>, <<http://a.co/hnSrB3L>> and <<http://a.co/8D5skzy>>. COLBOW, Brad. A brief history of search engines. **YouTube**, 26 apr. 2014. Retrieved from <<https://youtu.be/VWQ34IEsd0c>>. Accessed on 5 nov. 2017.

¹⁷ A long-lasting web directory that is still active (since 1994) is “Best of the Web”, available at <<https://botw.org>> (accessed on 7 nov. 2017).

¹⁸ The archived information is available at <<http://dmoztools.net>> (accessed on 2 nov. 2017). DMOZ was so influential that Google maintained a directory service based on it at <directory.google.com> (accessed on 2 nov. 2017). See YOUNG, Rob D. Google Directory Has Been Shut Down. **Search Engine Watch**, 25 jul. 2011. Retrieved from <<https://searchenginewatch.com/sew/news/2096661/google-directory-shut>>. Accessed on 7 nov. 2017. In fact, until June 2017, “Google would sometimes use the DMOZ description as a snippet in the Google results when it felt that description was more useful than what was available from the meta description or the site’s content”. SCHWARTZ, Barry. Google officially stops using DMOZ for source of search results snippets. **Search Engine Land**, 2 jun. 2017. Retrieved from <<https://searchengineland.com/google-officially-stops-using-dmoz-source-search-results-snippets-276205>>. Accessed on 7 nov. 2017.

¹⁹ NATARAJAN, Armanath. AOL Decides To Close DMOZ. After 19 Years, It Is Time To Say Good Bye. **Prime Inspiration**, 6 mar. 2017. Retrieved from <<https://www.primeinspiration.com/aol-decides-close-dmoz-19-years-time-say-good-bye.html>>. Accessed on 7 nov. 2017.

²⁰ SEYMOUR; FRANTSVOG; KUMAR, 2011.

²¹ A version of Archie is still maintained by the University of Warsaw at <http://archie.icm.edu.pl/archie-adv_eng.html> (accessed on 2 nov. 2017). It has not been updated for many years. See STIEBEN, Danny. The Archie Search Engine: the World’s first search!. **MakeUseOf**, 20 May 2013. Retrieved from <<http://www.makeuseof.com/tag/the-archie-search-engine-the-worlds-first-search/>>. Accessed on 2 nov. 2017.

of a web search engine, which summarize its operation, are now crawling (searching for data with the use of bots), indexing (saving the information found) and serving results after a search (pointing to the searcher which indexed pages correspond to the search query)²².

It is important to notice that search engines and web directories have some points in common in practice. Many web directories (such as Yahoo) allowed for an internal search in their indexed base. The search was simple and did not look into the content of a website, as directories only provided links and annotations. When giving the results for an internal search, directories could also present “fall-through” results which were nothing more than search results provided by partner search engines. On the other hand, search engines also provided (and still provide) a “browsing experience” by presenting results in a list of links which are taken as a reference by the user in a similar fashion to a specific category found in a web directory²³.

The limitations of search engines are the cost of crawling (search engines must maintain computers constantly requesting information from websites and indexing it), the ability of crawlers to find a page (crawlers can not find pages which are not pointed to by any other page), the crawler lag time (pages may be published but not immediately found by crawlers, as well as pages may be updated and require a new visit), the ability to properly answer users’ queries, the ability to quickly show good results and the bias toward text (images, audio and video bear useful information but are not as well indexed as text)²⁴. The ability of different search engines to deal with these limitations creates possibility for competition on service quality.

The development of search engines shows how each engine tried to improve its service by improving its ability to crawl, index and provide results. AltaVista was launched in 1995 and introduced a natural language search which allowed users to enter naturally-sounding queries. In this way, users could look for “where is London?” without receiving results of web pages which contained the words “where” and “is”, but nothing about London or its location²⁵. Answering similar everyday questions was the initial feature of AskJeeves, founded in 1996 and still active as Ask.com.

Google initial growth resulted from a special ranking system called “PageRank”. PageRank is a way to determine the quality of the content in a page that was inspired by

²² SEYMOUR; FRANTSVOG; KUMAR, 2011; GOOGLE. How Google Search Works. **Search Console Help**, [n.d.]. Retrieved from <<https://support.google.com/webmasters/answer/70897>>. Accessed on 5 nov. 2017.

²³ SHERMAN, Chris; PRICE, Gary, 2001.

²⁴ idem.

²⁵ SEYMOUR; FRANTSVOG; KUMAR, 2011, p. 5.

academic citation literature, which considers very-cited articles as good material. In the PageRank system, the more a web page is linked by others, the better content it is assumed to have. Furthermore, if a web page is linked by high-valued pages, it ranks even better. Sites with a better PageRank appear on the top of Google's search result pages²⁶.

Google also operated differently in that it did not (and still does not) use the links in a web page only as part of the content indexed for that page, but also as part of the content indexed for the page it links to. Moreover, Google uses the location of the user as part of the search query, indexes text in larger or bolder font with more weight than the rest of the text, keeps a copy of the pages for quicker results, and has other features²⁷. Currently, Google considers more than 200 factors to determine how to rank the pages delivered as the result of a search²⁸.

As it is seen, searching the web involves dealing with information. This is done in a more simple and manual way, in the case of search directories, which only store smaller amounts of data (web pages links and some information about them) in a fixed way (the predetermined hierarchical categories), or in a more automatized way, in the case of search engines, which store bigger amounts of data (web pages links and their content) in complex databases read by algorithms that try to understand where a searcher wants to go. With time, search engines started dealing with even more data in order to improve their services.

One factor that made search engines process even more data than when they started operating was the assessment of query logs to improve the quality of the results served. As described by Mark Levene:

The query log of a search engine records various bits of information for each query issued. First, an anonymous user code is assigned to the query, and this code is used to identify the web address of the user (cookies may be used to track users' queries over time). Second, the time and date of the query are recorded. Third, the query terms as submitted by the user are recorded and lastly, the pages viewed by the user and their rank in the search result listing are recorded. The format of the log data allows the determination of query sessions, where a search session is a sequence of consecutive queries made by a single user within a small time window.²⁹

²⁶ BRIN, Sergey; PAGE, Lawrence. Reprint of: The anatomy of a large-scale hypertextual web search engine. *Computer networks*, v. 56, No. 18, p. 3825-3833, 2012; SEYMOUR; FRANTZVOG; KUMAR, 2011.

²⁷ BRIN; PAGE, 2012.

²⁸ GOOGLE, [n.d.].a.

²⁹ LEVENE, Mark. *An Introduction to Search Engines and Web Navigation*. Hoboken: John Wiley & Sons, 2010, p. 73.

An early work from Bernard J. Jansen and others³⁰ looked at “a set of 51,473 queries posed by 18,113 users of Excite, a major Internet search service”³¹ at the time. The research drew a picture of the user of search engines:

Web users are certainly not comfortable with Boolean operators and other advanced means of searching. They certainly do not frequently browse the results, beyond the first page or so. These facts in themselves emphasize the need to approach design of Web IR systems and search engines in a significantly different way than the design of IR systems as practiced to date.³²

Another more comprehensive work from Craig Silverstein and others³³ (some of whom were working at Google at the time their article was published) reviewed “AltaVista Search Engine query log consisting of approximately 1 billion entries for search requests over a period of six weeks”³⁴. Apart from confirming the conclusions of the work by Bernard J. Jansen and others, the research also concluded that “it may be useful for search engines to consider search terms as parts of phrases even if the user did not explicitly specify them as such”³⁵.

Such studies indicate the value of query logs to search engines. Query logs make it possible for the behavior of a user before a particular search results page to be analyzed and used to improve future searches³⁶. Together with the indexed information, query logs make up a great amount of data dealt with by search engines in order to provide their services. A more thorough analysis of the impact of this data in competition will be done in the next chapter.

2.2 EVOLUTION OF THE SEARCH ENGINE MARKET

Figures about the rise and fall of search engines might help to make the conduct described in the next chapter (refusal of access to search data) less abstract. Conducts related to search data require at least *some* concentration in the ownership of search data, and the market structure might reveal this possibility. This chapter provides information on the market structure around the world.

³⁰ JANSEN, Bernard J. et al. Real life information retrieval: A study of user queries on the web. In: **ACM SIGIR Forum**, vol. 32, No. 1. ACM, 1998. p. 5-17.

³¹ *ibidem*, p. 5.

³² *ibidem*, p. 16.

³³ SILVERSTEIN, Craig et al. Analysis of a very large web search engine query log. In: **ACM SIGIR Forum**, vol. 33, No. 1. ACM, 1999. p. 6-12.

³⁴ *ibidem*, p. 6.

³⁵ *idem*.

³⁶ Commenting on Google’s public tool to analyse search trends and patterns (<www.google.com/press/zeitgeist.html>, which has not been updated since 2014) and the ability to tell “who were the most popular people in that year, what were the most popular brands, and other information such as the top news stories for the year” just with the use of query logs, Mark Levene says that “with billions of searches per day, Google is able to get a very clear picture of what web searchers are looking for”. LEVENE, Mark, p. 73.

The history of search engines shows intense competition in the beginning of the internet, when new technologies for searching information online were being tested. Even in the commercial internet era³⁷, in 1996, the biggest web browser at the time, Netscape, entered into an agreement with five different major search engines of the time instead of just one to power the browser's search engine page. In that year, Netscape was looking into an exclusive deal with a search engine to be the featured search service of the browser, but there was so much interest that Netscape decided for a rotation system between Yahoo, Magellan, Lycos, Infoseek, and Excite³⁸.

With time, Alta Vista gained popularity and dominated the market after reaching an incomparable number of indexed pages³⁹. However, Google, launched in 1998, with its different approach to indexing and serving results, surpassed Alta Vista in number of users in 2001⁴⁰. After a failed IPO attempt in 2001 (due to the dotcom crash), Alta Vista was acquired by Overture in 2003 (itself a search engine, the first to successfully implement a pay-per-click placement search service⁴¹), which was in turn acquired by Yahoo in the same year. Yahoo decided to abandon Alta Vista as an independent brand⁴².

Google grew and became synonymous with internet search. Mark Levene presents some statistics on market share from late 2008 and the beginning of 2009:

The market share of the competing search engines is measured by companies that track the search and browsing behavior from a panel of several million users while they are surfing the web. (...)

The most visible trend is that Google's popularity in terms of audience reach has become increasingly dominant in the western worlds in the last few years, but its position is far from leading in the Far East. The rise of Google in the space of a few years from an experimental search engine developed by two research students in Stanford in 1998 is in itself an amazing story, which is told in depth elsewhere. It is hard to predict whether these trends will persist, and when making such predictions we should also take into account the fact that search engine loyalty is generally low.

In the United States, the popularity statistics show Google with 64%, Yahoo with 21%, Bing (Microsoft's search engine, rebranded as Bing from Live in mid-2009) with 8% and Ask (also known as Ask Jeeves) with 4%. It is interesting to note that Google's market share is much larger in many of the European countries such as France (91%), Germany (93%), Italy (90%) and the United Kingdom (90%); similar figures are seen in South America. The global picture includes Baidu (www.baidu.com), the leading Chinese search engine which was launched in 1999,

³⁷ "Commercial internet era" refers to the expansion of the internet as a commercial product, and not a technology restricted to academic and military facilities. As stated by Leiner et al.: "Commercialization of the Internet involved not only the development of competitive, private network services, but also the development of commercial products implementing the Internet technology". LEINER et al., 2009, p. 30.

³⁸ SEYMOUR; FRANTSVOG; KUMAR, 2011.

³⁹ SULLIVAN, Danny. A Eulogy For AltaVista, The Google Of Its Time. **Search Engine Land**, 28 jun. 2013. Retrieved from <<https://searchengineland.com/altavista-eulogy-165366>>. Accessed on 7 nov. 2017.

⁴⁰ idem.

⁴¹ WORLDSTREAM. **The History of Search Engines**, [n.d.]. Retrieved from <<http://www.worldstream.com/articles/internet-search-engines-history>>. Accessed on 7 nov. 2017.

⁴² SULLIVAN, 2013.

with 13% globally, but Google is still the global leader with 64%, followed by Yahoo with 15%, Bing with 4%, and Ask with 2%.

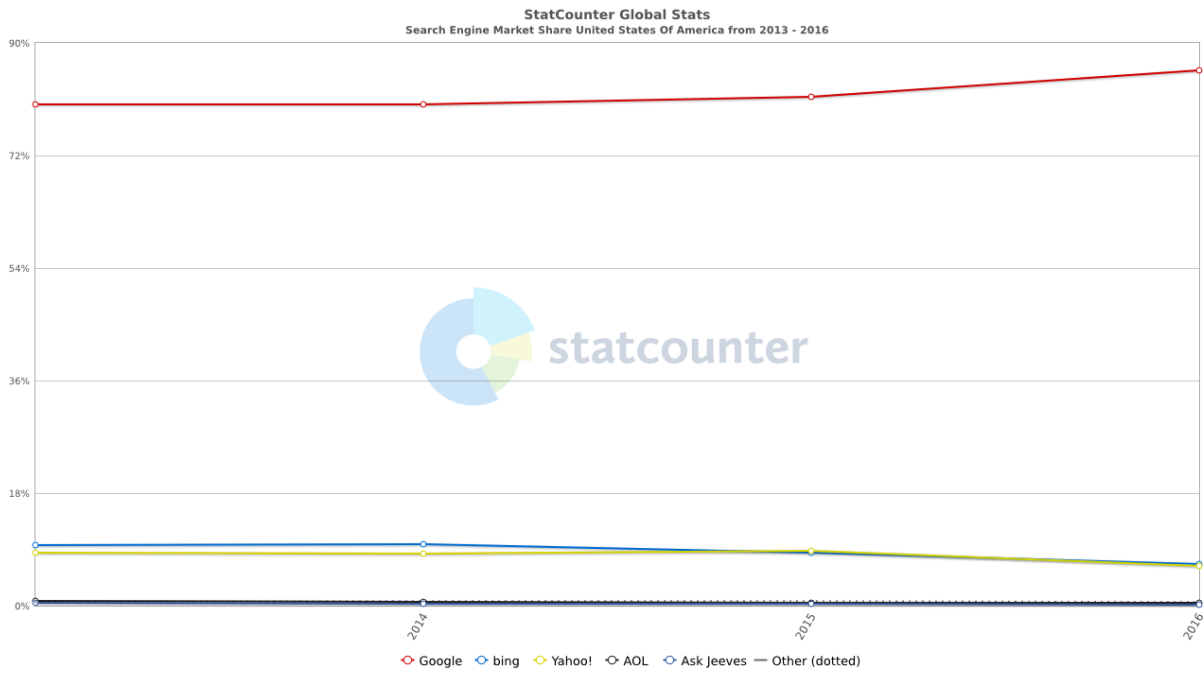
In the Far East, the story is somewhat different. In China the market share of Baidu is 57%, Google is 16%, and Yahoo is 5%. Major reasons for the big success of a local brand in China are the cultural and language differences. Baidu has a controversial policy (at least in the West), in that it provides searchers with links to music files that are available for download on the Web; there is an ongoing dispute between Google and Baidu on this issue. In Korea, a local web search engine called Naver (www.naver.com) which launched in 1999, is even more dominant with a market share of 75%. Surprisingly, in Korea the second most popular search engine, Daum (www.daum.net), which started in 1995 and was Korea's first web portal, is also local with a market share of 20%. In Korea Google's share is only 1,5%, coming behind Yahoo which has a share of 4%. Here also, major reasons for the success of the local brands are the cultural and language differences. In Japan, Yahoo with a market share of 51% is the leader, followed by Google with 38%. Yahoo had an early head start in Japan, incorporating there in 1996, less than a year after its parent company was formed; on the other hand, Google opened offices in Japan only in 2001. Yahoo Japan has a very local identity and is considered by many Japanese as a local brand. Russia is another country where Google is second with a market share of 21% behind the local web search engine, Yandex (www.yandex.com), with a share of 55%. Yandex was launched in 1997, and its success relative to Google, Yahoo, and Microsoft's Bing can be attributed to its handling of the Russian language.⁴³

StatCounter is one website that keeps account of browsing behavior and estimates search engines' market shares⁴⁴. StatCounter's records of the last four years allow for an update on the relevant locations referenced by Levene - the United States (Graph 1), Brazil (Graph 2, taken into account as a South American example of conditions similar to those in Europe), world (Graph 3), China (Graph 4), South Korea (Graph 5), Japan (Graph 6) and Russia (Graph 7):

⁴³ LEVENE, 2010, p. 15-16.

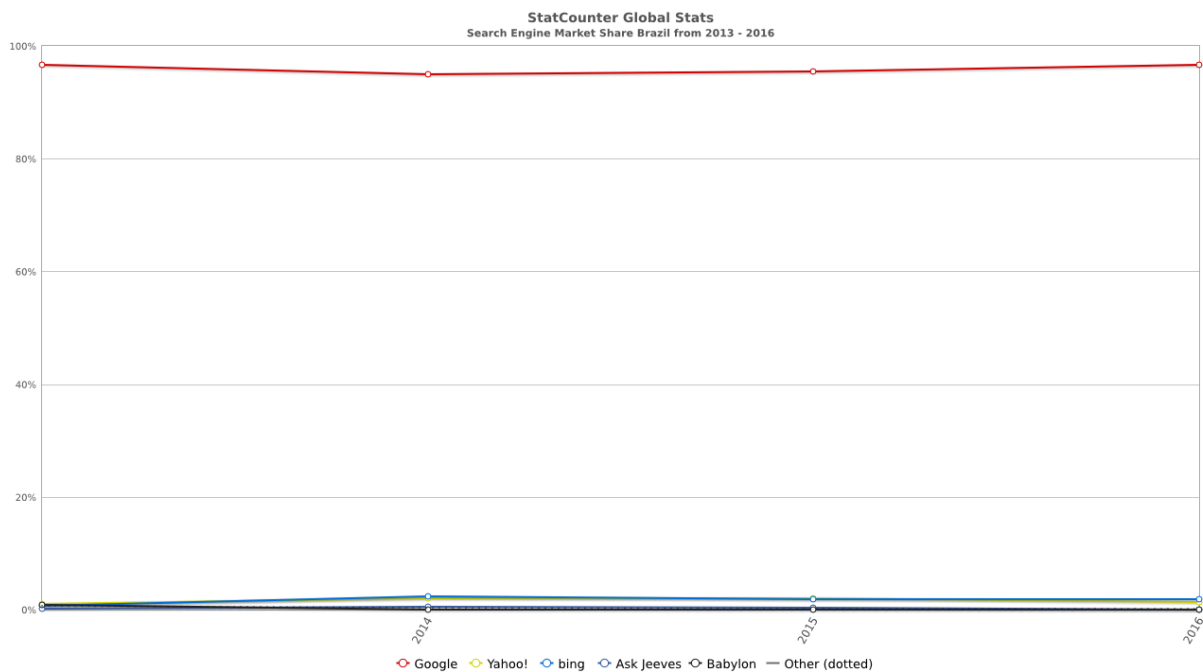
⁴⁴ "Stats are based on aggregate data collected by StatCounter on a sample exceeding 10 billion pageviews per month collected from across the StatCounter network of more than 2 million websites". STATCOUNTER. About. **StatCounter Global Stats**, [n.d.]. Retrieved from <<http://gs.statcounter.com/about>>. Accessed on 7 nov. 2017.

Graph 1 - Search engines' market shares in the United States from 2013 to 2016



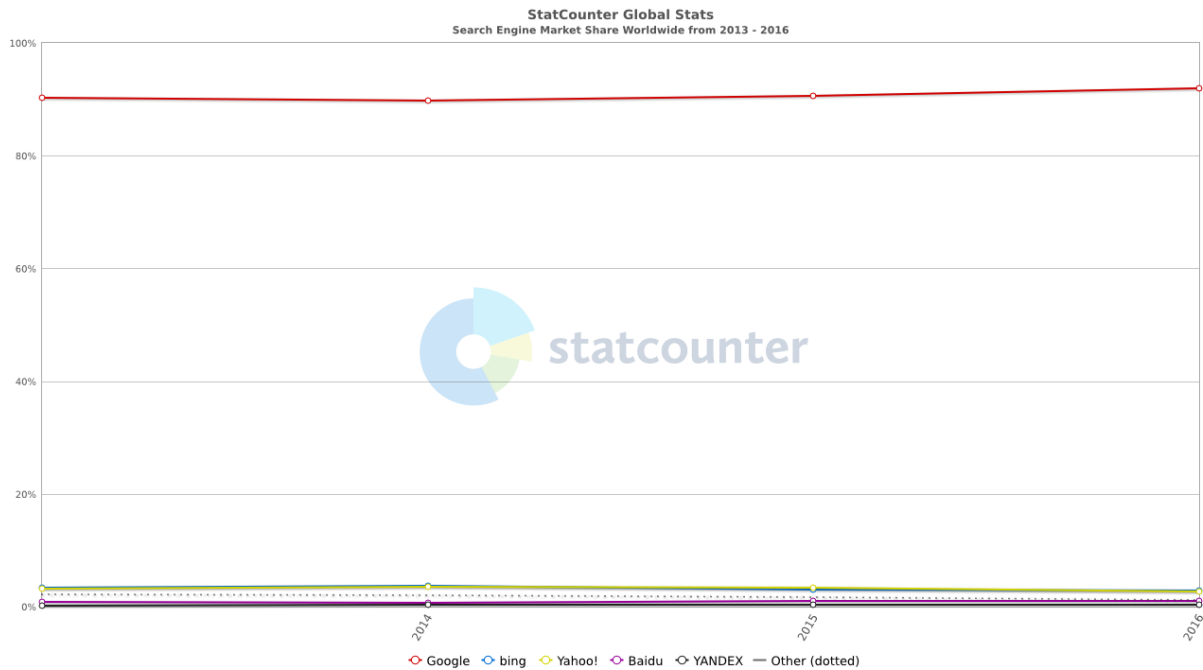
Source: STATCOUNTER. Search Market Share. **StatCounter Global Stats**, [n. d]b.
Retrieved from <<http://gs.statcounter.com/search-engine-market-share>>. Accessed on 7 nov. 2017.

Graph 2 - Search engines' market shares in Brazil from 2013 to 2016



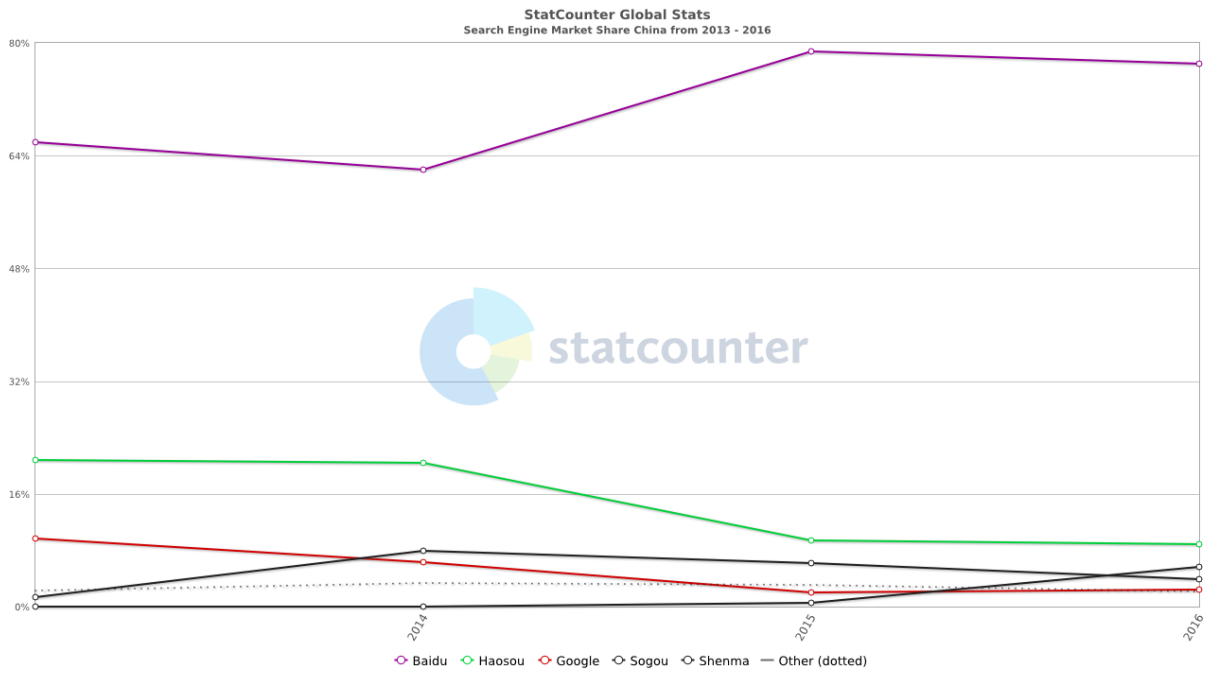
Source: STATCOUNTER. Search Market Share. **StatCounter Global Stats**, [n. d]b.
Retrieved from <<http://gs.statcounter.com/search-engine-market-share>>. Accessed on 7 nov.
2017.

Graph 3 - Search engines' market shares worldwide from 2013 to 2016



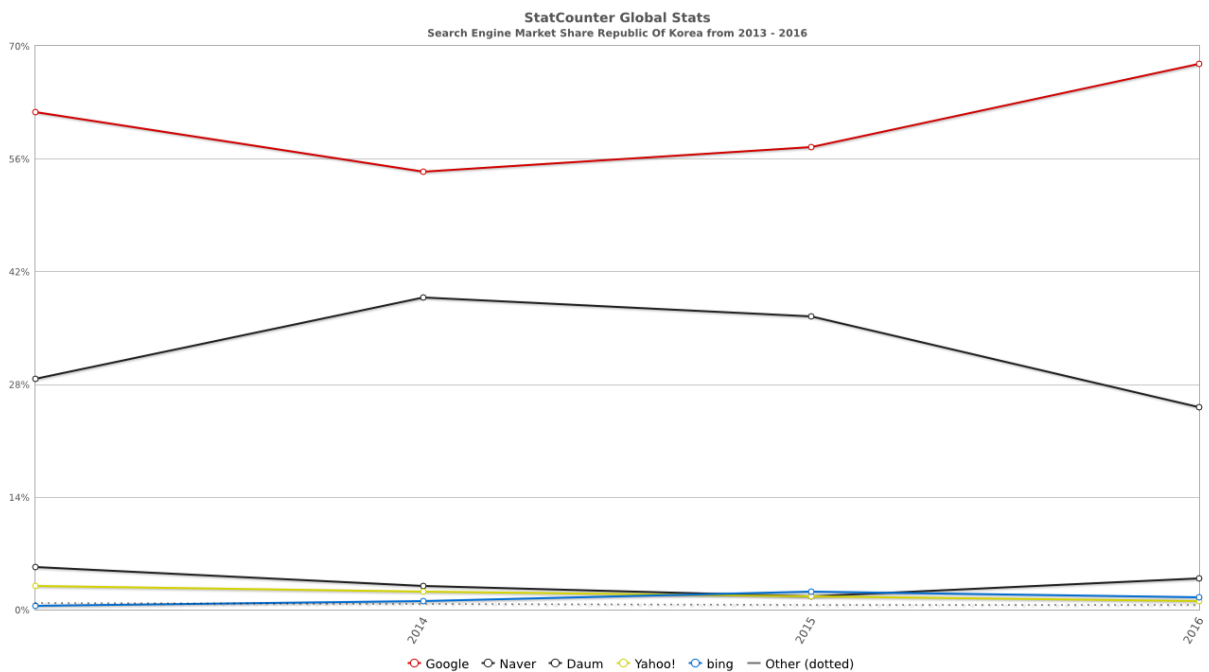
Source: STATCOUNTER. Search Market Share. **StatCounter Global Stats**, [n. d]b.
Retrieved from <<http://gs.statcounter.com/search-engine-market-share>>. Accessed on 7 nov.
2017.

Graph 4 - Search engines' market shares in China from 2013 to 2016



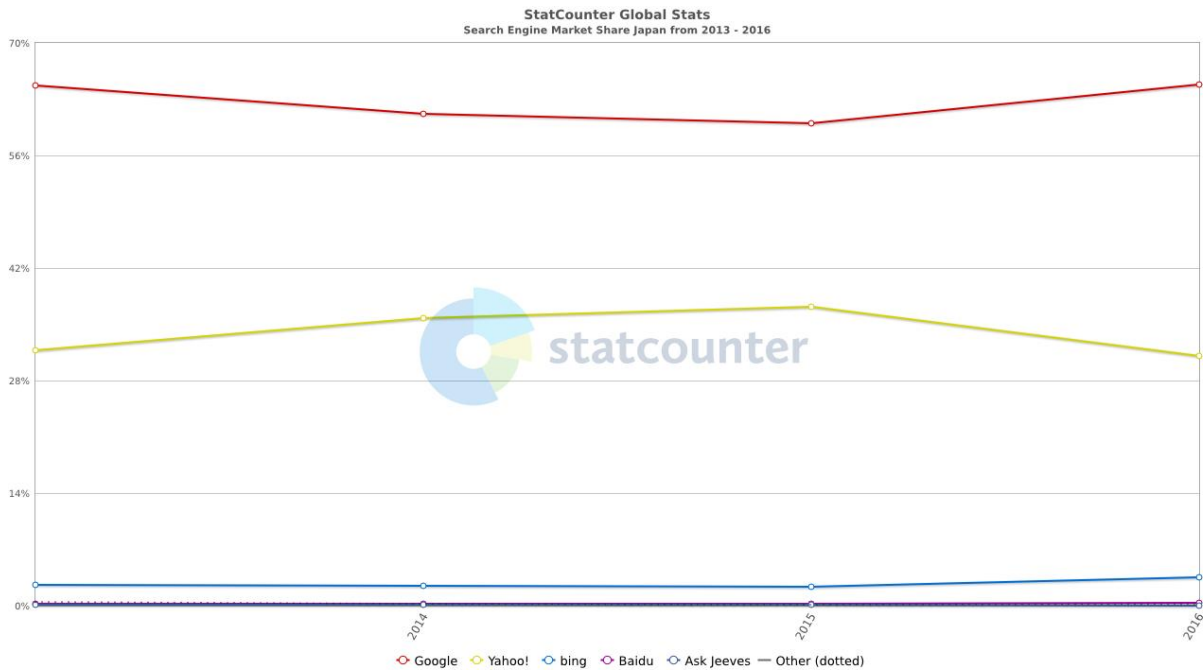
Source: STATCOUNTER. Search Market Share. **StatCounter Global Stats**, [n. d]b.
Retrieved from <<http://gs.statcounter.com/search-engine-market-share>>. Accessed on 7 nov. 2017.

Graph 5 - Search engines' market shares in South Korea from 2013 to 2016

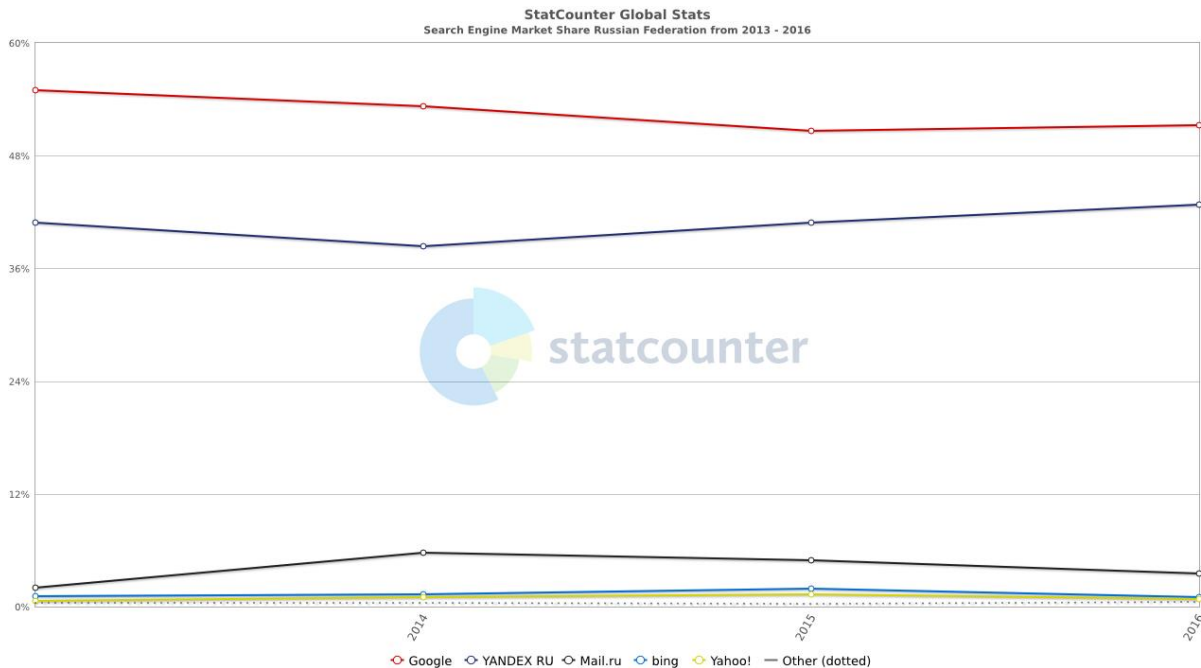


Source: STATCOUNTER. Search Market Share. **StatCounter Global Stats**, [n. d]b.
 Retrieved from <<http://gs.statcounter.com/search-engine-market-share>>. Accessed on 7 nov.
 2017.

Graph 6 - Search engines' market shares in Japan from 2013 to 2016



Source: STATCOUNTER. Search Market Share. **StatCounter Global Stats**, [n. d]b.
 Retrieved from <<http://gs.statcounter.com/search-engine-market-share>>. Accessed on 7 nov.
 2017.

Graph 7 - Search engines' market shares in Russia from 2013 to 2016

Source: STATCOUNTER. Search Market Share. **StatCounter Global Stats**, [n. d]b.

Retrieved from <http://gs.statcounter.com/search-engine-market-share>. Accessed on 7 nov. 2017.

The graphs show a growth in the popularity of Google in the United States, country of the western world where there is a bigger division of the market between Google and other search engines (differently from the scenario in Brazil, where Google responded for 96,58% of the market in 2016). Global shares show a very different scenario than the one from Levene, with Google responding for 92,01% of the market in 2016, followed by Bing with 2,79%. In China, Baidu grew to have a much bigger market share (71,38% in 2016), followed by Haosou (14,62%), with Google in the third position (5,07%). In South Korea, StatCounter shows a very different market structure, with Google in first place with 59,83% of share in 2016, followed by Naver (32,73%) and by Daum (3,39%). In Japan, Google also became the leader, with 64,81% of share in 2016, followed by Yahoo (31,11%) and Bing (3,53%). Russia is the country where Google, with 51,27% of share in 2016, has the closest competitor, as Yandex had 42,79% of the market in 2016.

The general predominance of Google does not mean a total absence of competitors, although they are many times too small to be relevant. Apart from Bing and Yahoo, the

biggest two competing search engines are Lycos, a 1994 website⁴⁵ which is still available⁴⁶, and DuckDuckGo, a 2008 entrant which promises not to store any personal data from searchers⁴⁷.

In comments to the European Commission's proceedings in its Google Shopping investigation⁴⁸, Google tried to mitigate its alleged market power. In Google's opinion, its search engine competes with other "specialized" engines for specific-purposed searches. In a search involving price comparison and shopping options, for example, Google would compete with Amazon:

The Commission's original SO [Statement of Objections] drew such a narrow definition around online shopping services that it even excluded services like Amazon. (...) But it failed to take into account the competitive significance of companies like Amazon and the broader dynamics of online shopping.

(...)

In the year-and-a-half since the Commission's original filing, we've seen even more data confirming this. For example, a recent study shows that for many German online shoppers, Amazon is the first port of call on the web. A third of online consumers first go to Amazon, irrespective of where they ultimately make their purchases. Only 14.3% go first to Google, and only 6.7% to price comparison sites. A recent US study shows similar results: 55% of US consumers start their online shopping on Amazon, 28% on search engines, and 16% go straight to individual retailers.

The Commission also claims consumers don't go to Amazon to compare product features and prices. But Amazon provides tools to do exactly that, plus the ability to buy products and have them delivered the next day, which makes Amazon an even stronger competitor. It's not surprising that when Amazon and other new competitors arrived in European countries, traffic to sites offering only price-comparison went down.⁴⁹

In this sense, any relevant market share data should not take into account only search engines similar to Google, but also other websites where search for information is possible, even if they do not look into the whole of the web⁵⁰. A conclusion about this goes off the scope of this work. The growth of Google as a general search engine, whatever the reasons behind it, is, nevertheless, substantial, and its current position raises concerns on the possibility of anti-competitive practices, specially conducts resulting from some special access to search data Google might have (and competitors might not).

⁴⁵ WORLDSTREAM, [n.d.].

⁴⁶ <<http://search.lycos.com>> (accessed on 7 nov. 2017).

⁴⁷ <<https://duckduckgo.com>> (accessed on 7 nov. 2017). See more information on DUCKDUCKGO. **About Us**, [n.d.]. Retrieved from <<https://duckduckgo.com/about>>. Accessed on 7 nov. 2017.

⁴⁸ Case COMP/AT.39740. More information at <http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_39740> (accessed on 7 nov. 2017).

⁴⁹ WALKER, Kent. Improving Quality Isn't Anti-Competitive, Part II. **Google Blog**, 3 nov. 2016. Retrieved from <<https://www.blog.google/topics/google-europe/improving-quality-isnt-anti-competitive-part-ii/>>. Accessed on 7 nov. 2017.

⁵⁰ Michael Salinger and Robert Levinson also support this view. See SALINGER, Michael A.; LEVINSON, Robert J. **The Role for Economic Analysis in the FTC's Google Investigation**. 2013. Retrieved from <http://awards.concurrences.com/IMG/pdf/salinger_economics_of_google_and_antitrust_case_searle_conference_version.pdf>. Accessed on 7 nov. 2017.

2.3 DATA AND COMPETITION

Before proceeding to specific effects of restriction of access to search data, it is important to recognize data as an asset that is increasingly growing in importance to competition law and revealing new possibilities for its application.

Data, by itself, is not a novel concept in economics. Economic activities always involve aggregation of data at a certain level, as information about prices, clients and suppliers has always been necessary for commerce. In fact, the model of the perfectly competitive market presumes the use of data by suppliers and consumers, and deviations of a total exchange of information about the market results in the failure called “information asymmetry”⁵¹. An example of market in which data comprises a great part of the economic activity is that of credit bureaus, which was described as follows in a merger analyzed by CADE:

15. The market of credit information services is characterized by agents that systematize the generation of data, the register and the classification of events of payment or default of debts of natural or juridical persons. Suppliers structure their services to help in the execution of a better credit cycle by their clients, which commonly are companies which wish to obtain revenue from credit operations (such as a retailer, for example). (...)

(...)

22. What distinguishes bureaus from other companies which offer services of market intelligence is the way their databases are formed. Market consulting companies, in general, look for public information, generate private information or buy it. Bureaus also have significant operational costs from the obtention of information under their clients’ interests (personal information, information from notaries’ offices, etc.), but the data provided by them are not restricted to this compilation. They maintain databases with default registers largely fed through clients’ actions, which see so much value on those databases that they pay for bureaus to register defaults, many times for more than one bureau. (...) ⁵²

Even though “data” is not a new concept for economics and competition law, it has been under the spotlight due to an abundance of data resulting from current technology. In 2011, an article published at McKinsey Quarterly stated that

(...) over the last few years, the volume of data has exploded. In 15 of the US economy’s 17 sectors, companies with more than 1,000 employees store, on average, over 235 terabytes of data—more data than is contained in the US Library of Congress. Reams of data still flow from financial transactions and customer interactions but also cascade in at unparalleled rates from new devices and multiple points along the value chain. (...)

⁵¹ As stated by Hovenkamp: “The conditions most conducive to competition, and which obtain perfectly in an economic model of ‘perfect competition,’ are: (...) 4) all participants in the market have good knowledge about price, output and other information about the market”. HOVENKAMP, Herbert. **Federal Antitrust Policy: The law of competition and its practice**. Saint Paul: Thomson West, 2005, p. 3.

⁵² ADMINISTRATIVE COUNCIL FOR ECONOMIC DEFENSE (CADE). **Merger No. 08012.009089/2011-11**. Parties: Serasa S.A., Confederação Nacional de Dirigentes Lojistas and Serviço Nacional de Proteção ao Crédito. Opinion from Commissioner-Rapporteur Eduardo Pontual Ribeiro. Brasília, 14 Oct. 2013a, p. 4-6, our translation.

(...)

Over time, we believe big data may well become a new type of corporate asset that will cut across business units and function much as a powerful brand does, representing a key basis for competition. If that's right, companies need to start thinking in earnest about whether they are organized to exploit big data's potential and to manage the threats it can pose. Success will demand not only new skills but also new perspectives on how the era of big data could evolve—the widening circle of management practices it may affect and the foundation it represents for new, potentially disruptive business models.⁵³

A more recent article published at *The Economist* says this era of “big data” has arrived⁵⁴. Smartphones, the internet and artificial-intelligence contributed to the arrival by making data “abundant, ubiquitous and far more valuable”⁵⁵. According to a report from the Organisation for Economic Co-operation and Development (OECD), the growth of importance of data also results from “the rest of the ICT [information and communications technology] sector (excluding Internet firms)” beginning to “recognise big data as a new business opportunity and (...) making significant investments to catch up and jump on the big data bandwagon”⁵⁶. Another article from the magazine *The Economist* says that, even though “signs of the data economy are everywhere”, such as the existence of competition in the collection of data and the exploration of network effects derived from the gathered information (effects better described in the next chapter), markets of data have not fully developed yet⁵⁷ and exchanges of data are still pretty much bilateral and ad hoc or result from the acquisition of the whole company which owns the data. Among the reasons for that are lack of fungibility of data (“each stream of information is different”⁵⁸), difficulty in pricing and discussions on who actually owns data and on what are the limitations of use.

“Big data” is a term being used to qualify data in this new era. It is characterized by “four ‘V’s”: the *volume* of data; the *velocity* at which data is collected, used and disseminated; the *variety* of information aggregated; and, finally, the *value* of the data. Each ‘V’ has increased significantly over the past decade”⁵⁹⁻⁶⁰. These characteristics enable uses of data not

⁵³ BROWN, Brad; CHUI, Michael; MANYIKA, James. Are you ready for the era of ‘big data’? **McKinsey Quarterly**, oct. 2011. Retrieved from <<https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/are-you-ready-for-the-era-of-big-data>>. Accessed on 6 nov. 2017.

⁵⁴ THE WORLD’S most valuable resource is no longer oil, but data. **The Economist**, 6 May 2017. Retrieved from <<https://www.economist.com/news/leaders/21721656-data-economy-demands-new-approach-antitrust-rules-worlds-most-valuable-resource>>. Accessed on 6 nov. 2017.

⁵⁵ *idem*.

⁵⁶ ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. **Big Data for Growth and Well-Being**: Interim Synthesis Report. Oct. 2014.

⁵⁷ DATA is giving rise to a new economy. **The Economist**, 6 May 2017. Retrieved from <<https://www.economist.com/news/briefing/21721634-how-it-shaping-up-data-giving-rise-new-economy>>. Accessed on 6 nov. 2017.

⁵⁸ *idem*.

⁵⁹ GRUNES, Allen; Maurice, Stucke. Defining Big Data. In: _____. **Big Data and Competition Policy**. Oxford: Oxford University Press, 2016, p. 16.

foreseen at the time of its collection. One example was the use of search engine query data to improve early detection of H1N1 outbreaks. In the 2009 flu pandemic, engineers at Google discovered that “the relative frequency of certain queries is highly correlated with the percentage of physician visits in which a patient presents with influenza-like symptoms” and published an article at Nature presenting “a method of analysing large numbers of Google search queries to track influenza-like illness in a population” to “estimate the current level of weekly influenza activity in each region of the United States, with a reporting lag of about one day”⁶¹. This method proved quicker than the traditional collection of hospital entries done by government agencies⁶² and shows the potential of aggregated data originally given for free by users of an internet service. Nevertheless, Google’s “Flu Trends” project ended up being discontinued, which also shows that dealing with big data raises costs as any economic activity, and some costs are better supported by companies with specific interest in the final product. Google said that “instead of maintaining our own website going forward [Flu Trends], we’re now going to empower institutions who specialize in infectious disease research to use the data to build their own models”⁶³.

Data is, nevertheless, equally useful for competitors in the same market if it is an asset relevant to the specific economic activity. Competition authorities are starting to pay attention to that. A first comprehensive work is a joint paper on data and its implications for competition law published by the French and the German authorities⁶⁴. The joint paper is an unprecedented study on big data from a competition agency (or two agencies, as is the case)⁶⁵,

⁶⁰ There is not a single definition on “big data”. Hui Jiang et al. call the “four ‘V’s” definition the “attributive definition”, based on features of big data. They also quote a comparative definition: “datasets whose size is beyond the ability of typical database software tools to capture, store, manage, and analyze” (*apud* BROWN, Brad et al. Big data: the next frontier for innovation, competition, and productivity. **McKinsey Global Institute**, 2011). The comparative definition incorporates an evolutionary aspect, as what a “typical dataset” is changes over time). A third quoted definition is a architectural definition, based on the possible use of the data: “big data is where the data volume, acquisition velocity, or data representation limits the ability to perform effective analysis using traditional relational approaches or requires the use of significant horizontal scaling for efficient processing” (*apud* COOPER, Michael; MELL, Peter. Tackling big data. **NIST information technology laboratory computer security division**, 2012). See JIANG, Hui et al. Energy big data: A survey. **IEEE Access**, v. 4, p. 3844-3861, 2016.

⁶¹ BRAMMER, Lynnette et al. Detecting influenza epidemics using search engine query data. In: **Nature**, v. 457, No. 7232, p. 1012-1014, 2009.

⁶² CUKIER, Kenneth; MAYER-SCHONBERGER, Viktor. Now. In: _____. **Big Data: The Essential Guide to Work, Life and Learning in the Age of Insight**. London: John Murray, 2017.

⁶³ GOOGLE. The Next Chapter for Flu Trends. **Google Research Blog**, 20 Aug. 2015. Retrieved from <<https://research.googleblog.com/2015/08/the-next-chapter-for-flu-trends.html>>. Accessed on 6 nov. 2017.

⁶⁴ AUTORITÉ DE LA CONCURRENCE; BUNDESKARTELLAMT. **Competition Law and Data**. 10 May 2016. Retrieved from <<http://www.autoritedelaconcurrence.fr/doc/reportcompetitionlawanddatafinal.pdf>>. Accessed on 6 nov. 2017.

⁶⁵ Two relevant initiatives from entities that are not competition agencies are a report from the German Monopolies Commission (an advisory body of the German government) and a background note from the Secretariat of the Organisation for Economic Co-operation and Development for a meeting of the Competition

apart from another initiative from the Canadian Competition Bureau which is not concluded yet⁶⁶. In the joint paper, the French and the German authorities recognize the role of big data in allowing the exploration of new business opportunities (a use similar to that of Google Flu Trends), allowing more target-oriented business models (such as individual pricing of products or serving online ads to specific users based on their potential interests⁶⁷), and improving products and services. On this last feature, the authorities give the example of web search engines:

It can be safely assumed that more searches together with the possibility to observe on what results each user clicks can help improve and refine the search engine as well as the implementation of its supporting algorithm. This can improve the search result's quality, which in turn can lead to more people using the search engine.⁶⁸

This is a basic description of the so-called “feedback loop” involving search engines⁶⁹. The resulting scale economics may be viewed as resulting in market power to firms that collect data. This is a first possible role of data in the competitive analysis in the regard of the French and German authorities:

Provided that access to a large volume or variety of data is important in ensuring competitiveness on the market (which is a market-specific question), the collection of data may result in entry barriers when new entrants are unable either to collect the data or to buy access to the same kind of data, in terms of volume and/or variety, as established companies.⁷⁰

On the other hand, the authorities say that the increasing collection and use of digital data may result in greater online market transparency, which might lead both to the

Committee. The German competition authority also released a posterior independent paper which was not analyzed for this work due to it not having been translated to English yet. *See* MONOPOLKOMMISSION. **Competition policy: the challenge of digital markets**, 2015. Retrieved from: <http://www.monopolkommission.de/images/PDF/SG/s68_fulltext_eng.pdf>. Accessed on 30 Nov. 2017; ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. **Big Data: Bringing competition policy to the digital era**, 27 Oct. 2016. Retrieved from <[https://one.oecd.org/document/DAF/COMP\(2016\)14/en/pdf](https://one.oecd.org/document/DAF/COMP(2016)14/en/pdf)>. Accessed on 30 Nov. 2017; BUNDESKARTELLAMT. **Big Data und Wettbewerb**. 6 Oct. 2017. Retrieved from <http://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Schriftenreihe_Digitales/Schriftenreihe_Digitales_1.pdf?__blob=publicationFile&v=3>. Accessed on 30 nov. 2017.

⁶⁶ Canada sent for public consultation a white paper with similar comments to the ones in the joint paper from France and Germany, but it is still a draft of the final product. *See* COMPETITION BUREAU. **Big data and Innovation: Implications for Competition Policy in Canada**, 18 set. 2017. Retrieved from <[http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/Big-Data-e.pdf/\\$file/Big-Data-e.pdf](http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/Big-Data-e.pdf/$file/Big-Data-e.pdf)>. Accessed on 7 nov. 2017.

⁶⁷ Google uses searchers' query logs to build specific profiles which will see specifically-oriented ads in partner websites. The partner websites earn money per click on the ad they exhibit, money which is paid to Google by advertisers. In this service, called Google AdSense, Google serves as a two-sided platform. *See* GOOGLE. **Discover how easy it is to use AdSense. Google AdSense**, [n.d.]. Retrieved from <<https://www.google.com/intl/en/adsense/start/how-it-works/>>. Accessed on 6 nov. 2017.

⁶⁸ AUTORITÉ DE LA CONCURRENCE; BUNDESKARTELLAMT, 2016, p. 9.

⁶⁹ PASQUALE, Frank. Privacy, antitrust, and power. *Geo. Mason L. Rev.*, v. 20, p. 1009, 2012; LERNER, Andres V. The Role of “Big Data” in Online Platform Competition. *SSRN*, 27 Aug. 2014. Retrieved from <<https://ssrn.com/abstract=2482780>>. Accessed on 6 nov. 2017.

⁷⁰ AUTORITÉ DE LA CONCURRENCE; BUNDESKARTELLAMT, op. cit., p. 11.

procompetitive benefits of reduction in information asymmetry (better price-comparison and discovery of suppliers), and to its anti-competitive benefits (increased risk of tacit collusion or even explicit collusion, considering the use of algorithms in cartels)⁷¹.

Considering the market power data might confer to firms, the French and the German authorities identify some anti-competitive conducts that are used to acquire data or that arise from specific data-based market power. One first example of conduct used to acquire data is, as already stated, the acquisition of or merger with companies owning large datasets (which might actually be more of a merger with anti-competitive effects, than an anti-competitive conduct by itself). In these mergers, special attention should be paid to the facts that:

- A merger between an established undertaking and a small company might have low impact on the existing market structure, but “increase the concentration of data related to [the] market if the newcomer has access to a large database (gained on another market for instance)”⁷²;
- There are possibilities of foreclosure between data and related upstream or downstream markets⁷³;
- The combination of different sets of data might result in a database irreplicable by competitors and generate efficiencies at the same time⁷⁴.

In the matter of exclusionary (unilateral) conducts, the French and German authorities are worried if “depriving some competitors from access to data could also weaken competition and even lead to exclusion of competitors in different situations”⁷⁵. This could be done by a refusal of access to data, which is analyzed in European law under a specific legal test⁷⁶ (similar tests applied in Brazilian law are the matter of the third chapter of this work).

⁷¹ *ibidem*, p. 14.

⁷² *ibidem*, p. 16.

⁷³ “For instance, in the context of the Facebook / WhatsApp merger, the European Commission assessed whether a potential integration between Facebook’s social networking platform and the consumer communications application WhatsApp would allow Facebook to have access to additional data from WhatsApp users and whether this would alter competition. Likewise, in its TelefónicaUK / VodafoneUK / Everything Everywhere merger decision, the Commission assessed ‘whether the JV Co would foreclose competing providers of data analytics or advertising services by combining personal information, location data, response data, social behavior data and browsing data and by so creating a unique database that would become an essential input for targeted mobile advertising that no competing provider of mobile data analytics services or advertising customer would be able to replicate’ (§539)”. *ibidem*, p. 17.

⁷⁴ “In Microsoft / Yahoo!, United States v. Bazaarvoice and Tomtom / Tele Atlas, efficiency claims were made by the merging parties stating that the merger would allow a company to produce better products faster because of data”. *ibidem*, p. 17.

⁷⁵ *idem*.

⁷⁶ The French and German report refers to the European Court of Justice’s rulings in the cases “Bronner” (C-7/97, judgment of 26/11/1998), “IMS Health” (C-418/01, judgment of 29/04/2004) and “Microsoft” (T-201/04, judgment of 17/09/2007). According to Alison Jones’s and Brenda Sufirin’s comments on the Bronner case, “in paragraph 41 the CJ [Court of Justice] listed four factors which would have to be present before the refusal could be an abuse:

The authorities add that “improved data access”, probably resulting from an order by a competition authority, “may also lessen incentives for rivals to develop their own sources of data”. Furthermore, forced access to data “may raise privacy concerns”, as data from a certain company’s clients might end up in the hands of another company with a different privacy policy⁷⁷. Similar concerns result from discriminatory access to data and exclusive contracts⁷⁸. Furthermore, data collected on a given market might be used in anti-competitive tying conducts (with the use of databases as tying products), be used to leverage one’s position in a market to an adjacent market (taking advantage of data to design specially-tailored offers in a way that no competitor is able to do)⁷⁹ or facilitate price discrimination⁸⁰.

This work intends to analyze similar cases, in the Brazilian competition law, to one specific unilateral conduct involving data: refusal of access to search data from incumbent dominant firms to entrant ones. In the next chapter, more details on the effects of a conduct of refusal of access to search data will be given.

-
- first, the refusal would have to be likely to eliminate all competition in the downstream market from the person requesting access;
 - secondly, the refusal must be incapable of objective justification;
 - thirdly, the access must be indispensable to carrying on the other person’s business; and
 - fourthly, there must be no actual or potential substitute for it”.

See JONES, Alison; SUFRIN, Brenda. **EU Competition Law: Text, Cases, and Materials**. 6th edition. Oxford: Oxford University Press, 2016, p. 506. The French and German authorities add that the refusal must prevent “the emergence of a new product for which there is a potential consumer demand (this condition being applicable when the exercise of an intellectual property right is at stake)”. Furthermore, they state that “these ECJ requirements would only be met, if it is demonstrated that the data owned by the incumbent is truly unique and that there is no possibility for the competitor to obtain the data that it needs to perform its services”. See AUTORITÉ DE LA CONCURRENCE; BUNDESKARTELLAMT, 2016, p. 18.

⁷⁷ *idem*.

⁷⁸ *ibidem*, p. 19.

⁷⁹ *ibidem*, p. 20.

⁸⁰ *ibidem*, p. 21-22.

3 THE CONDUCT AND THE EFFECTS OF A REFUSAL OF ACCESS TO SEARCH DATA

This chapter presents the hypothetical conduct of refusal of access to search data that will be analyzed in this work (topic 3.1). Topic 3.2 will compare the hypothetical conduct to real conducts and business practices and specify the differences that make it special. Topics 3.3, 3.4 and 3.5 will bring in competition law concepts for an abstract review of the relevant market, the negative effects and the positive effects (respectively in each subtopic) related to the hypothetical conduct. Topic 3.6 will present a test for the evaluation of the effects of the conduct and its ability to actually restrain competition.

3.1 A HYPOTHETICAL CONDUCT OF REFUSAL OF ACCESS TO SEARCH DATA

The goal of this work is to compare previous cases of refusal to deal under the Brazilian competition law to a hypothetical conduct of refusal of access to search data. So far, however, there are no details about such a conduct leading to the application of competition laws. In fact, there are no details whatsoever about such a conduct ever taking place (although a lack of publicization does not mean it has never happened and the growing importance of data may result in more probability of it occurring in the future). Therefore, the conduct will be described hypothetically.

The conduct involves competing search engines in an asymmetric oligopolistic setting, such as the sector of search engines is, as it was described in the previous chapter. In this setting, there is a dominant search engine which receives far more search queries than its competitors. A non-dominant search engine requests access to the search data from the dominant search engine and sees its request being denied. The search data would comprise the dominant competitor's indexed information from crawled pages and its query logs, ie, the history of queries made by users and their response to the links in the results pages. The non-dominant search engine, then, alleges that the refusal from the dominant firm to provide access to its search data is anti-competitive (refusal which is hereinafter referred to as "the conduct" or "the hypothetical conduct"⁸¹), and it thus tries to enforce the competition laws to compel the dominant firm to provide access to the data.

⁸¹ "Hypothetical" in the sense of a hypothetical conduct with no public records of being assessed by a competition authority, as it will be described in the next paragraphs. This conduct was, nevertheless, inspired by the fictitious case which based the discussions in the Herbert Smith Freehills Competition Law Moot 2017.

The legal aspects under Brazilian law of the said enforcement will be given in the next chapter. This chapter will present the economic aspects that make the factual background for the application of the law. After more details about search data conducts in the real world, there will be an initial comment about the relevance of the definition of relevant markets for analyzing unilateral conducts. After that, the effects of the conduct will be described in two categories: negative effects, that is, consequences of the conduct which restrict competition; and positive effects, that is, consequences of the conduct which favor competition. It is important to notice that the positive and negative effects both result from the same conduct, in a way that the positive effects and the negative effects are interrelated.

It is not possible to establish all the factual details of a hypothetical conduct in an academic work. One can not say if the search engine which requests access to its competitor's data needs such access because it can not reach minimum viable scale without it, for example. Similarly, it is not possible to say if the search engine which requests access to its competitor's data needs the data to enter the market or to maintain itself in the market. The details which are not capable of being described as part of the facts will be addressed in a last topic in this chapter which will deal with the controversial points of the conduct. These controversial points represent the main decisions to be done by a competition agency when analyzing a conduct of refusal of access to search data.

3.2 ACCESS TO SEARCH DATA IN THE REAL WORLD

This topic compares the hypothetical conduct to real conducts and business practices in one subtopic for each comparison object. Firstly, there will be a comparison with the search bias and multi-homing investigations in subtopic 3.2.1; secondly, there will be a comparison with investigations on distribution agreements made by search engines in subtopic 3.2.2; thirdly, there will be a comparison with investigations on "scraping" practices in subtopic 3.2.3; fourthly and lastly, there will be a comparison with joint agreements between search engines for the provision of search engines services in subtopic 3.2.4.

3.2.1 The search bias and multi-homing restriction investigations

There is no public notice of the hypothetical conduct being analyzed by a competition authority. Access to a dominant search engine's data, however, is a remedy proposed by some

authors to possible anti-competitive conducts on the part of search engines, such as the search bias or the multi-homing restriction conducts.

Search bias allegations have been analyzed by some jurisdictions around the world, such as the United States (which closed the federal investigation without taking any measures against the company in 2013⁸²), Taiwan (closed a probe in 2015⁸³), Canada (discontinued the investigation in 2016⁸⁴), the European Union (fined Google for anti-competitive practice in June 2017⁸⁵), and Brazil (case still ongoing⁸⁶), among others⁸⁷. The search bias cases are usually raised by vertical search engines providers which accuse Google of demoting them in search results pages and putting Google's own vertical search engines in the top results, thus diverting allegedly essential traffic from them. A vertical search engine (in opposition to a general search engine) is a search engine which focus on specific information, such as local businesses, flights, hotels, etc.

On the other hand, multi-homing restrictions happen when a dominant search engine restricts advertisers from simultaneously advertising in different search engines, precisely because of limitations in the use of campaign management softwares. This conduct has also been investigated in some of the aforementioned jurisdictions, such as the United States

⁸² FEDERAL TRADE COMMISSION. Federal Trade Commission. **Google Agrees to Change Its Business Practices to Resolve FTC Competition Concerns In the Markets for Devices Like Smart Phones, Games and Tablets, and in Online Search**, 3 Jan. 2013a. Retrieved from <<https://www.ftc.gov/news-events/press-releases/2013/01/google-agrees-change-its-business-practices-resolve-ftc>>. Accessed on 15 Nov. 2017. Recently, the state of Missouri started an investigation which restarts some of the discussions closed in the federal level by the Federal Trade Commission, including the search bias allegations. See OFFICE OF THE MISSOURI ATTORNEY GENERAL. **AG Hawley Issues Investigative Demands to Google, Inc.**, 13 Nov. 2017. Retrieved from <<https://www.ago.mo.gov/home/breaking-news/ag-hawley-issues-investigative-demands-to-google-inc->>. Accessed on 15 Nov. 2017.

⁸³ WANG, Su-Wan; WANG, Elizabeth Xiao-Ru. Focus on Innovation: a review of the Taiwan Fair Trade Commission's investigation on Google Maps. **Competition Policy International**, 17 July 2016. Retrieved from <<https://www.competitionpolicyinternational.com/focus-on-innovation-a-review-of-the-taiwan-fair-trade-commissions-investigation-on-google-maps/>>. Accessed on 15 Nov. 2017.

⁸⁴ COMPETITION BUREAU. **Competition Bureau statement regarding its investigation into alleged anti-competitive conduct by Google**, 19 Apr. 2016. Retrieved from <<http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04066.html>>. Accessed on 15 Nov. 2017.

⁸⁵ EUROPEAN COMMISSION. **Antitrust: Commission fines Google €2.42 billion for abusing dominance as search engine by giving illegal advantage to own comparison shopping service**, 27 Jun. 2017. Retrieved from <http://europa.eu/rapid/press-release_IP-17-1784_en.htm>. Accessed on 15 Nov. 2017.

⁸⁶ CADE. **Cade investiga supostas práticas anticompetitivas do Google no mercado brasileiro de buscas online**, 11 Oct. 2013. Retrieved from <<http://www.cade.gov.br/noticias/cade-investiga-supostas-praticas-anticompetitivas-do-google-no-mercado-brasileiro-de-buscas-online>>. Accessed on 15 Nov. 2017.

⁸⁷ In some jurisdictions, cases on search bias were raised by private parties. None of those cases resulted in a condemnation. On the English case, see UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND. England and Wales High Court of Justice. **Case No HC-2013-000090**. Parties: Streetmap.eu Limited and Google Inc., Google Ireland Limited and Google UK Limited. Judgement from Mr. Justice Roth. London, 12 Feb. 2016. Retrieved from <<http://www.bailii.org/ew/cases/EWHC/Ch/2016/253.html>>. Accessed on 15 Nov. 2017. On the German case, see STERLING, Greg. **Google Wins Vertical Search Antitrust Case In Germany. Search Engine Land**, 7 May 2013. Retrieved from <<http://searchengineland.com/google-wins-vertical-search-antitrust-case-in-germany-158544>>. Accessed on 15 Nov. 2017.

(which closed the federal investigation in 2013 after obtaining compromises from Google⁸⁸), Canada (discontinued the investigation in 2016 also after obtaining compromises from Google⁸⁹), the European Union (investigation still ongoing, with no formal charges⁹⁰), and Brazil (case ongoing with formal charges already sent⁹¹).

Ioannis Linos and Evgenia Motchenkova state that “some form of intervention is needed in order to avoid possible abusive conduct by the dominant search engine that may lead to monopolization of this market”⁹², abusive conduct which could take form as multi-homing restrictions or a search bias conduct. One remedy proposed by the authors (based on Cédric Argenton and Jens Prüfer⁹³) is requiring “search engines to share their data bases and data on previous searches”⁹⁴. It is important to notice that this is proposed as a remedy for an anti-competitive conduct - the mere refusal to share data itself not being explicitly given as an example of a conduct. In fact, a search bias conduct differs from refusal of access to search data in which it deals with vertical search engines requesting to be present in the top of the dominant general search engine’s result pages, and not with search engines accessing a dominant competitor’s asset (the search data) as an input. Access to search data as a remedy would solve a problem arising somewhere else - in the restriction of competition from vertical search engines⁹⁵ -, whereas a conduct of refusal of access to search data is enough of a problem if it involves only general search engines, no vertical search engine having to be involved. Similarly, multi-homing restrictions involve campaign management softwares apart from general search engines themselves⁹⁶.

⁸⁸ FEDERAL TRADE COMMISSION, 2013a.

⁸⁹ COMPETITION BUREAU, 2016.

⁹⁰ EUROPEAN COMMISSION. **Antitrust: Commission takes further steps in investigations alleging Google's comparison shopping and advertising-related practices breach EU rules**, 14 Jul. 2016a. Retrieved from <http://europa.eu/rapid/press-release_IP-16-2532_en.htm>. Accessed on 15 Nov. 2017.

⁹¹ CADE, 2013b.

⁹² LIANOS, Ioannis; MOTCHENKOVA, Evgenia. Market dominance and search quality in the search engine market. **Journal of Competition Law & Economics**, v. 9, n. 2, p. 451, 2013.

⁹³ ARGENTON, Cédric; PRÜFER, Jens. Search engine competition with network externalities. **Journal of Competition Law and Economics**, v. 8, n. 1, p. 73-105, 2012.

⁹⁴ LIANOS; MOTCHENKOVA, op. cit., loc. cit.

⁹⁵ The localization of the competition restraint in a search bias case can be seen in the press release of the European Commission decision to fine Google for its conduct, where it is stated that “it [Google] stifled competition on the merits in comparison shopping markets”. The comparison shopping services are the specific search services which allow “consumers to compare products and prices online and find deals from online retailers of all types, including online shops of manufacturers, platforms (such as Amazon and eBay), and other re-sellers”. EUROPEAN COMMISSION, 2017b.

⁹⁶ Canada’s Competition Bureau referenced to the campaign management softwares in the figure of their developers: “The Bureau considered allegations that Google’s AdWords API Terms and Conditions prevented software developers that help companies manage their search advertising campaigns (known as ‘licensees’) from easily transferring information between Google advertising campaigns and advertising campaigns on competing platforms”. It was the said softwares that allowed advertising in search engines, and it was competition between them that would be directly restricted by the conduct. COMPETITION BUREAU, op. cit.

3.2.2 The distribution agreements investigation

One similar conduct to the refusal of access to search data was another one investigated by the Canadian Competition Bureau together with its investigations of search bias and multi-homing restrictions. According to Canada's statement on the conclusion of the investigation:

search engines also enter into distribution agreements with hardware manufacturers and software developers that set the default search engine on smartphones, personal computers, browsers, etc. (...) the Bureau considered allegations that distribution agreements exclude search rivals by denying them the number of searches necessary to compete with Google.⁹⁷

The distribution agreements conduct is similar to the restriction of access to search data in which a central question for its anti-competitiveness is if a number of searches could be necessary for competition of search engines. The usefulness of the number of searches could result from the fact that they could give an essential number of search queries and substantially complement a search engine's query log. Nevertheless, the queries looked for a non-dominant search engine when it requests access to the dominant firm's search data are different: the distribution agreements case is about non-dominant search engines being the default search engine in a certain interface. The queries given if a non-dominant firm is the default search engine in an interface are given directly to this non-dominant search engine. However, when a non-dominant search engine looks for the dominant firm's search data, it is looking for queries that were given directly to the dominant search engine. It would be the dominant search engine's queries history which would be essential for competition. It is possible to imagine a scenario in which non-dominant firms are the default search engines in the most used interfaces, but the dominant firm's query log would still be necessary due to its magnitude. The refusal of access to search data could still be analyzed independently.

In the distribution agreements case, Canada did not took further actions against Google. The agency did not arrive to assessing if the search queries supposedly locked-in by the distribution agreements were essential for competition because it did not see any effective restriction in the access of non-dominant search engines to the interfaces with which Google had distribution agreements. The evidence showed, for example, that "consumers can and do change the default search engine on their desktop and mobile devices if they prefer a different one to the pre-loaded default"⁹⁸.

⁹⁷ COMPETITION BUREAU, op. cit.

⁹⁸ COMPETITION BUREAU, 2016.

3.2.3 Copy of competitor’s results (scraping)

Outside of the field of action of antitrust agencies, it is difficult to say if non-dominant search engines have actually ever looked for access to dominant firms’ search data. This would be part of the non-dominant firms’ business strategy and would not be usually publicized as a strategy of protection of business secrets. But two particular practices involving access to competitor’s data were identified, although both are somewhat different from the conduct analyzed in this work and do not deal with “search data” in the same sense.

The first identified practice does not involve a search engine properly requesting access to a competitor’s search data, but directly copying results from competitor’s search results pages. Google reports Bing has done this against it⁹⁹. Google was looking for the results its search engine gave for an unusual misspelled query (“torsorophy”). The search results page returned the correct spelling (“tarsorrhaphy”) and results for the correctly spelled query. For the same misspelled query, Bing provided no results. Some time later, “Bing started returning our [Google’s] first result to their users without offering the spell correction”¹⁰⁰:

Figure 1 - Google’s results for an unusual misspelled query (“torsorophy”)



Source: SINGHAL, Amit. Microsoft’s Bing uses Google search results—and denies it.

Official Google Blog, 1 Feb. 2011. Retrieved from

⁹⁹ SINGHAL, Amit. Microsoft’s Bing uses Google search results—and denies it. **Official Google Blog**, 1 Feb. 2011. Retrieved from <<https://googleblog.blogspot.com.br/2011/02/microsofts-bing-uses-google-search.html>>. Accessed on 16 Nov. 2017.

¹⁰⁰ idem.

<<https://googleblog.blogspot.com.br/2011/02/microsofts-bing-uses-google-search.html>>.

Accessed on 16 Nov. 2017.

Figure 2 - Bing's results for an unusual misspelled query (“torsorophy”)



Source: SINGHAL, Amit. Microsoft’s Bing uses Google search results—and denies it.

Official Google Blog, 1 Feb. 2011. Retrieved from

<<https://googleblog.blogspot.com.br/2011/02/microsofts-bing-uses-google-search.html>>.

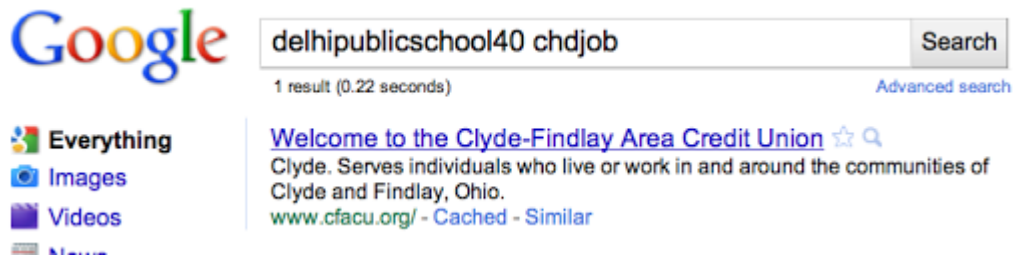
Accessed on 16 Nov. 2017.

Google noticed only their first result for the correct query had been copied (a link to a Wikipedia page), which indicated that Bing did not actually know the correct spelling for the query. Over the next few months, Google noticed the practiced became common for a big number of queries, and then a test was made with Google forcing random results in its search engine for 100 synthetic queries (“queries that you would never expect a user to type, such as [hiybbprqag]”¹⁰¹). After a couple of weeks clicking on the random results, Google engineers noticed Bing gave the same random results to the synthetic queries (the random results were links to webpages with no relation whatsoever to the queries). For example, “for the query [delhipublicschool40 chdjob] we [Google] inserted a search result for a credit union”¹⁰²:

¹⁰¹ idem.

¹⁰² idem.

Figure 3 - Google's results for a synthetic query ("delhipublicschool40 chdjob")



Source: SINGHAL, Amit. Microsoft's Bing uses Google search results—and denies it.

Official Google Blog, 1 Feb. 2011. Retrieved from

<<https://googleblog.blogspot.com.br/2011/02/microsofts-bing-uses-google-search.html>>.

Accessed on 16 Nov. 2017.

Figure 4 - Bing's results for a synthetic query ("delhipublicschool40 chdjob")



Source: SINGHAL, Amit. Microsoft's Bing uses Google search results—and denies it.

Official Google Blog, 1 Feb. 2011. Retrieved from

<<https://googleblog.blogspot.com.br/2011/02/microsofts-bing-uses-google-search.html>>.

Accessed on 16 Nov. 2017.

Google concluded that Bing was somehow watching “what people search for on Google and the Google search results they click”¹⁰³, the main suspicion being “Internet Explorer 8, which can send data to Microsoft via its Suggested Sites feature”¹⁰⁴ or “the Bing Toolbar, which can send data via Microsoft’s Customer Experience Improvement Program”¹⁰⁵. In response, Bing both said that they “do not copy Google’s results”¹⁰⁶ and that they actually “clickstream data” from customers “who opt-in to sharing anonymous data as

¹⁰³ idem.

¹⁰⁴ idem.

¹⁰⁵ idem.

¹⁰⁶ FOLEY, Mary Jo. Microsoft: 'We do not copy Google's results'. **ZDNet**, 1 Feb 2011. Retrieved from <<http://www.zdnet.com/article/microsoft-we-do-not-copy-googles-results/>>. Accessed on 16 Nov. 2017.

they navigate the web in order to help us improve the experience for all users”¹⁰⁷, which means not copying, but watching searches made by users in many websites, not specifically Google¹⁰⁸.

Considering that Google uses its data to build the order of the results given to the user, Bing’s practice could be seen as free-riding on the way Google treats its data. However, the practice would not be considered certainly anti-competitive due to its limited effects. As explained by Harry Shum, corporate vice president of Bing development at the time: “We aggregate the information (...) The entire clickstream gets weighted along with different signals (...) For head queries, we have more signals. For tail queries, we have less. For the Google ‘synthetic’ queries [done for the Google sting operation], we have nothing”¹⁰⁹. This results in a higher probability of exactly the Google’s synthetic queries being copied than other Google’s results. In fact, Bing ended up copying results for only 9 of the 100 synthetic queries created by Google, which shows that the clickstream is a small part of Bing’s algorithm¹¹⁰.

Copying rival search engines’ results is different from having access to their data because the results in a page are an interpretation of the search data an engine has. When Bing copies Google’s results (considering an hypothesis of a clear-cut copy of a results page), it is not going further to see which possible indexed pages could be given as results but were not, for example. Access to a competitor’s search data would ensure more possibilities of use of the competitor’s information than it is allowed by Bing’s practice, which is seen as occasional and unable to extract much from Google.

A similar practice to Bing’s one was investigated by competition authorities. It was called the “scraping conduct”, in relation to which the United States closed a federal probe in 2013 after obtaining compromises from Google¹¹¹ and both the European Union and Brazil are conducting investigations (with formal charges having been sent in Brazil¹¹², but not in Europe so far¹¹³). The conduct involves “allegations that Google misappropriated content, such as user reviews and star ratings, from competing websites in order to improve its own

¹⁰⁷ SHUM, Harry. Thoughts on search quality. **Bing Search Blog**, 1 Feb 2011. Retrieved from <<https://blogs.bing.com/search/2011/02/01/thoughts-on-search-quality>>. Accessed on 16 Nov. 2017.

¹⁰⁸ SULLIVAN, Danny. Bing: Why Google’s Wrong In Its Accusations. **Search Engine Land**, 4 Feb. 2011. Retrieved from <<https://searchengineland.com/bing-why-googles-wrong-in-its-accusations-63279>>. Accessed on 16 Nov. 2017.

¹⁰⁹ *idem*.

¹¹⁰ *idem*.

¹¹¹ FEDERAL TRADE COMMISSION, 2013a.

¹¹² CADE, 2013b.

¹¹³ EUROPEAN COMMISSION, 2016a.

vertical offerings, such as Google Local and Google Shopping”¹¹⁴. It is stated that such a conduct could reduce Google’s and rivals’ incentives for innovation in the promotion of online content¹¹⁵. Similarly to the Bing’s practice, the scraping conduct is different from access to a competitor’s search data because it does not involve the whole of competitors’ raw data, but merely parts of competitors’ content.

3.2.4 Joint agreement for the provision of a search engine

A second identified commercial practice of access to competitor’s data is a deal that Microsoft (responsible for Bing) and Yahoo closed in 2009. Under the deal, implemented in some countries around the world, Yahoo gave up its own search engine technology to provide, in its website, search results from Bing, in return for payment from Microsoft¹¹⁶. Some aspects of the deal have changed so far¹¹⁷, but, to this day, Yahoo’s search engine results page might show the alert “Powered by Bing” in the bottom¹¹⁸. The deal was analyzed by some antitrust authorities, such as the Department of Justice in the United States¹¹⁹, the European Commission¹²⁰ and Brazil’s CADE¹²¹, none of which opposed the deal.

All the aforementioned authorities approved the deal considering that a search engine with more scale could better compete Google. In the words of the Department of Justice:

The search and paid search advertising industry is characterized by an unusual relationship between scale and competitive performance. The transaction will enhance Microsoft’s competitive performance because it will have access to a larger set of queries, which should accelerate the automated learning of Microsoft’s search

¹¹⁴ FEDERAL TRADE COMMISSION, 2013a.

¹¹⁵ FEDERAL TRADE COMMISSION. **File No. 111-0163**. In the matter of Google Inc. Statement of the Commission. Washington, D.C., 3 Jan. 2013b. Retrieved from <<https://www.ftc.gov/public-statements/2013/01/statement-commission-regarding-googles-search-practices>>. Accessed on 16 Nov. 2017.

¹¹⁶ SULLIVAN, Danny. The Microsoft-Yahoo Search Deal, In Simple Terms. **Search Engine Land**, 30 Jul. 2009. Retrieved from <<https://searchengineland.com/microsoft-yahoo-search-deal-simplified-23299>>. Accessed on 16 Nov. 2017.

¹¹⁷ STERLING, Greg. Yahoo-Bing Reach New Search Deal; Yahoo Gains Right To Serve Search Ads On The PC. **Search Engine Land**, 16 Apr. 2016. Retrieved from <<https://searchengineland.com/yahoo-bing-renegotiate-search-deal-yahoo-gains-right-to-serve-search-ads-on-the-pc-219020#>>. Accessed on 16 Nov. 2017.

¹¹⁸ Or, in the Brazilian Yahoo, “*Da plataforma Bing*”. This was certified in random searches made from a desktop computer in Yahoo, either in <<https://br.search.yahoo.com>>, for the Brazilian website, or in <<https://search.yahoo.com>>, for the American website (accessed on 16 Nov. 2017).

¹¹⁹ DEPARTMENT OF JUSTICE. **Statement of the Department of Justice Antitrust Division on Its Decision to Close Its Investigation of the Internet Search and Paid Search Advertising Agreement Between Microsoft Corporation and Yahoo! Inc.**, 18 Feb. 2010. Retrieved from <<https://www.justice.gov/opa/pr/statement-department-justice-antitrust-division-its-decision-close-its-investigation-internet>>. Accessed on 16 Nov. 2017.

¹²⁰ EUROPEAN COMMISSION. **Mergers: Commission clears Microsoft's proposed acquisition of the Yahoo search business**, 18 Feb. 2010a. Retrieved from <http://europa.eu/rapid/press-release_IP-10-167_en.htm>. Accessed on 16 Nov. 2017.

¹²¹ CADE. **Merger No. 08012.006419/2009-94**. Parties: Microsoft Corporation and Yahoo! Inc. Commissioner-Rapporteur: Fernando de Magalhães Furlan. Brasília, 16 Dec. 2009.

and paid search algorithms and enhance Microsoft's ability to serve more relevant search results and paid search listings, particularly with respect to rare or "tail" queries. The increased queries received by the combined operation will further provide Microsoft with a much larger pool of data than it currently has or is likely to obtain without this transaction. This larger data pool may enable more effective testing and thus more rapid innovation of potential new search-related products, changes in the presentation of search results and paid search listings, other changes in the user interface, and changes in the search or paid search algorithms. This enhanced performance, if realized, should exert correspondingly greater competitive pressure in the marketplace.¹²²

It is possible that Bing gained access to Yahoo's search data with the deal. Microsoft's then-CEO Steve Ballmer said they would not look at "Yahoo!'s code", but also said that they would "build from Bing, integrate good value, good technology from Yahoo!"¹²³. Daniel Sullivan stated that "potentially, some parts of Yahoo's technology could be incorporated into Bing"¹²⁴. The European Commission described the agreement as giving Microsoft "the right to integrate Yahoo's search technologies into its existing web search platforms"¹²⁵, description which is also in Microsoft's 2009 Annual Report¹²⁶. The operation of the deal made the European Commission analyze the case as an "acquisition by Microsoft of Yahoo's internet search and search advertising businesses"¹²⁷.

In 2011, after the Bing-Yahoo agreement transactions were completed in 2010 in the United States and Canada, Microsoft reported in its annual financial report that "Search revenue grew due to increased volumes reflecting general market growth, relative share gains in the U.S., and our Yahoo! Alliance"¹²⁸. It is not possible to make a more detailed analysis of the reported growth due to constant changes in Microsoft's organizational structure: in 2009, when Bing was launched (as a revamped version of their internet search engine¹²⁹), Bing had its financial statements disclosed together with "MSN Portals and channels, and personal

¹²² DEPARTMENT OF JUSTICE, 2010.

¹²³ SULLIVAN, 2009.

¹²⁴ *idem*.

¹²⁵ EUROPEAN COMMISSION. **Case No. COMP/M.5727**. Parties: Microsoft Corporation and Yahoo! Inc. Decision signed by Joaquín Almunia, Vice-President of the Commission. Brussels, 18 Feb. 2010b. Available at <http://ec.europa.eu/competition/mergers/cases/decisions/M5727_20100218_20310_261202_EN.pdf>. Accessed on 16 Nov. 2017.

¹²⁶ "Microsoft will also acquire an exclusive 10-year license to Yahoo!'s core search technology and will have the ability to integrate Yahoo! search technology into its existing Web search platform". *See* MICROSOFT CORPORATION. **2009 Annual Report**, 2009, p. 78. Retrieved from <https://www.microsoft.com/investor/reports/ar09/downloads/MS_2009_AR.doc>. Accessed on 17 Nov. 2017.

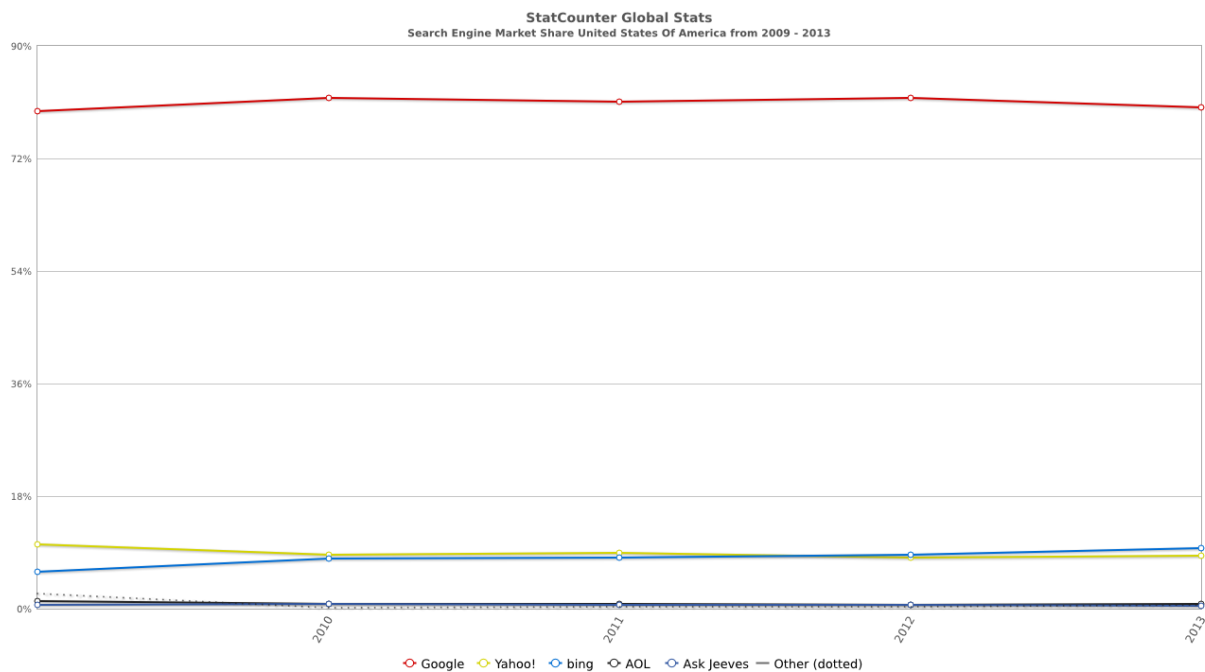
¹²⁷ EUROPEAN COMMISSION, 2017b, p. 3.

¹²⁸ MICROSOFT CORPORATION. **2011 Annual Report**, 2011. Retrieved from <<https://www.microsoft.com/investor/reports/ar11/docs/2011%20Annual%20Report.doc>>. Accessed on 17 Nov. 2017.

¹²⁹ "Despite the difficult economic conditions, we introduced an impressive range of innovative new software to the marketplace. Fiscal 2009 saw the successful launch of key products including (...) Bing, the newest version of our Web search technology". *See* MICROSOFT CORPORATION, 2009, p. 2.

communications services such as email and instant messaging around the world”¹³⁰, which included revenue from search, display and email advertising and messaging services¹³¹; in 2013, Bing was put in a division that also included sales from many services (such as Windows Store, Xbox Live, Office 365 and Microsoft Studios, among others)¹³²; in 2015, it was finally isolated in the Search Advertising segment of the “More Personal Computing” division¹³³. Despite the reported “search revenue growth”, Bing and Yahoo did not present significant growth in the years following the conclusion of the transaction in the United States (or in any other market, as shown in the graphs in the previous chapter), according to data from StatCounter:

Graph 8 - Search engines’ market shares in the United States from 2009 to 2013



Source: STATCOUNTER. Search Market Share. **StatCounter Global Stats**, [n. d]b.

Retrieved from <<http://gs.statcounter.com/search-engine-market-share>>. Accessed on 17 nov.

2017.

¹³⁰ MICROSOFT CORPORATION, 2009, p. 10.

¹³¹ idem.

¹³² MICROSOFT CORPORATION. **2014 Annual Report**, 2014. Retrieved from <https://www.microsoft.com/investor/reports/ar14/docs/2014_Annual_Report.docx>. Accessed on 17 Nov. 2017.

¹³³ MICROSOFT CORPORATION. **2016 Annual Report**, 2016. Retrieved from <https://www.microsoft.com/investor/reports/ar16/docs/2016_Annual_Report.docx>. Accessed on 17 Nov. 2017.

The rationale behind the agreement between Bing and Yahoo is very similar to that of the hypothetical conduct, except that the refusal of access to search data conduct involves request of access to a dominant search engine's search data, which is not the case. Search data from a dominant search engine could be seen as different from a non-dominant competitor's search data in regards to its scalability potential, which might result in a more significant impact on competition, possibly more significant than the relative stability shown in Graph 8 above.

Similar agreements to the one between Bing and Yahoo exist, but they are more limited in scope. Before Bing and Yahoo closing their deal, they already had an agreement under which the paid links advertised in Bing's result pages were provided by Yahoo, which paid Microsoft part of what it received from advertisers exhibited in Bing¹³⁴. A similar agreement existed between Ask.com and Google¹³⁵. These advertisement agreements, however, do not really provide a search engine access to all of a competitor's search data. They just give the platform responsible for providing the paid links information on what query was entered by the user, with no need of analysis of previous query history or indexed information for the provision of the service.

The hypothetical conduct is, consequently, a novel discussion concerning search data which might possibly be taken to competition agencies around the world. The present work helps in the assessment of this ever happening, save for differences regarding the facts involved, the evidence presented and the law in question.

3.3 RELEVANT MARKET DEFINITION

Defining the relevant market involved in the hypothetical conduct may not really be necessary as it would be in a merger case - this is the discussion in subtopic 3.3.1 below. Subtopic 3.3.2 will then present the "multi-sided platform" concept as an important point of analysis in the assessment of search engines and their potential competitors.

¹³⁴ This was declared by the parties before the Brazilian antitrust authority at the time of analysis of the 2009 deal. *See* CADE, 2009.

¹³⁵ BAKER, Loren. Ask.com & Google Sign \$3.5 Billion Search Advertising Deal. *Search Engine Journal*, 6 Nov. 2007. Retrieved from <<https://www.searchenginejournal.com/askcom-google-sign-35-billion-search-advertising-deal/5951/>>. Accessed on 16 Nov. 2017.

3.3.1 Market definition in unilateral conduct cases

Many times, competition authorities start their analyses of unilateral conducts by testing if the undertaking accused of harming competition has substantial market power for actually affecting the market¹³⁶. In the case of unilateral conducts, however, market power and the effective restriction generated by the conduct might overlap¹³⁷. In a metaphor from Jonathan B. Baker:

The possibility of observing and measuring market power more directly leads me to suggest a new notion for Clayton Act doctrine, something I think of as the *res ipsa loquitur* market definition. When a piano crashes onto the sidewalk, the law does not ask whether someone was negligent; instead, it goes right to the question of who. This approach could translate to antitrust. Suppose we know, directly, that a merger or other practice is harmful. That is, we can observe, or confidently predict, an increase in price or the exclusion of efficient competition. But suppose also that it is hard to draw lines around a market, because the array of differentiated products is broad and seamless. If we can show the harm, there must be a market in there somewhere. Just exactly where the market's boundaries are may not be very important, though. Nor may it matter much whether the market in which the harm occurs is large or small. All that should matter to the doctrine is that the market contain the transactions or parties that are causing or suffering the consumer injury.¹³⁸

Just like a crashed piano on a sidewalk means someone threw it from the window, an effective restraint on competition means a company illegally abused its market power. This does not make defining relevant markets irrelevant for assessing unilateral conducts, as effects still have to be proved (there still must be a crashed piano on the sidewalk), alongside with the

¹³⁶ In the European Union, the “Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings” establishes that “the assessment of whether an undertaking is in a dominant position and of the degree of market power it holds is a first step in the application of Article 82” (old numbering of the current Article 102). EUROPEAN COMMISSION. Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings. **Official Journal of the European Union**, Brussels, 24 Feb. 2009. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2009.045.01.0007.01.ENG&toc=OJ:C:2009:045:TOC>. Accessed on 17 Nov. 2017. There is not a similar document in the United States, but Herbert Hovenkamp references the *Spectrum Sports v. McQuillan* case in the Supreme Court (506 U.S. 447) to say that “courts have rightfully insisted that relevant markets and market shares be determined in monopolization cases, even if market power could be assessed by mechanisms that make market definition unnecessary”. HOVENKAMP, Herbert. **Federal Antitrust Policy: The law of competition and its practice**. Saint Paul: Thomson West, 2005, p. 274. In Brazil, Annex II of Resolution 20/1999 of CADE (an old resolution whose normative part has actually been repealed) puts “delimitation of the relevant market(s)” as part of the second step in the basic procedure for material analysis of restrictive conducts. CADE. Resolução nº 20, de 9 de junho de 1999. **Official Journal of the Union**, Brasília, 28 Jun. 1999. Retrieved from <<http://www.cade.gov.br/assuntos/normas-e-legislacao/resolucao/resolucao-no-20-de-9-de-junho-de-1999.pdf/@download/file/Resolu%C3%A7%C3%A3o%20n%C2%BA%2020,%20de%209%20de%20junho%20de%201999.pdf>>. Accessed on 17 Nov. 2017, our translation.

¹³⁷ “(...) the ‘lever’ that the dominant firm needs in order to make its exclusionary practice work is not the present ability to raise price above marginal cost (economic market power), but rather its ability to dominate a market in a way that forecloses access to rivals”. HOVENKAMP, 2005, p. 274.

¹³⁸ BAKER, Jonathan B. Product differentiation through space and time: some antitrust policy issues. In: **The Antitrust Bulletin**, v. 42, No. 1, p. 185, 1997.

causal nexus between the said effects and a certain conduct (the piano must have crashed from someone throwing it from the window for the person to be charged, not from a delivery truck that was passing on the street, in which case the delivery company would have to be charged). In the case of the hypothetical conduct, a refusal by a search engine to give access to its search data would only have anti-competitive effects if the data is relevant and gives a dominant upstream position to the search engine. If the search data in question is not relevant, then, lack of access to it would not be a problem for competitors. Furthermore, competition between search engines is only restricted if search engines are actually part of a market. If vertical search engines restrain competition from general search engines and the search data in question is only necessary for general search engines, the competition between general search engines is not really restricted, as the dominant search engine could still be restrained by vertical search engines, even if the competing (non-dominant) general search engines leaves the market.

If the effects of the conduct can be properly identified, questions about the existence of a “search data market” can be left aside. If there is no such thing as a search data market in the sense that search data are just part of the usual activity of search engines, then, the conduct is unable to restrict competition, because competing search engines would be able to stay in the market making use of their own search data. On the other hand, if there is a separate search data market, then it makes sense that competing search engines go after competitors’ data in order to continue their businesses¹³⁹.

3.3.2 Search engines as multi-sided platforms

The confusion between market definition and effects of the conduct allows us to describe the hypothetical conduct from its effects. This does not mean, however, that no care must be taken when talking about the relevant market search with which engines could be identified. Search engines work as platforms that connect: searchers looking for results ultimately given by content providers; content providers looking for audience from searchers;

¹³⁹ Herbert Hovenkamp says that “a firm is vertically integrated whenever it performs for itself some function that could otherwise be purchased on the market”. HOVENKAMP, 2005, p. 374. In this sense, if there is one search engine with valuable search data and other search engines looking for that data, there is a case of one vertically integrated firm and non-integrated rival firms. If the “vertically integrated” firm refuses to provide access to its data, however, data would not really be something that could be “purchased on the market”, in practice. Nevertheless, a duty to deal that forces the company to provide access to its data is a recognition of its indispensability for a downstream competition, and, consequently, of the existence of a market for data, which mixes up the market definition with the evaluation of effects of the conduct.

advertisers looking for attention from searchers¹⁴⁰. The difference in the price structure between the platform and each one of these agents (the search engine is free for searchers and content providers, but not for advertisers) and the response each agent has to actions from other agents both give search engines the name of “multi-sided platform”¹⁴¹.

Multi-sided platforms require more attention in antitrust analysis in that effects to one side of the platform do not occur in the same order or in the same way to the other side of the platform¹⁴². For example: if a search engine decides to charge fees from content providers so that links to their websites are listed as results, that will lead to a reduction in content providers featured in the search engine as much as they are elastic to the price increase. In consequence, searchers might stop using the search engine as much as they value the presence of content providers in the platform. Considering that content providers also value the presence of searchers in the platform, there might be a further reduction in the number of content providers. The search engine has to consider that any price increase to content providers might reduce their demand not only because of their price-elasticity, but also because of the network effect between content providers and searchers¹⁴³. In this sense, “it is incorrect to conclude that deviations between price and marginal cost on one side provide any indication of pricing to exploit market power or to drive out competition”¹⁴⁴.

The multi-sided characteristic also makes market definition more difficult due to the risk of considering only the substitutability of the platform to one of the sides, but not to the other¹⁴⁵. In the case of search engines, one can assume (for the sake of argument) that searchers consider search engines substitutable by web directories, but this substitutability might occur in a different level to advertisers, who could put more value on the ability to

¹⁴⁰ LIANOS; MOTCHENKOVA, 2013.

¹⁴¹ idem. Also, according to Jean-Charles Rochet and Jean Tirole (using the denomination “two-sided market” which is not used in this work so that there is no confusion with the antitrust concept of “relevant market”): “a market is two-sided if the platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount; in other words, the price structure matters, and platforms must design it so as to bring both sides on board”. ROCHET, Jean-Charles; TIROLE, Jean. Two-sided markets: a progress report. In: **The RAND journal of economics**, v. 37, No. 3, p. 645-667, 2006.

¹⁴² PABLO, Alfonso Lamadrid de. The double duality of two-sided markets. In: **Competition Law Journal**, v. 64, p. 5-18, 2015. Retrieved from: <https://antitrustlair.files.wordpress.com/2015/05/the-double-duality-of-two-sided-markets_clj_lamadrid.pdf>. Accessed on 18 Nov. 2017.

¹⁴³ Adaptation of an abstract explanation given by David S. Evans and Michael D. Noel. See EVANS, David S.; NOEL, Michael D. Defining Markets that Involve Multi-Sided Platform Businesses: An Empirical Framework with an Application to Google's Purchase of DoubleClick. **SSRN**, 2007. Retrieved from <<https://ssrn.com/abstract=1027933>>. Accessed on 18 Nov. 2017.

¹⁴⁴ ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. Competition Committee. **Two-sided markets**. 17 Dec. 2009, p. 37. Retrieved from <<http://www.oecd.org/daf/competition/44445730.pdf>>. Accessed on 18 Nov. 2017.

¹⁴⁵ ibidem, p. 36.

target specific queries (and not general areas of knowledge), an ability which is not available on web directories. In this example, a merger of a web directory and a search engine would harm searchers and advertisers in different ways, and limiting the relevant market either to search engines only or to both search engines and web directories could result in an incomplete analysis¹⁴⁶.

Market definition in the so-called “new economy” is not easy. Not only the services involved might be platforms such as search engines, but there might also be high dynamism in the industry, in a way that market power becomes transient¹⁴⁷. This also affects the possibility of a search engine actually affecting the market with unilateral conducts.

In the next topic, the actual negative and positive effects of the hypothetical conduct will be described.

3.4 NEGATIVE EFFECTS

Running a search engine involves high fixed costs (because of costs to develop and maintain the algorithm and to sustain servers with indexed pages) and low marginal costs both for users and advertisers (as providing the service for additional users or advertisers does not require much more technical capacity than the one already installed for starting the search engine)¹⁴⁸. This gives search engines a structure similar to that of natural monopolies¹⁴⁹, which enjoy significant economies of scale and network effects¹⁵⁰.

As to what regards network effects, search engines present a “feedback loop” which makes the search engine quality grows with the number of users it has: users generate a query log that is used to provide better ranked results in response to queries. The better the quality, even more users are attracted, which gives a scale advantage to incumbent search engines. As

¹⁴⁶ In its review of the Bing-Yahoo agreement, the European Commission analyzed the possible effects of the transaction in each of the sides from a search engine as a multi-sided platform. See EUROPEAN COMMISSION, 2010b.

¹⁴⁷ SOKOL, D. Daniel. The Broader Implications of Merger Remedies in High Technology Markets. **Competition Policy International**, 16 Dec. 2014. Retrieved from <<https://www.competitionpolicyinternational.com/the-broader-implications-of-merger-remedies-in-high-technology-markets/>>. Accessed on 18 Nov. 2017.

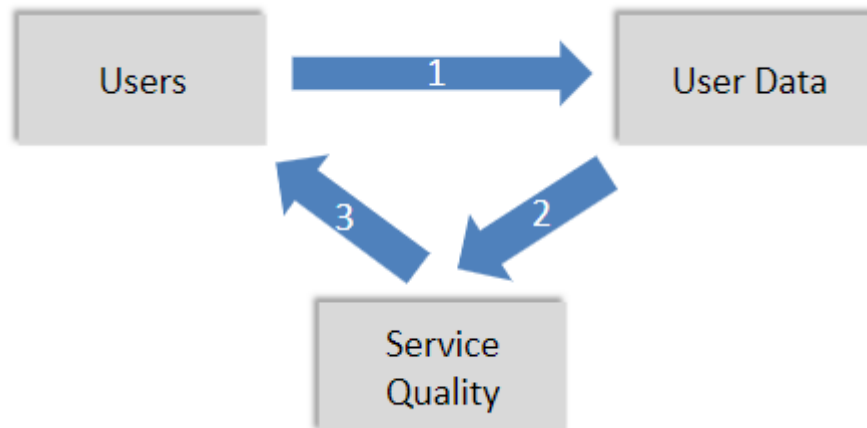
¹⁴⁸ BRACHA, Oren; PASQUALE, Frank. Federal Search Commission: Access, Fairness, and Accountability in the Law of Search. In: **Cornell L. Rev.**, v. 93, p. 1149, 2007.

¹⁴⁹ POLLOCK, Rufus. Is Google the next Microsoft: competition, welfare and regulation in online search. In: **Review of Network Economics**, v. 9, No. 4, 2010.

¹⁵⁰ BRACHA; PASQUALE, op. cit.

entrants do not have enough data to “calibrate” their algorithms, they do not attract a big number of users¹⁵¹. This cycle can be represented in the following way:

Figure 5 - User scale-service quality feedback loop

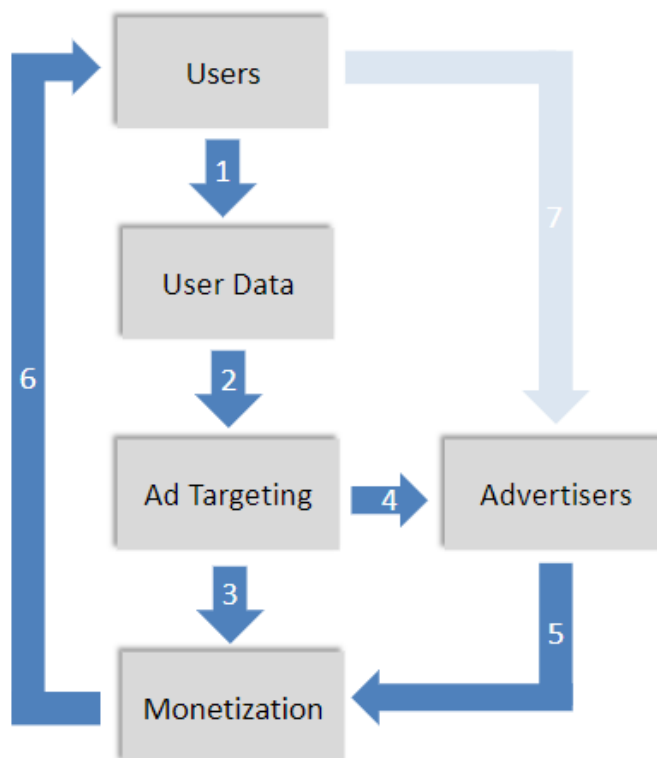


Source: LERNER, Andres V. The Role of “Big Data” in Online Platform Competition. In: *SSRN*, 27 Aug. 2014. Retrieved from <<https://ssrn.com/abstract=2482780>>. Accessed on 18 Nov. 2017.

Moreover, the more users a search engine has, the more data is collected from users and the better advertisers can target their ads (as targeting is based on user data). As a result, more advertisers are attracted to the platform, which generates more money to be invested in the quality of the service¹⁵², as represented in the following figure:

¹⁵¹ PASQUALE, Frank. Privacy, antitrust, and power. In: *Geo. Mason L. Rev.*, v. 20, p. 1009, 2012.

¹⁵² NEWMAN, Nathan. Search, Antitrust, and the Economics of the Control of User Data. In: *Yale Journal on Regulation*, v. 31, p. 401, 2014.

Figure 6 - Monetization feedback loop

Source: LERNER, Andres V. The Role of “Big Data” in Online Platform Competition. In: **SSRN**, 27 Aug. 2014. Retrieved from <<https://ssrn.com/abstract=2482780>>. Accessed on 18 Nov. 2017.

Therefore, search data is able to result both in direct investments in quality (due to the possibilities of use of previous query log to enhance the engine’s ability to provide good results) and in indirect investments in quality (due to the consequent attraction of more advertisers interested in better ad-targeting and, as a result, more money to be invested in the algorithm). With time, incumbents become much more able than entrants to provide good-quality services¹⁵³ and the network effects become a significant barrier to entry.

A conduct of restriction of access to search data would have the negative effect of concentrating substantial data in one player. This conduct is only able to produce anti-competitive effects if the concentration of data affects competing search engines’ ability to compete, as, in the long-run, they would be out of the market if they do not reach a critical mass scale and the dominant search engine would be alone to abuse its market power.

¹⁵³ BRACHA; PASQUALE, 2007.

Andreas Lerner contests these arguments. He argues that the network effects are not significant because a platform with more users could result in more clicks at the same advertisement, which could result in more costs for the advertiser. In this way, advertisers do not necessarily prefer platforms with more users¹⁵⁴. However, the European Commission's investigation on the Bing-Yahoo deal revealed that advertisers, in fact, all take Google (the dominant search engine) as their first-option for search advertising¹⁵⁵. This means the benefits resulting from more impressions might offset the higher costs with advertising. Andres Lerner also argues that an increase in the number of possible impressions of an ad (which would come from an increase in the number of searches) results in a decrease in the prices for advertising¹⁵⁶. However, Lerner does not take into consideration the fact that the decrease in prices would result from an increase in the general quantity of advertisement slots supplied to the general market, which also includes an increase in supply by competitors. If there are no competitors increasing their supply of ad slots, the dominant firm has no incentive to reduce prices when only itself is supplying a bigger quantity.

Andres Lerner also diminishes the importance of scale effects in the acquisition of data by arguing that the market's scale economies are subject to diminishing returns, ie, whereas one more query is a relevant addition in a pool of x users, one more query does not make much difference in a pool of $10x$ users, for example¹⁵⁷. One counterargument to that is the fact that not all queries are equal: the bigger the number of users, the higher the probability of the search engine receiving "tail queries" which might never have been seen before. A small number of tail queries (ie, rare ones) is much more important for improving the search engine's results quality than a bigger number of "head queries" (common repeating queries). Lerner points back to empirical data from Google to say that "having greater query volume (...) does not eliminate a platform's need to return relevant results to queries that it has never seen before"¹⁵⁸.

As it is seen, the importance of search data for improvement in the quality of a search engine is not clear. It is important to notice as well that data is a "non-rivalrous" asset, in a

¹⁵⁴ LERNER, Andres V. The Role of "Big Data" in Online Platform Competition. In: **SSRN**, 27 Aug. 2014. Retrieved from <<https://ssrn.com/abstract=2482780>>. Accessed on 18 Nov. 2017.

¹⁵⁵ EUROPEAN COMMISSION, 2010b.

¹⁵⁶ LERNER, op. cit.

¹⁵⁷ *idem*.

¹⁵⁸ "an increase in query volume has not eliminated or materially reduced the portion of Google's traffic that is comprised of queries that it has never seen before. According to Google, in 2013 '[e]very single day 15 percent of the questions people ask of Google are questions we've never seen before.' This percentage has not declined significantly since 2007, while during this time period (2007 to 2013), Google's total U.S. query volume almost tripled". *ibidem*, p. 37-38.

way that “collection and use by one provider does not detract from collection and use by others”¹⁵⁹. Moreover, it is “ubiquitous”: traces of user activity is left in many of the different websites one person uses¹⁶⁰. As such, non-dominant search engines do not necessarily have only the competing dominant firm’s data as the only way possible of understanding the reaction of users to the many possible queries.

Another matter of debate in the analysis of the hypothetical conduct is whether non-dominant search engines would not be able to grow due to lack of access to the dominant’s search data or due to lack of complementary investments. It is possible that more appropriate management of the non-dominant search engine’s own data could be enough to make it better-off, as “data alone is not enough”¹⁶¹.

Any conclusion on the possible impact of a dominant firm’s search data over a non-dominant firm’s services should rely on extensive empirical investigations about the operation of search engine’s algorithms and how to improve them. And, as put by Lambrecht and Tucker: “for there to be a sustainable competitive advantage, the firm’s rivals must be unable to realistically duplicate the benefits of the strategy or input”¹⁶², ie, the dominant firm’s search data must be unique so that the concentration of data can be identified as cause of harm to non-dominant search engines.

3.5 POSITIVE EFFECTS

The remedy for the conduct would be to reverse it and oblige the dominant firm to give access to its search data. That already creates a big procedural problem by itself which is turning the competition agency into a price administrator, as the dominant firm might just give access under non-reasonable terms¹⁶³. Another problem created by such a decision is reducing the existing incentives to innovate - in the case, reducing incentives for non-dominant search engines to go after relevant search data. The non-rivalrous and ubiquitous characteristics of data allow, in theory, that other ways to reach it might be discovered. It is reported, for example, that Apple uses data from iPhone users to directly suggest them

¹⁵⁹ LERNER, 2014.

¹⁶⁰ LAMBRECHT, Anja; TUCKER, Catherine E. Can Big Data Protect a Firm from Competition? In: *SSRN*, 22 Dec. 2015. Retrieved from <<https://ssrn.com/abstract=2705530>>. Accessed on 18 Nov. 2017.

¹⁶¹ SOKOL, D. Daniel; COMERFORD, Roisin E. Does antitrust have a role to play in regulating big data? In: BLAIR, R.; SOKOL, D. Daniel (eds.). **The Cambridge Handbook of Antitrust, Intellectual Property, and High Tech**. Cambridge: Cambridge University Press, 2017, p. 293-316.

¹⁶² LAMBRECHT; TUCKER, 2015, p. 4-5.

¹⁶³ HOVENKAMP, 2005

websites after queries they type in the gadgets' internal search box¹⁶⁴, ability which could possibly grow to the development of a search engine of itself. This ability reveals a certain degree of potential competition from Apple. Andres Lerner takes cases of entrants displacing incumbents in the history of the internet (such as Facebook displacing MySpace, WordPress displacing Blogger or Google itself displacing Yahoo, AltaVista and Lycos, all thought to be dominant in different periods of time) as evidence that online markets are not really prone to concentration in one dominant platform, due to their rapidly-changing character¹⁶⁵.

Apart from innovation matters, the existence of competitors having access to the same input might also end up creating incentives for tacit collusion in the market¹⁶⁶, justly because of lower expectations on other search engines' future commercial behavior.

D. Daniel Sokol and Roisin Comerford also point out that the monetization of data (such as the use of search data to make more accurate search advertising based on the previous query log of a user) can lead to subsidization of products and services for the consumer¹⁶⁷. In that sense, the profit extracted from search data could benefit users by covering the big costs of a dominant search engine which is able to provide better-quality results. In the case of a refusal of access to search data, this argument is subject to an analysis of the costs and profits of the dominant firm (which is complicated by the fact that it is a multi-sided platform) as to inquire whether the costs of the superior engine can actually be covered only by the monetization of non-public search data - a difficult economic analysis.

¹⁶⁴ FILIPOWICZ, Luke; GIL, Lory. How to access and use Siri Search Suggestions (Spotlight) on your iPhone and iPad. *iMore*, 26 Oct. 2017. Retrieved from <<https://www.imore.com/how-access-and-use-siri-search-suggestions-spotlight-your-iphone-and-ipad>>. Accessed on 18 Nov. 2017.

¹⁶⁵ LERNER, 2014.

¹⁶⁶ All these stated critics to a forced sharing of an input were affirmed by the Supreme Court of the United States in the *Trinko* case: "Firms may acquire monopoly power by establishing an infrastructure that renders them uniquely suited to serve their customers. Compelling such firms to share the source of their advantage is in some tension with the underlying purpose of antitrust law, since it may lessen the incentive for the monopolist, the rival, or both to invest in those economically beneficial facilities. Enforced sharing also requires antitrust courts to act as central planners, identifying the proper price, quantity, and other terms of dealing—a role for which they are ill-suited. Moreover, compelling negotiation between competitors may facilitate the supreme evil of antitrust: collusion". UNITED STATES OF AMERICA. Supreme Court. **540 U.S. 398**. Parties: Verizon Communications Inc. and Law Offices of Curtis V. Trinko, LLP. Opinion of the Court written by Justice Scalia. Washington, D.C., 13 Jan. 2004. Retrieved from: <<https://supreme.justia.com/cases/federal/us/540/02-682/opinion.html>>. Accessed on 18 Nov. 2017.

¹⁶⁷ SOKOL; COMERFORD, 2017.

3.6 CONTROVERSIAL ASPECTS FOR ASSESSING THE CONDUCT

From the description of the negative and the positive effects arising from the hypothetical conducts, the following questions should be answered by a competition authority when analyzing such a case:

- Is the dominant firm's search data necessary for competition?;
- If so, are consumers/competitors/etc. actually harmed by the limitation of non-dominant firm's businesses?;
- If so, are consumers better-off with more competition between search data engines but less incentives for innovation in their services?

The first listed question results from the very necessity of effects being proven so that the conduct could be seen anti-competitive. If non-dominant search engines are able to compete with no access to the dominant firm's data, the concentration of data might be seen as fair use of an asset acquired through organic growth¹⁶⁸. It is up to any particular competition law to define to what measure the limitation of competition by search engines may be deemed anti-competitive. Competing always involve costs (non-dominant firm will always face difficulties in competing against dominant firms), and it is a matter of policy to define to which point costs become prohibitive of competition.

¹⁶⁸ The legal justification for this rationale in Brazilian competition law will be given in the next chapter. In the United States, the Supreme Court considered such freedom in the use of assets a "long recognized right" in the *Trinko* case: "Thus, as a general matter, the Sherman Act 'does not restrict the long recognized right of [a] trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal.' *United States v. Colgate & Co.*, 250 U. S. 300, 307 (1919)" (UNITED STATES OF AMERICA, 2004). In the quoted *United States v. Colgate & Co.* case, it was said that "The purpose of the Sherman Act is to prohibit monopolies, contracts, and combinations which probably would unduly interfere with the free exercise of their rights by those engaged, or who wish to engage, in trade and commerce -- in a word, to preserve the right of freedom to trade. In the absence of any purpose to create or maintain a monopoly, the act does not restrict the long recognized right of trader or manufacturer engaged in an entirely private business freely to exercise his own independent discretion (...)". See UNITED STATES OF AMERICA. Supreme Court. **250 U.S. 300**. Parties: United States of America and Colgate & Co. Opinion of the Court written by Justice McReynolds. Washington, D.C., 2 Jun. 1919. Retrieved from: <<https://supreme.justia.com/cases/federal/us/250/300/case.html>>. Accessed on 20 Nov. 2017. In Europe, long-established case law considers distortion of competition necessary for finding a violation of competition law as resulting from the provision of products and services, an early example being the *Michelin I* case: "A finding that an undertaking has a dominant position is not in itself a recrimination but simply means that, irrespective of the reasons for which it has such a dominant position, the undertaking concerned has a special responsibility not to allow its conduct to impair genuine undistorted competition on the common market". EUROPEAN ECONOMIC COMMUNITY. Court of Justice of the European Communities. **Case 322/81**. Parties: NV Nederlandsche Banden Industrie Michelin and Commission of the European Communities. Judgement of the Court. Luxembourg, 9 Nov. 1983. Retrieved from: <<http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:61981CJ0322&from=EN>> Accessed on 18 Nov. 2017. See also NAZZINI, Renato. Legal Foundations. In: _____. **The Foundations of European Union Competition Law: The Objective and Principles of Article 102**. Oxford: Oxford University Press, 2011, p. 150-151.

The second is a also question of competition policy. If it is the competitors who receive special protection from the competition laws in a certain system, the first question makes it clear that they are harmed. However, if it is the consumers (or another entity) who are protected, then a second verification must be done. It is possible that search engines receive enough competitive restraint from different firms than the non-dominant search engine providers. In that case, even if non-dominant search engines are harmed by the conduct, search engines might receive sufficient constraint not to abuse their market power¹⁶⁹.

The third listed question involves the public policy choice between static and dynamic competition. Even if consumers (or other specially protected group) are harmed by the hypothetical conduct because it would reduce incentives for the development and improvement of search engines, forcing a dominant search engine to share its search data might chill, in the long-term, innovation in the research of possible inputs for maintenance of search engines, which might make consumers worse-off than if the dominant search engine kept its data to itself during the same time frame. If restriction of access to search data is a big incentive for search engines to look for different ways of building their own data input, consumers would be better-off in the long term in a situation in which there is both the dominant search engine operating based on its traditionally established search data and competing search engines operating based on differently constructed search data.¹⁷⁰

The next chapter will evaluate how similar questions such as the three ones listed above have been answered in Brazilian competition law, in a way to foresee the behavior of the Brazilian competition authority (CADE) in regard to the hypothetical conduct.

¹⁶⁹ This is a similar argument to the one presented in the last chapter in which Google defends Amazon as a competitor on price comparison and shopping-related queries.

¹⁷⁰ Whereas the Supreme Court of the United States manifested a pro-innovation approach in the aforementioned *Trinko* case, the European Court of First Instance was more restrictive in the recognition of future innovation benefits in the *Microsoft* case, which was not appealed further to the Court of Justice of the European Communities. It is important to notice that the difference might be explained by the quality and content of the submissions made by the parties before each court and not because of the adoption of a less pro-market position. As stated by the Court of First Instance: “The Court finds that, as the Commission correctly submits, Microsoft, which bore the initial burden of proof (...), did not sufficiently establish that if it were required to disclose the interoperability information that would have a significant negative impact on its incentives to innovate.

Microsoft merely put forward vague, general and theoretical arguments on that point. Thus, as the Commission observes (...), in its response of 17 October 2003 to the third statement of objections Microsoft merely stated that ‘[d]isclosure would ... eliminate future incentives to invest in the creation of more intellectual property’, without specifying the technologies or products to which it thus referred”.

EUROPEAN ECONOMIC COMMUNITY. Court of First Instance. **Case No. T-201/04**. Parties: Microsoft Cop. and Commission of the European Communities. Judgement of the Court. Luxembourg, 17 Sep. 2017. Retrieved from:

<<http://curia.europa.eu/juris/document/document.jsf?text=&docid=62940&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=306587>>. Accessed on 18 Nov. 2017.

4 LEGAL FRAMING IN THE BRAZILIAN COMPETITION LAW

This chapter provides a review of relevant CADE's case law for the assessment of a refusal to deal conduct regarding search data. After a brief introduction on the persecution of unilateral conducts in the Brazilian Competition Law (topic 4.1), cases concerning relevant market definition of search engines and data will be presented (4.2). After that, there will be an analysis of case law on conducts of refusal to deal (4.3), based on a selection of cases among those listed in Appendix A. As a conclusion of this chapter, a comparison between CADE's appointments in all the referenced case law and the main aspects for the analysis of the hypothetical conduct of refusal to access to search data will be done in the topic 4.4.

4.1 LEGAL FRAMING OF UNILATERAL CONDUCTS IN THE BRAZILIAN COMPETITION LAW

The main statute in the Brazilian competition law ("Law No. 12.529 of November 30, 2011", also referred to as the "Brazilian Competition Act") establishes anti-competitive practices deemed illegal in its Article 36, whose main part is the following:

Art. 36. The acts which under any circumstance have as an objective or may have the following effects shall be considered violations to the economic order, regardless of fault, even if not achieved:

- I - to limit, restrain or in any way injure free competition or free initiative;
- II - to control the relevant market of goods or services;
- III – to arbitrarily increase profits; and
- IV - to exercise a dominant position abusively.¹⁷¹

This article is responsible for the definition of anti-competitive agreements, unilateral conducts and mergers, all at the same time¹⁷². The pre-merger notification system has additional special regulation laid out in other articles.

Paragraph 3 of Article 36 specifies 19 conducts which are illegal as long as they "conform to the principles set forth in the caput of this article and its clauses"¹⁷³. The 19

¹⁷¹ BRAZIL. Law No. 12.529 of November 30, 2011. **Official Journal of the Union**, Brasilia, 2 Dec. 2011. Translated by the Administrative Council for Economic Defense. Retrieved from <[http://en.cade.gov.br/topics/legislation/laws/law-no-12529-2011-english-version-from-18-05-2012.pdf/@download/file/LAW%20N%C2%BA%2012529%202011%20\(English%20version%20from%2018%2005%202012\).pdf](http://en.cade.gov.br/topics/legislation/laws/law-no-12529-2011-english-version-from-18-05-2012.pdf/@download/file/LAW%20N%C2%BA%2012529%202011%20(English%20version%20from%2018%2005%202012).pdf)>. Accessed on 17 Nov. 2017.

¹⁷² FORGIONI, Paula A. **Os Fundamentos do Antitruste**. 7th ed. São Paulo: Editora Revista dos Tribunais, 2014, p. 132.

¹⁷³ The 19 conducts are:

"I – to agree, join, manipulate or adjust with competitors, in any way:

- a) the prices of goods or services individually offered;
- b) the production or sale of a restricted or limited amount of goods or the provision of a limited or restricted number, volume or frequency of services;

conducts are merely illustrative (“the following acts, among others”) and there is no need that a certain conduct be listed among them to be illegal¹⁷⁴.

Political instability and late industrialization postponed the effective application of competition law in Brazil to the promulgation of Law No. 8.884 of June 11, 1994¹⁷⁵. Current Article 36 of Law No. 12.259 has similar content to the Articles 20 and 21 of the Law No. 8.884¹⁷⁶. Although the statutory classification of anti-competitive conducts has been almost the same since the Law No. 8.884, competition law in Brazil is still to vigorously prosecute unilateral conducts such as the proposed one¹⁷⁷. A lack of vigor in the prosecution of

-
- c) the division of parts or segments of a potential or current market of goods or services by means of, among others, the distribution of customers, suppliers, regions or time periods;
 - d) prices, conditions, privileges or refusal to participate in public bidding;
 - II - to promote, obtain or influence the adoption of uniform or agreed business practices among competitors;
 - III - to limit or prevent the access of new companies to the market;
 - IV – to create difficulties for the establishment, operation or development of a competitor company or supplier, acquirer or financier of goods or services;
 - V – to prevent the access of competitors to sources of input, raw material, equipment or technology, and distribution channels;
 - VI - to require or grant exclusivity for the dissemination of advertisement in mass media;
 - VII – to use deceitful means to cause oscillation of prices for third parties;
 - VIII - to regulate markets of goods or services by establishing agreements to limit or control the research and technological development, the production of goods or services, or to impair investments for the production of goods or services or their distribution;
 - IX - to impose on the trade of goods or services to distributors, retailers and representatives, any resale prices, discounts, payment terms, minimum or maximum quantities, profit margin or any other market conditions related to their business with third parties;
 - X - to discriminate against purchasers or suppliers of goods or services by establishing price differentials or other operating conditions for the sale or provision of services;
 - XI – to refuse the sale of goods or provision of services for payment terms within normal business practice and custom;
 - XII – to hinder or disrupt the continuity or development of business relationships of undetermined term, because the other party refuses to abide by unjustifiable or anti-competitive terms and conditions;
 - XIII - to destroy, render useless or monopolize the raw materials, intermediate or finished products, as well as to destroy, disable or impair the operation of equipment to produce, distribute or transport them;
 - XIV - to monopolize or prevent the exploitation of industrial or intellectual property rights or technology;
 - XV - to sell goods or services unreasonably below the cost price;
 - XVI – to retain goods for production or consumption, except to ensure recovery of production costs;
 - XVII - to partially or totally cease the activities of the company without proven just cause;
 - XVIII - to condition the sale of goods on the acquisition or use of another good or service, or to condition the provision of a service on the acquisition or use of another good or service; and
 - XIX - to abusively exercise or exploit intellectual or industrial property rights, technology or trademark”.

BRAZIL, 2011.

¹⁷⁴ FORGIONI, 2014, p. 134.

¹⁷⁵ FRAZÃO, Ana. **Direito da Concorrência**: Pressupostos e perspectivas. São Paulo: Saraiva, 2017, p. 33-39. For a more complete historical analysis, see FORGIONI, op. cit., p. 85-126.

¹⁷⁶ ANDERS, Eduardo Caminati et al. **Nova Lei de Defesa da Concorrência Comentada**: Lei 12.529, de 30 de novembro de 2011. São Paulo: Editora Revista dos Tribunais, 2011, p. 101-103. See Law No. 8.884 in English in BRAZIL. Law No. 8.884 of June 11, 1994. **Official Journal of the Union**, Brasília, 13 Jun. 1994. Translated by the Administrative Council for Economic Defense. Retrieved from <<http://en.cade.gov.br/topics/legislation/laws/law-8884-1994b.pdf/@download/file/Law-8884-1994b.pdf>>. Accessed on 25 Nov. 2017.

¹⁷⁷ Amanda Athayde says the Brazilian competition law is still to begin its “third wave” of effective prosecution of unilateral conducts, after the consolidation of both the merger review system and the cartels prosecution policy. The first wave would have started with the entry into force of Law No. 8.884, which consolidated CADE

unilateral conducts reflects into limited case law available after which to analyze the proposed conduct, as it will be seen below. This limitation is exemplified in a comparison of how many refusal to deal cases (such as the proposed conduct¹⁷⁸) are referred to in American, European and Brazilian competition law textbooks: whereas Herbert Hovenkamp (as a single American textbook example) and Alison Jones and Brenda Sufrin (as a single European textbook example) quote tenths of cases for their respective jurisdictions¹⁷⁹, 5 different consulted Brazilian books on competition law¹⁸⁰ refer to a total of only 5 different Brazilian cases dealing with refusal to deal¹⁸¹.

Some of these cases and some others from other sources will be described below in an attempt to foresee the behavior of the Brazilian competition authority in regard to the proposed conduct in order to set out the legal framework under which the conduct would be scrutinized. Even though the Brazilian Competition Act allows unilateral conducts to be challenged by private parties before judicial courts¹⁸² and there are some private lawsuits regarding refusal to deal (not always with competition matters as the main argument)¹⁸³, this work will focus on cases raised before the competition authority (a quasi-judicial independent

and created a merger review system, and the second wave would have started with the entry into force of Law No. 12.529, which re-structured the authority to allow faster decisions and changed the merger review system for an *ex-ante* one. See ATHAYDE, Amanda. As três ondas do antitruste no Brasil. In: *Jota*, 1 Nov. 2017. Retrieved from <<https://jota.info/artigos/as-tres-ondas-do-antitruste-no-brasil-01112017>>. Accessed on 20 Nov. 2017. Paula Forgioni also has similar expectations. See FORGIONI, op. cit., p. 125.

¹⁷⁸ “Refusal to deal” (as in Hovenkamp, 2005) or “refusal to supply” (as in JONES; SUFRIN, 2016) is the generic name given to conducts dealing with “the possibility of imposing to an economic player in dominant position the duty to share the use of its tangible or intangible assets with current or potential competitors” (FORGIONI, op. cit., 322, our translation). Alison Jones and Brenda Sufrin add that the debate includes “‘constructive’ refusals, where the offer is such that the supplier knows it is unacceptable, or the terms are unreasonable or supply is unduly delayed” (JONES; SUFRIN, 2016, p. 496).

¹⁷⁹ HOVENKAMP, 2005, p. 295-314; JONES; SUFRIN, 2016, p. 496-540.

¹⁸⁰ FILHO, Calixto Salomão. **Direito Concorrencial**. São Paulo: Malheiros, 2013, p. 534-547; FORGIONI, Paula. **Os Fundamentos do Antitruste**. 8th ed. São Paulo: Editora Revista dos Tribunais, 2015, p. 321-327; MOTTA, Massimo; SALGADO, Lúcia Helena. **Política de concorrência: teoria e prática e sua aplicação no Brasil**. Rio de Janeiro: Elsevier, 2015, p. 49; CASAGRANDE, Paulo Leonardo; PEREIRA NETO, Caio Mário da Silva. **Direito Concorrencial**. São Paulo: Saraiva, 2016, p. 165; FRAZÃO, 2017, p. 467-470. The consulted edition of Paulo Forgioni’s book was not the latest edition published at time of writing.

¹⁸¹ Those are the cases 53500.000359/1999 (TVA vs. Globo), 08000.022579/1997-05 (Messer Grieshem vs. White Martins), 08012.006504/1997-11 (Chandre de Araújo Costa, José Cândido de Carvalho Júnior and Rogério Santos Muniz vs. Globo, Clube dos Treze and Clube dos Onze), 08700.001291/2003-29 (Embratel vs. Brasil Telecom) and 08012.010208/2005-22 (Cimentos Liz vs. Intercement Brasil).

¹⁸² As per Article 47: “The aggrieved parties, on their own accord or by someone legally entitled and referred to in Article 82 of Law No. 8078, of September 11th, 1990, may take legal action in defense of their individual interests or shared common interests, so that the practices constituting violations to the economic order cease, and compensation for the losses and damages suffered be received, regardless of the investigation or administrative proceeding, which will not be suspended due to Tribunal action”. BRAZIL, 2011.

¹⁸³ See some examples in GONÇALVES, Priscila Brólio. **A obrigatoriedade de contratar como sanção fundada no direito concorrencial brasileiro**. 2008. Doctoral Thesis-Law School, University of São Paulo, São Paulo, 2008, p. 258-262.

agency), as private litigation under the Brazilian Competition Act is still nascent¹⁸⁴. The analyses conducted by the authority, nevertheless, make up a specialized view of the Act and are good indicators of competition policy in Brazil.

4.2 RELEVANT MARKET DEFINITION: SEARCH ENGINES AND DATA IN THE BRAZILIAN COMPETITION LAW

As stated in the previous chapter, the relevant market definition is not a required step in the procedure of analysis of a unilateral conduct; however, it is useful for the identification of the effects of a conduct insofar as a relevant market aggregates companies which restrain each other's businesses. This view of the relevant market fits in the recent CADE's Merger Guidelines concept of "definition of relevant market":

The definition of the relevant market is the process of identification of the whole of economic players (consumers and suppliers) which effectively react to and limit the decisions related to price strategies, quantities, qualities (among others) of the company that results from the transaction.¹⁸⁵

The following cases (all but one of them decided before the release of the current version of CADE's Merger Guidelines) are the ones in which CADE analyzed relevant markets involving internet search engines, apart from an additional one in which CADE considered access to data as part of its assessment. Even though most of them are merger cases and this work focuses on a unilateral conducts, relevant market definitions are made similarly in both types of investigation. An analysis of each case allows for a prediction of CADE's future behavior when assessing search engines to the limit that the definition of the relevant market is a still frame of the state of the market that serves as a basis for the analysis of a case, and the definition adopted in one case may not be used in another both because of changes in the economic conditions of the market (a relevant aspect in the rapidly-changing digital markets) or because of the need to deepen the investigation in a certain case but not in another¹⁸⁶. This is explicitly stated in CADE's Merger Guidelines as well:

The delimitation of the market is a useful tool, however, it is not an end in itself. The identification of the possible competitive effects involves the evaluation of

¹⁸⁴ FORGIONI, op. cit., p. 156-157.

¹⁸⁵ CADE. **Guia para Análise de Atos de Concentração Horizontal**. Brasília, Jul. 2016a, p. 13, our translation. Retrieved from <http://www.cade.gov.br/aceso-a-informacao/publicacoes-institucionais/guias_do_Cade/guia-para-analise-de-atos-de-concentracao-horizontal.pdf>. Accessed on 21 Nov. 2017.

¹⁸⁶ "Certainly, the relevant market is built in each concrete case. (...) we must not hold the illusion that, in real situations, there is a relevant market ready to be discovered by the interpreter; on the contrary, it is a *logic operation in which it must be adopted a peculiar procedure that allows the identification of the competition relations in which the economic player takes part*" FORGIONI, 2014, p. 238, our translation, italics by the author.

conditions which, sometimes, are outside of the pre-defined relevant market. Thus, the delimitation of the relevant market does not bind CADE, either because it is a mere analysis instrument, or because the market is dynamic.¹⁸⁷

The analyses of each of the cases will be made in the following topics in an overview of the case followed by additional comments about CADE's considerations (tagged as "critics"). A general conclusion about search engines and data in Brazilian competition law will be laid out in subtopic 4.2.7.

4.2.1 Merger No. 08012.005478/2006-01 (Buscapé / Bondfaro)¹⁸⁸

Through this transaction, Buscapé, a price-comparison search service, acquired controlled of its rival website Bondfaro. Both websites provide users with free information about merchants and they are funded by advertisers who place ads in both websites.

Law No. 8.884 established 3 different offices for merger review: the Secretariat for Economic Monitoring in the Ministry of Finance (hereinafter, "SEAE"), which gave a first opinion; the Secretariat of Economic Law in the Ministry of Justice ("SDE"), which gave a second opinion; and CADE, which gave the final decision¹⁸⁹.

In the Buscapé / Bondfaro case, SEAE located both websites in two separate national relevant markets, due to their role in both markets: online advertising and price-comparison search. In fact, price comparison search was suggested as a segment of the online advertising market, which also included search advertising (and, consequently, search engines). The markets were considered national due to the fact that price-comparison search websites from other countries did not present a big number of national merchants, which put them as neither an alternative for national merchants, nor for national searchers. In regard to the online advertising market, SEAE noticed that many big and medium-sized websites sold advertisement space, which gave Buscapé and Bondfaro a small estimated share of 9,19%. On the other hand, the parties were responsible for 95% of the national price-comparison search market, which was seen as a market with high entry barriers (because of network effects), although entry was easy for big internet companies such as Google (which did not provide

¹⁸⁷ CADE, op. cit., p. 13, our translation.

¹⁸⁸ Unless specified otherwise, all this subtopic is based on CADE. Merger No. **08012.005478/2006-01**. Parties: Buscapé Informação e Tecnologia Ltda. and BondFaro.com S.A. Commissioner-Rapporteur: Luiz Carlos Delorme Prado. Brasília, 10 Oct. 2007.

¹⁸⁹ For a more detailed description of the Brazilian merger review system at the time, see ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. Competition Law and Policy in Brazil: a Peer Review. 14 May 2010. Retrieved from <<http://www.oecd.org/daf/competition/45154362.pdf>>. Accessed on 20 Nov 2017.

price-comparison search in Brazil at the time). SEAE concluded for absence of anti-competitive effects on users, as the service was provided for free to them and the parties were interested in making their user base grow. On the side of merchants, there were no incentives for anti-competitive practices as the parties were dependant on a good portfolio of associated merchants in order to provide their services, in such a way that merchants had countervailing bargaining power. Moreover, the parties had had low revenue in the year preceding the transaction. In conclusion, SEAE issued an opinion for the approval of the transaction without the imposition of any remedies.

On the other hand, SDE better defined the multi-sided characteristic of the platform by recognizing that “the parties’ activity connects two groups of economic players who operate in the commerce of goods and services”: searchers and merchants. SDE equally noticed that the market had network effects due to this characteristic. SDE used the same double relevant market definition as SEAE and had the same conclusions about entry barriers. Nevertheless, SDE was worried that the parties could limit merchants’ ability to switch price-comparison searches with the use of exclusivity agreements, which made SDE issue an opinion for the approval of the transaction with the commitment by the parties of not entering any exclusivity agreement with merchants for 5 years.

CADE used the same double relevant market definition. The conclusions on the effects on the online advertising market were the same, with an additional comment about the reduced market share in this market making it not possible that the parties’ shares in the other raised any competitive concern. Nevertheless, the effects of the transaction on the national price-comparison search market were still evaluated. A significant entry was noticed in this other market, but the parties’ shares were still high. Even though CADE recognized network effects, CADE also considered that innovation in the internet can easily change market conditions and big internet companies would have no difficulty in offering price-comparison services. CADE did not accept SDE’s suggestion for a remedy because it could significantly limit the parties’ freedom to deal with merchants, which would not easily accept exclusivity agreements in any event, as they would be interested in being present in as many price-comparison websites as possible.

Critics: it is not clear if SEAE considered two different scenarios of a single relevant market (a wider “online advertising” market, which included price-comparison search, and a narrower “price-comparison search” market) or if SEAE actually considered the parties as operating in two separate markets. Moreover, it is not possible to say that users would not be affected only because they did not pay for the service, as it was possible that the parties ended

up imposing a fee for price-comparison search, and users would have no other option to which to switch. Users could also be harmed by loss in quality of the platform. It is not possible to say either that merchants could not be harmed due to the parties' interest in keeping them in the platform without a further investigation on the merchant's dependency on price-comparison websites to attract shoppers. If the merchants need price-comparison services to have people buying their products, their countervailing power would actually decrease and they would not easily resist an abuse of market power by the parties.

SDE proposed an interesting remedy for the transaction, but did not investigate further if the parties could adopt exclusionary practices in different ways than making exclusivity agreements.

CADE failed in recognizing the cross-market consequences of search engines as multi-sided platforms when it considered that the lack of market power in one of the relevant markets would make it impossible for competitive concerns be raised in the other relevant market.

4.2.2 Merger No. 08012.005304/2007-11 (Google / DoubleClick)¹⁹⁰

In 2007, Google announced its intention to acquire DoubleClick, a company which provided advertisement management technology¹⁹¹. Among the products offered by DoubleClick, there were softwares for management of online advertising, including advertising in online platforms powered by Google, such as AdWords (advertisement in Google's search engine result pages) and AdSense (advertisement in websites which receive money from Google to show its ads).

SEAE saw no horizontal overlap between the undertakings, as Google effectively sold online advertising space and DoubleClick offered technology that allowed advertisers and advertising agencies to create advertisements in third-party platforms and to track their campaigns. On the existence of vertical integration, SEAE said that DoubleClick competes with many companies to provide online advertising management tools, and none of these competitors depends on Google for providing their services. In fact, Google and DoubleClick were seen as providing complementary services, as both would be needed for online

¹⁹⁰ Unless specified otherwise, all this subtopic is based on CADE. **Merger No. 08012.005304/2007-11**. Parties: Google Inc. and Click Holding Group. Commissioner-Rapporteur: Fernando de Magalhães Furlan. Brasília, 23 Apr. 2008.

¹⁹¹ GOOGLE. Google to Acquire DoubleClick. In: **News from Google**, 13 Apr. 2007. Retrieved from <http://googlepress.blogspot.com.br/2007/04/google-to-acquire-doubleclick_13.html>. Accessed on 21 Nov. 2017.

advertising. SEAE made additional comments about positive effects of the transaction on the relation between Google and advertisers and advertising agencies. Furthermore, according to parties' statements quoted by SEAE, access to data made possible by the transaction would also allow Google to provide more relevant advertisements for internet searchers in regard to content quality and time to load.

SDE extended the investigation, but finally had the same conclusion as SEAE.

CADE reached similar conclusions, and made an additional reference to the fact the DoubleClick's market is dynamic and reasonably fragmented. CADE's decision (based on Commissioner-Rapporteur Fernando de Magalhães Furlan's opinion) explicitly referenced decisions taken by other competition authorities, including the decision taken by the Federal Trade Commission in the United States. The dissenting opinion of commissioner Harbor in the Federal Trade Commission was quoted in CADE's decision. Commissioner Harbor had, among her concerns, the fact that the transaction could create a company owning too much data, which could lead to anti-competitive network externalities¹⁹². CADE's decision did not mention data-related concerns.

Critics: the relevant market of search engines were described only in account of their relation to advertises, even though the transaction was reported by SEAE to have effects on internet searchers.

4.2.3 Merger No. 08012.006419/2009-94 (Microsoft / Yahoo)¹⁹³

This merger is about the Bing-Yahoo deal already described in the last chapter.

SEAE described Yahoo and Microsoft as both providing “algorithmical search” and “paid search” in Brazil, a division between the activities exhibited together in the search engines result pages: the paid links and the organic results. The agreement was seen as creating a vertical relation between Yahoo and Microsoft, as Yahoo would feature Bing (exclusively). As Yahoo provided paid links for Bing's result pages, Microsoft's market share in the Brazilian market of paid search should be entirely attributed to Yahoo, which would have 3% of share in Brazil. Moreover, Yahoo had had non-substantial revenue in Brazil in the

¹⁹² Commissioner Harbor's dissenting opinion is an early source on competition and big data. It is available at <https://www.ftc.gov/sites/default/files/documents/public_statements/statement-matter-google/doubleclick/071220harbour_0.pdf>.

¹⁹³ Unless specified otherwise, all this subtopic is based on CADE. **Merger No. 08012.006419/2009-94**. Parties: Microsoft Corporation and Yahoo! Inc. Commissioner-Rapporteur: Fernando de Magalhães Furlan. Brasília, 16 Dec. 2009.

previous year. Due to the low market shares, the transaction did not present competitive concerns.

SDE followed SEAE's opinion.

In CADE, commissioner-rapporteur Fernando de Magalhães Furlan asked the parties about the investigations being conducted in the United States and in Europe about the case. In his opinion, adopted as CADE's decision, the cycle represented in Figure 5 in the last chapter was highlighted: the more searches are made by an algorithm, better its efficacy will be, which leads to more people using it and more searches being done. The relevant market was defined as the market of paid searches in Brazil, based on: lack of substitutability between search advertising and other advertising means; necessity of previous knowledge of local searches for providing service in a certain country. For the lack of significant impact on competition, Furlan pointed out the small joint market share of Microsoft and Yahoo in the market (3%) and the fact that the union between Microsoft and Yahoo could be seen as creating an efficient mechanism for obtaining enough scale to challenge Google's position in the market (Google was considered as responsible for the remaining 97% of the market). The commissioner explicitly said that the transaction did not restrict the innovation potential of the parties, although that was said in reference to operation in the defined relevant market, with no reference to restriction in innovation to access search data as an input. The commissioner also said that the fact that Microsoft already used Yahoo's search engine meant that, before and after the transaction, there was only one effective search engine receiving queries made in both parties' "search platforms", the difference being the player that receives and processes the searches. The opinion's syllabus puts this as a pre-existing vertical integration.

Critics: the analyses consider the transaction as creating both a horizontal and a vertical relation between the parties, but fail to properly define what two markets would be integrated by the vertical relation. One more time, the market definition of the search engine is made only in account of its relation with advertisers, even though: (i) the reported scale effects are said to result from the relation of the platform with internet searchers (the users); (ii) the market share is calculated from the number of queries made by users. Moreover, the analyses consider Microsoft did not serve as a search engine before the transaction, even though only the advertisements shown in Bing's search engine result page were provided by Yahoo, not all the results.

4.2.4 Administrative Proceedings Nos. 08012.010483/2011-94 (Google Shopping's search bias case) and 08700.009082/2013-03 (Google's scraping case)¹⁹⁴

These Administrative Proceedings are current investigations on the search bias and the scraping conducts described in the last chapter. On search bias, the investigation is specifically about Google's price comparison service, called Google Shopping¹⁹⁵. As the investigations are still ongoing, it is only possible to know the preliminary view of CADE's investigatory unit (the General Superintendence) about the market. This view was given in the same decision which resolved to separate the investigation initiated from the same complaint in two different case files, one for each conduct. The General Superintendence explicitly says that its comments about the market are only made to provide a minimal comprehension of the analytical categories raised in its decision, and they do not bind it to a future relevant market definition, as, under Law No. 12.529, a future decision on closing the probe or fining the companies will be sent for CADE's Tribunal for final analysis. Nevertheless, just as observed in the previous chapter, the General Superintendence says that there is no need to precisely define the relevant markets if the effects of the conduct are "directly observed in the market", with reasonably evident material and geographical aspects of the practice.

In an initial technical description of the market, the General Superintendence recognized that search engines are characterized as multi-sided platforms. In the definition of the relevant market, based on the Microsoft / Yahoo merger case, the General Superintendence located general search engines in a national paid search market, which would be different of national vertically-related thematic search websites (vertical search engines), such as price comparison websites. The General Superintendence reaffirmed such view could be changed after deeper investigation. Initial evidence for this preliminar segmented view were: (i) the allegations that vertical search engines were being harmed by a conduct from Google; (ii) the fact that general search engines and vertical search engines operate differently and meet different demands, which results, for example in different market leaders for each

¹⁹⁴ Unless specified otherwise, all this subtopic is based on CADE. **Administrative Proceedings Nos. 08012.010483/2011-94 and 08700.009082/2013-03**. Parties: E-Commerce Media Group Informação e Tecnologia Ltda. and Google Inc. and Google Brasil Internet Ltda. Decision of the General Superintendence to initiate Administrative Proceedings. Brasília, 10 Out. 2013c.

¹⁹⁵ There is another search bias investigation in CADE which focus on Google's local businesses search engine: the Administrative Investigation No. 08700.003211/2016-94. However, the case is still an "administrative investigation", which means that no formal charges were sent to the accused party. As laid out in Article 66, § 1, of the Brazilian Competition Act: "The administrative investigation shall be initiated (...) when the indications of a violation to the economic order are not sufficient to initiate the administrative proceeding" (BRAZIL, 2011). Therefore, the present work will not make any reference to this other investigation.

sector. Nevertheless, even if the market were the same, price-comparison websites and their consumers could still be affected by the conduct. Google was said to control 97% of the Brazilian general search market, based on StatCounter (referenced in Chapter 1). Buscapé and Bondfaro, two price-comparison websites controlled by the company that filed the complaint in CADE, were featured as leaders of the Brazilian price-comparison search market, with a joint share of 49%. This data, based on comScore, however, is previous to the entry of Google in the market.

Critics: even though the General Superintendence considered search engines as multi-sided platforms, it did not make a more extensive analysis on the impact that harm from the conduct to one side of the platform would have to the other side. Regardless, a more extensive analysis of the effects of the conduct would actually be better made after a more deepened investigation during the administrative process which was just being started.

It is not possible to simply assume that general search engines do not compete with vertical search engines simply because they meet different demands. CADE's Merger Guidelines recognize supply-side substitutability for the definition of the relevant market¹⁹⁶, which puts potential competitors in the same relevant market as incumbent firms. The fact that there are different market leaders for each separate sector of a single alleged relevant market does not necessarily mean that there is actually more than one relevant market, for example. It is possible that two firms produce widgets and gadgets, each one being leader for one of these products. Both firms being quickly able to constrain each other's position puts widgets and gadgets in the same relevant market, even if consumers do not consider one product replaceable for another. Each one of these two firms could be considered as "effectively limiting each other's decisions related to price strategies, quantities, etc.", as put in the aforementioned CADE's Merger Guidelines concept of "definition of relevant market"¹⁹⁷⁻¹⁹⁸.

¹⁹⁶ CADE, 2016a, p. 16.

¹⁹⁷ *ibidem*, p. 13, our translation.

¹⁹⁸ Paula Forgioni sees the fact that CADE understands "relevant market" as a whole of companies which effectively constrain each other as an influence from the "American approach" on the matter, whereas the "European approach" would be more limited to demand-side substitutability. FORGIONI, 2014, p. 238. This view was written before the current version of CADE's Merger Guidelines - however, the previous version, referenced by Paula Forgioni, had almost identical writing on the definition of the relevant market: "The definition of a relevant market is the identification process of the whole of economic players, consumers and suppliers, which effectively limit the decisions related to prices and quantities of the company that results from the transaction". BRAZIL. SEAE and SDE's Joint Decree No. 50 of August 1, 2001. **Official Journal of the Union**, Brasilia, 17 Aug. 2001, p. 9, our translation. Retrieved from <http://www.cade.gov.br/assuntos/normas-e-legislacao/portarias/2001portariaconjunta50-1_guia_para_analise_economica_de_atos_de_concentracao.pdf/@download/file/2001portariaConjunta50-1_guia_para_analise_economica_de_atos_de_concentracao.pdf>. Accessed on 17 Nov. 2017. Massimo Motta

These critics are nevertheless mitigated by General Superintendence's own declarations about the non-binding nature of the adopted market definition, which could change in a final decision on the case.

4.2.5 Administrative Proceeding No. 08700.005694/2013-19 (Google's multi-homing restriction case)¹⁹⁹

CADE's investigation on Google's multi-homing restriction (conduct described in the last chapter) are in the same stage as its investigations on search bias and scraping. As such, the General Superintendence's statements on relevant market are also declared as non-binding. The General Superintendence also defended the position that there is no need to precisely define the relevant markets if the effects of the conduct are "directly observed in the market".

The General Superintendence also recognized that search engines are two-sided platforms and located the conduct as occurring in a national paid search relevant market, with no further analysis on the impacts of the conduct on other sides of the platform. It was affirmed that dividing search engines in two separate relevant markets (one for the provision of results for the user and another for the provision of advertisement slots for advertises) would not improve the evaluation of the effects of the conduct and would not be rational for the analysis. Google was also considered as responsible for 97% of the market.

Critics: the recognition that separating a multi-sided platform in two different relevant markets is not correct should not result in lack of an analysis of the effects of a conduct or merger separately in each side of a platform, provided that a platform maximizes its profits in an overall consideration of all the sides concerned. An example of such analysis is the European Commission decision on the Bing-Yahoo deal²⁰⁰ (which concluded for no anti-

and Lucia Helena Salgado notice that the consideration of supply-side substitutability in the definition of the relevant market, however, is a question of investigation design: "Demarcating the boundaries of the market in a narrower way than the supply considerations could authorize and force an antitrust agency to spend time and energy justifying why a company with considerable market share does not actually have considerable market power. By contrast, if the immediate consideration of supply substitutability arguments lead to a correctly wider market, and, consequently, to a smaller market share, one would have an immediate perspective of absence of market power". MOTTA; SALGADO, 2015, p. 67, our translation.

¹⁹⁹ Unless specified otherwise, all this subtopic is based on CADE. **Administrative Proceedings Nos. 08012.010483/2011-94 and 08700.009082/2013-03**. Parties: E-Commerce Media Group Informação e Tecnologia Ltda. and Google Inc. and Google Brasil Internet Ltda. Decision of the General Superintendence to initiate the Administrative Proceeding. Brasília, 10 Out. 2013d.

²⁰⁰ EUROPEAN COMMISSION. **Case No. COMP/M.5727**. Parties: Microsoft Corporation and Yahoo! Inc. Decision signed by Joaquín Almunia, Vice-President of the Commission. Brussels, 18 Feb. 2010b. Available at <http://ec.europa.eu/competition/mergers/cases/decisions/M5727_20100218_20310_261202_EN.pdf>. Accessed on 16 Nov. 2017.

competitive effects to any of the individual sides, so there was no need to balance the overall results).

4.2.6 Merger No. 08700.006084/2016-85 (Microsoft / LinkedIn)²⁰¹

In assessing the acquisition of LinkedIn by Microsoft, CADE's General Superintendence evaluated the effects of the transaction in seven lines of commerce stemming from the parties' activities: social networks; recruiting solutions; sales and marketing solutions; other horizontal and vertical relations.

In regard to social networks, the General Superintendence saw no direct horizontal overlap between the parties, as Microsoft's social network Yammer was more focused on the internal staff of a company and LinkedIn was an open network. In regard to recruiting solutions, Microsoft offered no similar product as LinkedIn.

In regard to sales and marketing solutions, there were no similar characteristics between LinkedIn's Sales Navigator and Microsoft's Dynamics (a consumer relationship manager - CRM software), as the latter was much more complete than the former. In fact, Sales Navigator could become part of Dynamics for a more complete CRM solution either as a complimentary product or as an input (case in which LinkedIn's data would be used for Microsoft's software). The General Superintendence saw no concerns arising from the vertical relation because of: (i) Microsoft's low market share on the Brazilian relevant markets of CRM software and of support to CRM clients; (ii) lack of importance of LinkedIn's database to CRM products, as other big CRM companies did not use it in their softwares. The General Superintendence also assessed the parties' positions in online advertising solutions, but saw no relevance of either of them in any market definition.

In regard to other horizontal and vertical relations between the parties, the General Superintendence considered the hypothesis of integration of LinkedIn in an office productivity suite such as Microsoft Office. The General Superintendence accepted the parties' argument about productivity softwares being able to succeed even with no access to database from a social network such as LinkedIn. Besides that relation, the General Superintendence saw no horizontal overlap between Microsoft's Sharepoint, a software for joint work on documents, and LinkedIn's Slideshare, a software for sharing slideshows.

²⁰¹ Unless specified otherwise, all this subtopic is based on CADE. **Merger No. 08700.006084/2016-85**. Parties: Microsoft Corporation and LinkedIn Corporation. Decision of the General Superintendence to unconditionally approve the case. Brasília, 21 Sep. 2016b.

Under Law No 12.529, the General Superintendence issues a first opinion on merger cases. If the opinion is for the unconditional approval of the transaction and if i) there is no appeal on the case or ii) no commissioner requests the case for further analysis, the General Superintendence's opinion becomes a final decision 15 days after it is issued. If the General Superintendence's opinion is not for the unconditional approval of the case or if either i) there is an appeal on the case or ii) a commissioner requests the case for further analysis, both in 15 days after the opinion is issued, the case is sent for a final joint decision by CADE's Tribunal²⁰². In the Microsoft / LinkedIn merger, the General Superintendence's opinion for the unconditional approval of the case became a final decision.

Critics: CADE's decision on the case made an analysis of possibility of foreclosure between LinkedIn's data and related downstream markets. In a longer decision, the European Commission also considered the possibility of combination of Microsoft's and LinkedIn's sets of data, although this combination was not considered as raising any antitrust concerns, even if data aggregation were possible²⁰³. As in Brazil, data-related vertical effects of the transaction did not raise further concerns in Europe either. Nevertheless, remedies were adopted in Europe regarding the integration of LinkedIn features into Office and the pre-installation of LinkedIn in Windows PCs to mitigate effects of the transaction on competing professional social networking services.

4.2.7 Conclusion

CADE has recognized the network effects of platforms as a barrier to entry for some time. Nevertheless, the other main characteristic of multi-sided platforms - the joint reaction of every side concerned to any conduct - has still to evolve in CADE's analyses, both for the definition of the relevant market in which search engine services can be assessed and for the evaluation of the effects of a conduct or merger. In any case, CADE's considerations about search engines have improved with time, and the last cases, which show a bigger comprehension of their operation, can not really be taken as a final decision on the boundaries of the market because of their non-final character.

²⁰² See Articles 57 and 63 of the Brazilian Competition Act. BRAZIL, 2011.

²⁰³ EUROPEAN COMMISSION. **Case No. COMP/M.8124**. Parties: Microsoft Corporation and LinkedIn Corporation. Decision signed by Margrethe Vestager, European Commissioner for Competition. Brussels, 6 Dec. 2016b. Available at <http://ec.europa.eu/competition/mergers/cases/decisions/m8124_1349_5.pdf>. Accessed on 28 Nov. 2017.

In regard to data, CADE's case law presents some specific references in some of the cases. There is a small reference to access to data in Google / Doubleclick merger, an underlying rationale of access to data as basis of the transaction in Microsoft / Yahoo, and the analysis of some data-related issues in the assessment of Microsoft / LinkedIn. It is possible that CADE makes more thorough analysis of data-related effects in future cases if necessary, even more for a more in-depth study of network effects in multi-sided platforms associated with data possession, as both data possession and network effects have each been mentioned in some precedents.

4.3 EXISTING CASE LAW OF REFUSAL TO DEAL CASES IN THE BRAZILIAN COMPETITION LAW

Priscila Brolio Gonçalves²⁰⁴ sees an initial refusal from CADE to recognize refusal to deal cases as violations to the Brazilian competition law in the 1990s. One early quoted example is found in a 1995 decision of a merger between Companhia Petroquímica do Sul, OPP Petroquímica S/A, OPP Polietilenos S/A and Ipiranga Petroquímica S/A. In this case, Petroquímica Triunfo S/A complained about the potential of being harmed by the transaction. Nevertheless, in the opinion of commissioner Lucia Helena Salgado:

First of all, scholars and precedents have indicated that, in principle, even if it has monopoly power, a firm does not have the duty to cooperate with its rivals. Were it like this, the primal reason for competition law (so closely related to free markets) would be inverted.

The absence of this duty to deal is also a consequence of the right to choose partners and clients. This right is, naturally, qualified, and in that qualification there are relevant economic and business reasons which may justify the refusal to sell or the exclusion. Furthermore, a conduct can not be characterized as exclusionary simply because of its effects over competitors. It is necessary to consider the impacts over consumers and if competition was unreasonably restricted.²⁰⁵

According to Gonçalves²⁰⁶, the transaction made Petroquímica Triunfo S/A go from being an important competitor to being a small one, which means that, even though CADE recognized potential harm to a competitor, the impacts on competition were underestimated. Gonçalves does not say, however, if consumers ended up being actually harmed by the transaction.

Gonçalves keeps on to refer to many later cases from CADE regarding refusals to deal. Many of those cases, however, are not useful for a comparison with the hypothetical

²⁰⁴ GONÇALVES, Priscila Brólio. **A obrigatoriedade de contratar como sanção fundada no direito concorrencial brasileiro**. 2008. Doctoral Thesis-Law School, University of São Paulo, São Paulo, 2008.

²⁰⁵ CADE, 1995 apud GONÇALVES, 2008, p. 263, our translation.

²⁰⁶ GONÇALVES, op. cit, p. 263.

conduct concerning search engines. Some of the cases, for example, concern exclusivity contracts made by dominant firms. Other cases concern refusals to deal from firms that are not vertically integrated, ie, refusal from one company to deal with another which is not a competitor in any market. Cases like those are different from the hypothetical conduct, which involves one firm refusing to deal with a competitor in a certain market. In a case concerning exclusivity agreements, one positive effect of the conduct is the reduction of transaction costs²⁰⁷; in the hypothetical conduct, on the other hand, there are no transaction costs to internalize²⁰⁸. Even though the conducts may have a similar rationale of protecting high investments made for the creation of an input, the practical consequence of reversing an exclusivity would open the market for the repetition of an existing commercial relationship (that one between the supplier and its exclusive client, which would be repeated towards other different clientes after the end of the exclusivity); on the other hand, reversing a refusal to deal creates a whole new commercial transaction (unless it is a case of a commercial relationship which was interrupted by a refusal to deal) - a commercial transaction that does not have previous prices and conditions as reference for the creation of new agreements.

A refusal to deal such as the one from the hypothetical conduct is also different from refusal to deal cases concerning non-integrated and non-competing firms: these latter ones are likely to be based in private conflicts (as a disagreement on the price of a service, for example) and have either neutral or pro-competitive effects, with no potential of affecting competition (with the meaning of affecting final consumers, according to CADE's case law) in any market²⁰⁹.

Moreover, some of the cases referred to by Gonçalves had a consensual solution between CADE and the investigated companies. Nevertheless, it is difficult to use these cases as a case law reference due to the lack of recognition of violation to the law in such decisions. In the case *Líder vs. Helibras*, for example, the accused company did not comply with the

²⁰⁷ The already mentioned Resolution 20/1999 of CADE says that “the possible benefits of the [exclusivity agreement] conduct involve once again the economy of transaction costs because of the contention of opportunist conducts in defense of irrecoverable investments, such as investments in brand and technology, and of specific assets. As always, they [the possible benefits] must be carefully weighed in the final assessment”. See CADE (an old resolution whose normative part has actually been repealed) puts “delimitation of the relevant market(s)” as part of the second step in the basic procedure for material analysis of restrictive conducts. CADE. Resolução n° 20, de 9 de junho de 1999. **Official Journal of the Union**, Brasília, 28 Jun. 1999. Retrieved from <<http://www.cade.gov.br/assuntos/normas-e-legislacao/resolucao/resolucao-no-20-de-9-de-junho-de-1999.pdf/@download/file/Resolu%C3%A7%C3%A3o%20n%C2%BA%2020,%20de%209%20de%20junho%20de%201999.pdf>>. Accessed on 28 Nov. 2017, our translation.

²⁰⁸ Internalization of transaction costs is the core of the classic theory of the firm. See COASE, Ronald. The nature of the firm. In: **Economica**, London, No. 4, fasc. 16, p. 386-406, 1937.

²⁰⁹ For example, see commissioner-rapporteur Carlos Ragazzo in the case *Prontomed vs. Santa Casa de Arcos*: _____. **Preliminary Investigation No. 08012.011463/2007-54**. Parties: Prontomed Sociedade Simples and Santa Casa de Arcos. Commissioner-Rapporteur: Carlos Emmanuel Joppert Ragazzo. Brasília, 20 Jan. 2011.

agreement made, so CADE's General Superintendence reopened the probe just to conclude, in the end, that there was no violation to the economic order. This case is still waiting for judgement by CADE's Tribunal²¹⁰.

The following cases, therefore, are a selection of CADE's refusal to deal cases among those quoted in Brazilian Competition Law textbooks²¹¹, Gonçalves' doctoral thesis²¹² and an additional competition law compliance handbook²¹³. The selected cases are the ones which actually involve one firm refusing to deal with a competitor, apart from one case (subtopic 4.3.2) concerning hoarding of raw material which, albeit resulting in "indirect refusal to deal"²¹⁴, received a similar analysis to the other "direct" refusal to deal cases. There is also a single addition of a case closed through a consensual solution due to the similarity between this case and the hypothetical conduct analyzed in this work (subtopic 4.3.5). There is a complete listing of the consulted cases and the reasons for their selection or not to be expressly cited in this study in Appendix A.

After an overview of the facts and the legal considerations for each of the cases, there will be a critical analysis of CADE's considerations in some of them (tagged as "critics"). A general conclusion about CADE's case law on refusal to deal will be laid out in subtopic 4.3.7.

4.3.1 Administrative Proceeding No. 53500-000359/1999 (TVA vs. Globo)²¹⁵

In this administrative proceeding, TVA, a cable television distributor, accused the television network Globo of refusing to authorize DirecTV, TVA's satellite pay-tv distributor, to distribute Globo's local public channels for the cities of São Paulo, Rio de Janeiro, Belo Horizonte and Porto Alegre. On the contrary, Globo authorized Sky, an affiliate company competitor of DirecTV, to distribute those channels. Considering cable television, both TVA

²¹⁰ The General Superintendence saw no illegality in the refusal to deal due to the fact that there was no evidence that the refusal could actually harm the competing company in the downstream market. *See* CADE. **Administrative Proceeding No. 08012.007505/2002-48**. Parties: Líder Signature S.A and Helicópteros do Brasil S.A - Helibras. Opinion of the General Superintendence to close the Administrative Proceeding. Brasília, 21 Jan. 2015.

²¹¹ FORGIONI, 2015, p. 321-327; MOTTA; SALGADO, 2015, p. 49; CASAGRANDE; PEREIRA NETO, 2016, p. 165; FRAZÃO, 2017, p. 467-470.

²¹² GONÇALVES, 2008, p. 258-277.

²¹³ BERARDO, José Carlos da Matta; ROSENBERG, Barbara. Brazil. In: CRANE, Daniel; EZRACHI, Ariel; SOKOL, D Daniel (Eds.). **Global Antitrust Compliance Handbook**. Oxford: Oxford University Press, 2014, p. 66.

²¹⁴ GONÇALVES, 2008, p. 267.

²¹⁵ Unless specified otherwise, all this subtopic is based on CADE. **Administrative Proceeding No. 53500.000359/1999**. Parties: TVA Sistema de Televisão S/A and TV Globo Ltda. and TV Globo São Paulo Ltda. Commissioner-Rapporteur: João Bosco Leopoldino da Fonseca. Brasília, 20 Jun. 2001.

and NET (Globo's affiliate for cable television) distributed Globo's channels, due to sector regulation. TVA alleged Globo's channels were indispensable and DirecTV could not compete without them. The allegation was based on Article 20, I and II, of Law No. 8.884²¹⁶. The conduct would have been the ones given in Article 21, V and XIII²¹⁷.

Under the Law No. 8.884, conduct cases started in preliminary investigations made by SDE (or by SEAE, in limited cases and in a slightly different procedure²¹⁸), which either decided to start an administrative proceeding, or to close the probes²¹⁹. If the probe was closed, CADE made a second analysis in which it could order SDE to start the administrative proceeding. If the administrative proceeding started, after formal charges are sent and the companies are able to defend themselves, SDE issues a written report to CADE for a final decision.

In this specific administrative proceeding, the case started at the Brazilian telecommunications regulator ANATEL, which had concurrent jurisdiction with SDE for the telecommunications sector. In the written report ANATEL sent to CADE, the agency concluded for lack of violation to the antitrust law due to the fact that Globo was free to exercise its right to refuse to provide access to DirecTV. According to the agency, competition among satellite pay-tv distributors concern not only the channels grid, but also investments in marketing, prices, sales structure, etc. In fact, it was not even possible to see causal nexus between Sky's growth and the entry of Globo channels in its grid, in a way that harm to DirecTV could not be related to the conduct.

In CADE, commissioner-rapporteur João Bosco Leopoldino said that the agency had to verify if Globo was abusing from a dominant position in a relevant market. For that verification, he applied the essential facility doctrine. As written in his opinion:

The concept of refusal to deal comprises a series of practices, such as, for example, the refusal to supply either products or services; the refusal to give information; the refusal to license intellectual property rights; the refusal to provide access to an "essential facility" or the refusal to become part of a network.

In a case of essential infrastructure, the dominant company can not refuse to contract. If there is refusal to contract, in this situation, there is a legal presumption of damage to the market.

In the case *MCI Communications Corp. v. AT&T*, the judges of the Court of Appeals for the Seventh Circuit (Chicago) understood the refusal to give access to

²¹⁶ "To limit, restrain or in any way injure open competition or free enterprise" and "to control a relevant market of a certain product or service".

²¹⁷ "To pose difficulties for the establishment, operation or development of a competitor company or supplier, purchaser or financier of a certain product or service" and "to deny the sale of a certain product or service within the payment conditions usually applying to regular business practices and policies".

²¹⁸ See Article 10 of Law No. 9.021 of March 30, 1995. BRAZIL. Law No. Law No. 9.021 of March 30, 1995. **Official Journal of the Union**, Brasilia, 31 Mar. 1995.

²¹⁹ ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, 2010, p. 39-40.

an essential infrastructure is considered illegal if the following conditions are present:

- The essential infrastructure must be controlled by a monopolist company;
- The competing firm who wants the access must not have conditions, in practice or in reasonable terms, to duplicate the infrastructure;
- The effective refusal to give access to the infrastructure;
- The access to the infrastructure must be technically available.

(...)

The [European] Commission defines an “essential facility” as a facility or infrastructure which is essential for reaching customers and/or enabling competitors to carry on their business, and which cannot be replicated by any reasonable means.

The Commission, in the Notice on access agreements (1998), paragraph 91, affirms that, to determine the need to enforce a provision of access according to competition rules or not it is necessary to take in account the following elements all together:

- access to the facility in question is generally essential in order for companies to compete on that related market
- there is sufficient capacity available to provide access;
- the facility owner fails to satisfy demand on an existing service or product market, blocks the emergence of a potential new service or product, or impedes competition on an existing or potential service or product market;
- the company seeking access is prepared to pay the reasonable and non-discriminatory price and will otherwise in all respects accept non-discriminatory access terms and conditions;
- the company seeking access is prepared to pay the reasonable and non-discriminatory price and will otherwise in all respects accept non-discriminatory access terms and conditions.

João Bosco Leopoldino considered Globo an essential facility on the basis that there is specific state regulation over the sector (Globo’s specific relevant market was not defined) and it controls the most-watched channels. The discrimination between Sky and DirecTV was considered as an illegal abuse of dominant position due to the limitation of the free market and the harms to the consumer.

On the other, hand, commissioner Hebe Romano saw no illegality in the conduct for not recognizing Globo’s signal as an essential facility. Firstly, Hebe Romano considered companies as free to make their businesses, unless they engage in restrictive practices. The commissioner quoted an early 1993 CADE’s case (Administrative Proceeding 131/93), in which commissioner Paulo Dirceu Pinheiro expressed the following opinion:

No entrepreneur is obliged by any law in force in Brazil to sell goods or provide services to another intermediary supply entrepreneur. The manufacturer has the right of simply not selling his or her goods to a certain merchant for subjective and personal particular reasons which only concern to him or herself.

A refusal to supply is only illegal if it is an instrument for a restrictive business policy, ie, if through the refusal it is possible to verify the effects of competition elimination, market dominance or arbitrary increase of profits, so there will be a violation to the economic order.

Hebe Romano drew a comparison between satellite television and cable television. Due to regulation, Globo was obliged to authorize cable television distributors to have its local public channels. Therefore, TVA had Globo channels in its cable distribution, but its market shares were falling, equally as DirecTV’s shares but differently from NET’s shares,

which was a later entrant in cable television (Hebe Romano considered satellite and cable television as substitutes in the same pay-tv national market, with no mention to Globo's relevant market). On the other hand, TECSAT was an entrant company which was growing, even with no Globo channels in its grid. DirecTV was seen as having a downward trend since 1996, and the entry of Sky with Globo channels did not affect that. As it was not possible to associate Globo's practices with the loss of users by DirecTV, Hebe Romano concluded that "the effects of the refusal to deal are not causing any obstacle or impediment to the entry or permanence of other companies in the market" and that the conduct was legal.

Hebe Romano also drew some comments about anti-competitive effects of a hypothetical imposition of a duty to deal. The commissioner said that the consequence for that would be both Sky and DirecTV with equal channel grids, even though they were supposed to compete. If there is no such a duty, DirecTV, considered the biggest operator in the Americas, would be free to invest in different ways to attract the consumer (such as providing different channels) and widen its user base.

All the remaining commissioners followed Hebe Romano's opinion, with small additional comments. Commissioner Celso Fernandes Campilongo, for example, was the only of two commissioners to define Globo's relevant market: TV programming (both for public and paid television). Differently from Hebe Romano, however, Celso Fernandes Campilongo said that the downstream market was the national market of satellite television (it is not clear if the TV programming market would also be national). This did not change its conclusions in comparison to those of Hebe Romano. Celso Fernandes Campilongo also proposed the following conditions for the the recognition of existence of an essential facility:

- without the access to the facility there is no chance of competition, ie, the facility is indispensable for the competition;
- it is neither economically efficient, nor possible, that new entrants duplicate the facility;
- the control of the facility grants its owner the potential of eliminating competition;
- the facility is effectively essential, in the literal meaning of the expression, and not a mere less expensive convenience or opportunity to the competitor;
- the refusal to make the facility available must not have any reasonable or legitimate economic or legal reason.

Commissioner Thompson de Andrade listed questions for the analysis of the case:

The first question it is necessary to answer is the following: what is the evidence in the files of the essentiality of the input?

(...)

(...) it is not justified that competition advantages legitimately built are arbitrarily eliminated to allow the other competitors in the market to compete in less unfavorable conditions.

The second question is: the advantage obtained by Sky is not its own - therefore, [is it] anti-competitive?

There is nothing wrong in the fact that a given competitive advantage of a company was not generated internally but as the result of an agreement made with another company. (...)

(...)

The third question it is necessary to answer is the following: Globo's public signal is a unique, non-reproducible input which affects the competition between satellite television providers?

Despite the quality of Globo's affiliated broadcasters' programming and the high audience level reached by its shows, to consider the quality of its contents as something non-reproducible is a conclusion which has no empirical base. In the short term it might be acceptable that there might be difficulties (...) However, in the medium and long term this capacity might be built little by little (...).

Lastly, in the opinion of commissioner Afonso Arinos de Mello Franco Neto, "for the refusal to be anti-competitive, on its turn, it is necessary that the asset whose sale is refused be essential to allow the competition between who asks for access with who refuses it".

The administrative proceeding was closed with no further actions.

Critics: the big discussion in the case was the causal nexus between Globo's conduct and any harm to DirecTV and, ultimately, its users. Nevertheless, the case failed in not recognizing TV distributors as multi-sided platforms which match together TV programming companies and users. Therefore, some potential anti-competitive effects of the conduct were not analyzed, such as Globo's smaller competitors being present in a strong portfolio (considering Globo as capable of attracting many consumers to a certain channel grid). A probable cause for this fault is the early stage of antitrust studies on the subject at the time, as multi-sided platforms gained more relevance after Jean Tirole studies in the turn of the century²²⁰.

4.3.2 Administrative Proceeding No. 08000.022579/1997-05 (Messer Grieshem vs. White Martins)²²¹

Messer Grieshem wanted to operate in the CO₂ market, but could not have access to the necessary input: CO₂ itself as a by-product from other activities. Ultraféril's by-product had the best technical characteristics (was purest), but its production was destined to White Martins, a company that became monopolist after entering the market and acquiring the

²²⁰ As a seminal paper, see ROCHET, Jean-Charles; TIROLE, Jean. Platform Competition in Two-Sided Markets. *Journal of the european economic association*, v. 1, no. 4, p. 990-1029, 2003. David S. Evans says many of the antitrust discussions concerning multi-sided platforms started "in papers that analyzed the payment card industry as a two-sided market". EVANS, David. S. The Antitrust Economics of Two-Sided Markets. In: *SSRN*, 14 Nov. 2002. Retrieved from <<https://ssrn.com/abstract=332022>>. Accessed on 26 Nov. 2017.

²²¹ Unless specified otherwise, all this subtopic is based on CADE. **Administrative Proceeding No. 08000.022579/1997-05**. Parties: Messer Grieshem do Brasil Ltda. and S.A. White Martins. Commissioner-Rapporteur: Celso Fernandes Campilongo. Brasília, 26 Jun. 2002.

incumbent rival, under an exclusivity agreement which effectively lasted 450 days. During that time, Messer Grieshem could not enter the market, even though White Martins did not use all the CO₂ it acquired and threw the surplus away in the atmosphere. White Martins confessed in the case that the exclusive delivery supplied it with more CO₂ than it could deal with.

Commissioner-rapporteur Celso Fernandes Campilongo did not see economic rationale in the overcapacity acquisition by White Martins and posterior waste of CO₂, with no possibility over it being related to any expansion plan. The question to answer was if there was a deliberate limitation of competition. For assessing the illegality of the conduct, the commissioner proposed the following questions:

- I. what is the relevant market?
- II. was the Defendant [White Martins] in conditions to abuse its market power?
- III. was the access to Ultrafertil's input essential for entering the relevant market?
- IV. did the allegedly surplus taken out of the market and then wasted in fact deter entry in the relevant market?
- V. did the exclusivity generated efficiency gains?

Based on preceding case law, the relevant market was defined as the market of carbon dioxide (CO₂). It was limited to Southeastern Brazil. It was not indicated if that was Ultrafertil's, White Martin's or Messer Grieshem's market.

In regard to the second question, Campilongo based itself on market share estimations presented in preceding case law, White Martins' own estimation and the history of the market. Even the smaller estimation of 59% of market share was taken as giving market power to White Martins. The 59% market share was verified in 1999, when White Martins was not monopolist anymore, as it was at the time of the conduct.

In regard to the third question, the commissioner considered the most viable sources of CO₂ - acquiring it as a by-product would raise much lower installation and production costs than building a combustion plant. The purity of the gas was also considered to limit the market. Further in his vote, the commissioner said the surplus disputed by Messer Grieshem were 10% of the market.

In regard to the fourth question, the commissioner said that the exclusivity agreement reinforced the barriers to entry and impeded access to the best existing source, thus harming competition. Two other companies entered the market during the exclusivity agreement, but competition would have been increased if Messer Grieshem had had access to the 10% surplus and could enter the market.

In regard to the fifth question, the commissioner recognized the possibility of transaction costs having been saved because of the exclusivity agreement. Nevertheless, the exclusivity agreement provided for more than White Martins was able to process during the period of the conduct.

When calculating the fine to be applied, the commissioner analyzed how prices fell before White Martins entering the market and acquiring the previous monopolist. The potential competition was considered enough for making prices go down, and the exclusivity prevented any potential competition. Elevated prices affected industrial buyers of CO₂ (such as the food industry) and, lastly, the final consumer. After the end of the exclusivity, White Martins had grown bigger than the other companies and Messer Grieshem was obliged to build a combustion plant - a less efficient alternative, which made prices staying at a high level after the conduct.

Commissioner Afonso Arinos de Mello Franco Neto made a more detailed analysis of the relevant markets. The downstream market (that of Messer Grieshem) would be the “commercial carbon gas for use in food, beverages, metallurgy and others industries”. The very specific production process did not allow for substitutability from the demand or supply sides. It was limited to 400 km from the production plant. As a proxy, the geographic market was limited to Southeastern Brazil and the state of Parana.

The upstream market (that of Ultrafertil) would be CO₂ generated as a by-product from the manufacture processes of ammonia, hydrogen and synthetic gas. Even though CO₂ was a by-product of other industrial processes, it is cheaper and of bigger purity as a by-product from just a few of the possible options. Some processes, just as the fermentation of beer, generate CO₂ seasonally, and this process was not available at the time of the conduct. CO₂ from other processes than the synthesis of ammonia, hydrogen and gas would only be looked for when these specific processes are not available. Long-term supply agreements between by-product CO₂ producers and commercial CO₂ sellers were seen as limiting the availability of the input. The geographic market was also limited to a 400 km radius from the processing plant of by-product CO₂.

For commissioner Afonso Arinos de Mello Franco Neto, White Martins’s market share for the production of commercial CO₂ was taken as 98%, whereas the remaining 2% belonged to AGA. In the year of the conduct, Ultrafertil was the only one with by-product CO₂ available, which gave it a monopolist position.

For the commissioner, the 170 by-product CO₂ ton per day of surplus sold by Ultrafertil (from a total of 370 CO₂ ton produced per day) would be disputed between Messer

Grieshem and White Martins in a perfect competition situation. Messer Grishem, which was in advanced negotiation with Ultrafertil to enter the market, did so only 3 years after the conduct because White Martins ended up acquiring more from Ultrafertil than it could process. A comparison between prices paid for by-product CO₂ after the conduct, when there was a first offer by Petrobras which reduced Ultrafertil's market share, and prices paid by White Martins to Ultrafertil in the beginning of the conduct show a big increase in price (a 47,56% increase) which had no identifiable cause apart from the exclusivity contract.

In an unanimous decision, White Martins was found guilty under Article 20 I, II and IV of Law No 8.884²²² and fined in R\$ 24.000.000,00. The way the conduct was reached was located in Article 21, V, VI and XV²²³.

Critics: this case took a different direction than the preceding one. Among the reasons for this are the facts that the additional by-product CO₂ acquired by White Martins was actually considered essential for competition in the downstream market, and the fact that there was a clear effect on prices and, ultimately, on the final user. A relevant point for the conclusions was the monopoly power of Ultrafertil in the upstream market. Interestingly, there was no discussion about positive effects arising from the conduct, as if the possibility of innovation in the production of commercial CO₂ had been completely ruled out.

A controversial point in commissioner Campilongo's opinion is the report that there were two entries during the conduct. It is not clear why competition from the other two companies were not considered enough. Affirming a duty to deal even when other companies are able to enter the market may have the controversial consequence of, in fact, chilling competition for obliging companies to collaborate with each other. On the other hand, commissioner Afonso Arinos de Mello Franco Neto said in his much more detailed opinion that the entries only happened after the conduct, which makes the legal argument more consistent.

²²² "To limit, restrain or in any way injure open competition or free enterprise"; "to control a relevant market of a certain product or service" and "to abuse one's market control".

²²³ "To pose difficulties for the establishment, operation or development of a competitor company or supplier, purchaser or financier of a certain product or service", and "to destroy, render unfit for use or take possession of raw materials, intermediary or finished products, as well as destroy, render unfit for use or constrain the operation of any equipment intended to manufacture, distribute or transport them".

4.3.3 Administrative Proceeding No. 08012.000172/1998-42 (Power-Tech vs. Maltec)²²⁴

Maltec was a leading representant of Ericsson in Brazil which provided technical telecommunication product for companies. Among the products provided were telephone switchboards, whose maintenance could be done either by Malter directly or by companies licensed by it. Former employees from Maltec formed Power-Tech to be the first Ericsson switchboards maintenance company in the Federal District. After Power-Tech gained relevance, Maltec refused to sell the switchboards replacement parts to it.

The commissioners in CADE only defined the downstream relevant market affected by the conduct, using the same definition as SEAE. Power-Tech would operate in the relevant market of maintenance services for Ericsson MD 110 switchboards, geographically limited to the Federal District. The conduct would have started after Power-Tech entered the market and challenged Maltec's monopolistic position.

Access to Ericsson's repair parts was considered as essential for competition in the downstream market. The commissioners saw no relation between competition for switchboards (in which Ericsson and Maltec competed with other technology companies) in an upstream market and competition in the downstream maintenance services market. The conduct would have no relevance, for example, if consumers considered maintenance prices beforehand when buying the switchboards or simply switched from Ericsson to other suppliers once maintenance prices became too high. However, the fact that a big part of the consumers were government agencies which made time-limited contracts with the companies that offered the lowest prices due to public procurement regulation limited this possibility.

Harm to consumers clear from data that indicated an average reduction in price of 36% in maintenance contracts after the entry of Power-Tech (according to the more detailed calculations of commissioner Ronaldo Porto Macedo Júnior, who indicated an error in SDE's estimation).

Maltec was condemned under Article 20, I and IV, of Law No. 8.884²²⁵. The conduct was classified under Articles 21, IV, V, VI and XIII²²⁶. Maltec was fined in R\$ 620.000,00.

²²⁴ Unless specified otherwise, all this subtopic is based on CADE. **Administrative Proceeding No. 08012.000172/1998-42**. Parties: Power-Tech Teleinformática Ltda. and Damovo do Brasil S.A. Commissioner-Rapporteur: Celso Fernandes Campilongo. Brasília, 26 Mar. 2003.

²²⁵ "To limit, restrain or in any way injure open competition or free enterprise" and "to abuse one's market control".

²²⁶ "To limit or restrain market access by new companies", "to pose difficulties for the establishment, operation or development of a competitor company or supplier, purchaser or financier of a certain product or service", "to bar access of competitors to input, raw material, equipment or technology sources, as well as to their

Critics: this case concerns classic discussions on the market power that manufactures can exercise over aftermarket services. A classic American case which raise economic discussions is the Kodak case²²⁷. This case was referenced by the commissioners (as well as the European Hugin case²²⁸) and the opinions dealt with the economic arguments in favor or against companies such as Maltec's.

4.3.4 Administrative Proceeding No. 08012.007443/1999-17 (SDE vs. TECONDI, Libra Terminais, Usiminas and Tecon)²²⁹

In July 1999, SDE inquired customs terminals about why they charged extra fees (called “THC2”) for the liberation of containers in the Port of Santos when they were to be taken to third-party bonded warehouses.

When containers are imported to Brazil, the cargo vessel operator decides to moor in one of the many terminals in the port. This choice is made in consideration of services offered by the seaport terminal and the price charged for them - a fee called “box rate”. However, the cargo transported by the vessel undergoes custom clearance under responsibility of the importer. While the container waits for clearance, it must stay at a bonded warehouse. The bonded warehouse where a container will wait for clearance is chosen by the importer, which might choose either a bonded warehouse integrated with the seaport terminal where the container ship moored or another bonded warehouse unrelated to the terminal. The handling of the container from the terminal to the warehouse supposedly justifies the collection of the THC2 fee - however, it was only being charged when containers were taken to third-parties warehouses, and not to warehouses controlled by the seaport terminals themselves.

The four inquired terminals were the only ones in the port with capacity for container handling. The commissioners in CADE did not see any relation between the THC2 fee as it

distribution channel” and “to deny the sale of a certain product or service within the payment conditions usually applying to regular business practices and policies”.

²²⁷ UNITED STATES OF AMERICA. Supreme Court. **504 U.S. 451**. Parties: Eastman Kodak Co. and Image Technical Services, Inc. Opinion of the Court written by Justice Blackmun. Washington, D.C., 8 Jun. 1992. Retrieved from: <<https://supreme.justia.com/cases/federal/us/504/451/case.html>>. Accessed on 26 Nov. 2017. For an overview of the discussions on the case, see HOVENKAMP, 2005, p. 300-303.

²²⁸ EUROPEAN ECONOMIC COMMUNITY. Court of Justice of the European Communities. **Case 22/78**. Parties: Hugin Kassaregister AB and Hugin Cash Registers Ltd. and Commission of the European Communities. Judgement of the Court. Luxembourg, 31 May. 1979. Retrieved from <<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:61978CJ0022>>. Accessed on 26 Nov. 2017.

²²⁹ Unless specified otherwise, all this subtopic is based on CADE. **Administrative Proceeding No. 08012.007443/1999-17**. Parties: Secretariat of Economic Law and Terminal para Contêineres da Margem Direito - TECONDI, Santos Libra Terminais S/A - Terminal 37, Rio Cubatão Logística Portuária Ltda. and Santos Brasil - TECON. Commissioner-Rapporteur: Luiz Carlos Delorme Prado. Brasília, 27 Apr. 2005.

was being charged and the costs incurred by the terminals to take containers to third-party warehouses. The transportation of containers between the terminals and the third-party warehouses was considered essential for competition in the bonded warehouse relevant market in the area of influence of the Port of Santos. Therefore, the THC2 as it was being charged elevated costs for all industries that imported goods, which consequently reduced consumers' welfare. SDE had reached similar conclusions, whereas SEAE did not consider the seaport terminals as relevant and did consider the THC2 as necessary for covering costs which were not covered by the box rate paid by the vessel operators, of which CADE saw no evidence.

The seaport terminals were found guilty of violation to the economic order under Article 20, I, II and IV, of Law No. 8.884²³⁰, though a conduct listed in Article 21, IV and V²³¹. They were ordered to: (i) stop charging for the liberation of containers to bonded warehouses; (ii) pay a fine equivalent to 1% of their gross revenue in the year before the beginning of the administrative procedure; (iii) publish CADE's decision in a national newspaper; (iv) pay an additional daily fine if the conduct does not stop, if they do not comply any of the other orders or if they incur in another violation of the economic order; (v) prove CADE that they complied with the decision after 60 days from its publication.

Critics: although this is a case of price discrimination, the recognition that the upstream services are essential for downstream competition make the effects of the conduct similar to that of a refusal to deal. This highlighted by CADE in Resolution 20/1999.²³²

4.3.5 Administrative Proceeding No. 08012.003048/2001-31 (Neo TV vs. Globosat and Globopar)²³³

Neo TV, an association of small pay-tv distributors, accused both Globosat and Globopar of restricting access to the Sportv sports channel, which was only provided to operators from the same economic group (NET and Sky).

²³⁰ "To limit, restrain or in any way injure open competition or free enterprise", "to control a relevant market of a certain product or service" and "to abuse one's market control".

²³¹ "To limit or restrain market access by new companies" and "to pose difficulties for the establishment, operation or development of a competitor company or supplier, purchaser or financier of a certain product or service".

²³² "In certain cases, price discrimination may indicate a variation of refusal to sell or tying; under these indirect forms, it is a relatively frequent practice in liberalized regulated sectors". CADE, 1999, p. 6, our translation.

²³³ Unless specified otherwise, all this subtopic is based on CADE. **Administrative Proceeding No. 08012.003048/2001-31**. Parties: Associação Neo TV and Globosat Programadora Ltda. and Globo Comunicações e Participações Ltda. Commissioner-Rapporteur: Paulo Furquim de Azevedo. Brasília, 31 Mai. 2006.

In the television sector, television shows are produced by many different studios, and they are aggregated in “packages” by broadcasters such as Globosat, which create the different channels watched by consumers. The users have access to the channels through distributors such as NET, Sky and the Neo TV associate members. Globosat is part of Globo’s economic group, which is headed by the holding Globopar.

SDE and SEAE considered the conduct a violation to the economic order. SEAE recommended the condemnation of Globosat and Globopar under Articles 20, I, II and IV, of Law No. 8.884²³⁴. The conduct was located in Article 21, IV, V, VI, XII and XIII²³⁵. SDE recommended the condemnation of Globosat only under the same articles.

As an evidence of harm to competition, SDE highlighted the fact that Sky’s and NET’s market shares had been growing to the detriment of the associate members of Neo TV and, in consequence, to consumers as well.

In CADE, commissioner-rapporteur Paulo Furquim de Azevedo said that pay-tv distributors compete for the set of channels they offer. He considered sport channels which exhibit national sport championships (mainly soccer games) as a “key component” in the channel mix of a television distributor, as it was “heavily documented in the case file”.

The commissioner considered broadcasters such as Globosat as part of a multi-sided platform which generates revenue through the sale of advertising space in its channels and by the sale of channels to the pay-tv distributors. The television distributors, in turn, generate revenue from the subscription fees paid by their user base. As advertisers are interested in space in channels with a large audience, a reduction in the number of users due to a refusal to deal with a certain distributor results in a reduction in the total revenue generated by the broadcaster. Therefore, a refusal to deal would only be rational if related to earnings from other sources, such as monopolization of the pay-tv distribution market via an affiliated company. Such monopolization would only result from the refusal to deal by the broadcaster if the channel which is not distributed to competing pay-tv distributors has no similar competitors, which was the case of Sportv, the only channel where there were transmissions of the most relevant national soccer championships in Brazil. Not allowing competing

²³⁴ “To limit, restrain or in any way injure open competition or free enterprise”, “to control a relevant market of a certain product or service” and “to abuse one’s market control”.

²³⁵ “To limit or restrain market access by new companies”, “to pose difficulties for the establishment, operation or development of a competitor company or supplier, purchaser or financier of a certain product or service”, “to bar access of competitors to input, raw material, equipment or technology sources, as well as to their distribution channels”, “to hinder or disrupt the continuity or development of business relationships of undetermined term, because the other party refuses to abide by unjustifiable or anti-competitive terms and conditions” and “to deny the sale of a certain product or service within the payment conditions usually applying to regular business practices and policies”.

distributors to have Sportv in their channel grids could “potentially make competition impossible”.

Considering this scenario, CADE, Globosat and Globopar agreed on a consensual solution for the case under which: between 2006 and 2008, Sportv would be marketed in the same conditions as it was offered to NET and Sky; between 2009 and 2011, when new competing sport channels would already have been developed, Globosat would limit the acquisition of exclusivity rights for the transmission of national soccer championships to a fixed number. Globosat completely complied with the agreement and the case was closed in 2012.

Critics: differently from the TVA vs. Globo case, more attention was paid in this one to the multi-sided characteristic of the market - not of the distribution market, but of the broadcasting market.

4.3.6 Administrative Proceeding No. 08012.010208/2005-22 (Cimento Liz vs. Camargo Correa)²³⁶

Another very similar case to Messer Grieshem vs. White Martins is Cimento Liz vs. Camargo Correa, in which Camargo Correa was accused of hoarding slag acquired under an exclusivity contract with Usiminas and preventing Cimento Liz of producing cement through the imposition of unreasonable increases in the price asked for the supply of slag. Camargo Correa was accused by Cimento Liz of violating Article 20, I, II and IV, of Law No. 8.884²³⁷ through a conduct categorized under Article 21, V, XIII, XIV and XV²³⁸.

Even though it was considered, as stated in commissioner Frazão’s opinion, that the facts corresponded to a violation of the economic order, the case was closed after it was verified that Camargo Correa had already been penalized by the conduct in a previous cartel condemnation.

²³⁶ CADE. **Administrative Proceeding No. 08012.010208/2005-22**. Parties: Empresa de Cimentos Liz S.A. and Intercement Brasil S/A. Commissioner-Rapporteur: Ana de Oliveira Frazão Vieira de Mello. Brasília, 3 Jul. 2015b.

²³⁷ “To limit, restrain or in any way injure open competition or free enterprise” and “to abuse one's market control”.

²³⁸ “To pose difficulties for the establishment, operation or development of a competitor company or supplier, purchaser or financier of a certain product or service”, “to deny the sale of a certain product or service within the payment conditions usually applying to regular business practices and policies”, “to monopolize or prevent the exploitation of industrial or intellectual property rights or technology” and “to sell goods or services unreasonably below the cost price”.

In this case, commissioner Frazão referenced to criteria from the European Commission for the verification of a competition violation in refusal to supply cases. She did not mention the source of the European criteria, but quoted as follows:

More recently, in 2007, the European Commission fixed parameters for the existence of an antitrust violation, notably, (i) dominant position of the player that refuses to supply the product, (ii) the possibility of the practice take to an elimination of effective competition in the downstream market and (iii) the inexistence of an objective reason to justify the refusal.²³⁹

4.3.7 Conclusion

CADE has long recognized the possibility of a firm being accused of a violation to the economic order because of a refusal to deal, notably when the effect of the refusal is to prevent competition in a downstream market in relation to the asset to which access is refused. “Preventing competition” is usually seen as a total restriction for competitors to enter the market, due to the essentiality of the required asset. This restriction could either have effects immediately, as in most of the cases, or in the future, as in the Neo TV vs. Globosat and Globopar case (in which no decision was made on the merits, though). In the cases in which companies were found guilty, they were only fined and CADE abstained from regulating the commercial relation. This was possible due to the fact that (i) in a hoarding conduct such as Messes Grieshem vs. White Martins, the commercial relation is between the harmed company and a different player which made the asset available (under certain price and conditions) to the hoarder; (ii) in Power-Tech vs. Maltec, there was a previous relation between the companies, in a way that the dominant firm in the upstream market could adopt previous prices and conditions as a reference once it abstained of exerting the anti-competitive conduct. A case such as the hypothetical conduct is one in which there is no reference price for the supply of the input to the other companies, which means that the dominant search engine would have to take care not to charge abusive anti-competitive prices if it is ever required to allow access to its search data.

Another observation is that CADE does not always use the essential facility doctrine to characterize a refusal to deal as illegal. Herbert Hovenkamp also observes this in the United States, and he concludes that the essential facility doctrine ends up being unnecessary given

²³⁹ *idem*.

the possibility of condemning a company with no reference to any “essential facility”²⁴⁰. Alison Jones and Brenda Sufrin notice the same in Europe²⁴¹.

The legal classification of a refusal to deal conduct is not a matter of big discussions in Brazilian competition law. Companies have usually been found guilty under Article 20, I, II and IV, of Law No. 8.884, equivalent to Article 36, I, and IV, of the current Brazilian Competition Act²⁴². The specific conduct has more commonly been framed in Article 21, IV, V, VI and XIII, of Law No. 8.884, equivalent to Article 36, §3º, III, IV, V and XIII, of the current Brazilian Competition Act²⁴³.

4.4 THE PROPOSED CONTROVERSIAL ASPECTS IN BRAZILIAN CASE LAW

Once CADE’s case law on search engines and refusal to deal is reviewed, it is possible to specify what would make the analysis of a conduct of refusal of access to search data different from other cases. As defined in the previous chapters, the big controversial aspects of such a conduct would be: the actual necessity of access to a dominant firm’s search data in order for competition to be possible (which involves an evaluation of how much one company should collaborate with a competitor); the existence of harm to the consumers (as consumers should be harmed so that a refusal to deal is an actual anti-competitive conduct under Brazilian law); the consideration of incentives to innovation in the evaluation of the effects of the conduct (as requiring collaboration between competitors could chill innovation and result in worse effects in the long-term). How each of these aspects was taken into account in CADE’s case law and what would be different for the assessment of the hypothetical conduct is laid out below.

²⁴⁰ “Ironically, the Supreme Court’s approval of liability in *Aspen* without invoking the essential facility doctrine itself suggests that an essential facility doctrine is unnecessary. One need only look at the market power of the defendant, the rationale for the refusal to deal, and the competitive harm that results. Unfortunately, courts have not followed that route”. HOVENKAMP, 2005, p. 310, italics by the author.

²⁴¹ “The ‘essential facilities’ concept originated in US law, where it has proved to be highly contentious. When the Commission used the expression in 1992 it was therefore employing terminology which was familiar to competition lawyers and the subject of much debate in the US context. The CJ [Court of Justice] itself has never used the expression ‘essential facility’. Indeed, it has carefully avoided doing so and has preferred the term ‘indispensable’. However, much of the discourse on refusal to supply has been couched in terms of essential facilities or, as one scholar has called it, ‘the epithet that dares not speak its name’. It is therefore a convenient expression to use so as long as one does not accord it legal significance”. JONES; SUFRIN, 2016, p. 500.

²⁴² “To limit, restrain or in any way injure open competition or free enterprise”, “to control a relevant market of a certain product or service” and “to abuse one’s market control”.

²⁴³ “To limit or prevent the access of new companies to the market”, “to create difficulties for the establishment, operation or development of a competitor company or supplier, acquirer or financier of goods or services”, “to prevent the access of competitors to sources of input, raw material, equipment or technology, and distribution channels” and “to destroy, render useless or monopolize the raw materials, intermediate or finished products, as well as to destroy, disable or impair the operation of equipment to produce, distribute or transport them”.

4.4.1 Necessity of the dominant firm's search data

The requirement that the asset to which access is required is necessary for competition by the company requiring access is present in every refusal to deal case from CADE and is a crucial point for the refusal to be deemed anti-competitive. In analyzing this, CADE does not always properly define relevant markets, as well as it takes into account technical and commercial aspects in defining the relevance of the asset for competition.

Today, even with Google's dominance, there are other smaller search engines in Brazil in a relatively stable market structure. However, CADE usually considers an asset as necessary when competition is unfeasible without it. In the only precedent in which the asset was not technically essential for the provision of the service (in the sense that the service could be immediately provided regardless of it), the Neo TV vs. Globosat and Globopar case, SDE stated that competing companies were having their market shares decreased, and commissioner-rapporteur Paulo Furquim de Azevedo said that the refusal to deal could make competition "potentially impossible"²⁴⁴, as if the asset required were essential in the long-term. In-depth technical analysis of the operation of search engines would need to be done in order for a conclusion that Google's search data could become an essential asset and make competition "potentially impossible" in the future.

Establishing the relation between search data and competition between search engines would be the focal point in the assessment of the hypothetical conduct. The biggest difficulty for that would be to put data, which has already been cited as an input for some markets in some of the cases, as essential even though it is non-rivalrous (Google's ownership of data does not make it necessarily inaccessible to others) and ubiquitous (data can be collected from multiple sources), as these characteristics mitigate its essentiality. On the other hand, CADE's previous recognition of network effects as barriers to entry levels the field, as data that is important for a search engine is presumably data which has been used in many searches, which could make it each time better. This adds another technical element in the discussion which is how different the dominant firm's data is from data collected by other means by the competing companies.

²⁴⁴ CADE, 2006.

4.4.2 Harm to consumers

In previous cases, CADE has initially looked for harm to the competitor which requires access to an essential asset in order to identify resulting harm to consumers (usually in the form of a price increase). In the television sector, where products (channels and mixes of channels) are not perfect substitutes of each other, CADE has not looked much further beyond similar competitors to assess the effects of the conduct. Therefore, in the hypothetical conduct, it is not clear if CADE would recognize competitive pressure from companies which offer services other than that of a search engine as enough to avoid damages to consumers, to the detriment of the dominant search engine. In fact, when defining the relevant market of a search engine, CADE has usually not looked much further beyond other search engines. Search engines would be the case, nevertheless, of part of a market with much more potential entrants, as other internet companies also possess much data, and this could be taken in account in a more in-depth analysis. This is a crucial difference to the more tangible sectors CADE usually deals with. Another specificity of the analysis of the hypothetical conduct is the absence of prices on the user side of the platform, which limits the collection of evidence of harm to competition.

4.4.3 Incentives for innovation in the long-term

CADE does not usually consider potential innovation in the assessment of effects of a refusal to deal, which could eventually favor non-dominant search engines. The only innovation aspect concerned in CADE's case law is commissioner Hebe Romano's opinion in TVA vs. Globo that forcing Globo to provide its channels to DirecTV could result in similar channel grids to the final consumer. This was a case, nevertheless, where the asset to which access is required was not considered essential for competition. In most of the other cases, the essentiality of the asset apparently rules out the possibility that innovation for accessing the input is taken into account. One more time, this could nonetheless be a consequence of the fact that the markets CADE usually deals with are not as dynamic as digital markets are and do not pose many potential for the discovery of new "productive processes".

5 CONCLUSION

The objective of this work, as laid out in chapter 1, was to compare Brazilian case law on refusal to deal to a hypothetical analysis of a conduct in which one dominant search engine denies access to its data by non-dominant search engines.

Search engines are smart tools to look for information in the internet, a necessary activity since the internet has grown big enough for people to trust they will find the information they want from websites they do not know. Search engines are based in a routine of crawling the web, indexing information and searching the indexed data any time a search query is given by the user so that they can present him or her with results. The results might also be construed after an analysis of the behavior of the user before results pages. This utilization of query logs makes them important for the improvement of search engines.

After an initial dispute between several search engines, Google, with its innovative way of classifying results, grew to be an incontestable leader in the western world, whereas it has smaller market shares in eastern countries. The company says its market shares do not mean it is not subject to competition from other websites, such as Amazon, with which it says it competes for the search of products and comparison of prices.

In recent years, data has become more and more important as it is each time more collected from ordinary people. Growth in the volume of data, the velocity of collection, the variety of information aggregated and the value of data make up what is called today as “big data”. The possession of great volumes of data creates competitive concerns, such as the ones exposed by the French and the German authorities in a joint paper²⁴⁵. Among the concerns, there is the possibility of refusal of access to data being used as a way to leave competitors out of the market when they are not able to collect relevant data in the same way.

That makes up the hypothesis of the conduct explored in the present work: dominant search engines not providing access to their search data to non-dominant rivals. “Search data” would be both the information indexed by a search engine to provide its results and the history of queries made by users and their response to the links in the results pages. Such a conduct is different from other conducts which have been object of investigations in many countries, such as the investigations on search bias and multi-homing (which do not concern access to data), the investigations on distribution agreements (which do not concern access to data from a dominant search engine), the investigations on scraping (which do not concern

²⁴⁵ AUTORITÉ DE LA CONCURRENCE; BUNDESKARTELLAMT, 2016.

direct access to rival's data). Although similar in rationale, it is also different from joint agreements made between search engines (such as the one between Bing and Yahoo) in that a restriction of access to search data is a refusal of access to data from the dominant firm, specifically, and not of non-dominant companies.

The assessment of the hypothetical conduct would not necessarily have to start with the definition of the relevant market involved, providing that it is possible to measure the effects of the conduct and the causal nexus between those effects and the conduct itself. Nevertheless, understanding the market is important for the assessment of effects. If Google's argument for the existence of competitive pressure from Amazon and others is admitted, harm to competing search engines would not necessarily mean harm to consumers, as Google could keep providing good services under the same conditions lest Amazon or other companies capture the market.

In any event, the evaluation of effects of the conduct is difficult due to the fact that search engines are multi-sided platform which serve different groups of clients at the same time: publishers and advertisers who want to be featured in results pages, and users who are looking for information. Actions on one side of the platform might produce effects not directly related to that side, as the other sides may also be impacted.

The main negative effect of a restriction of access to search data is the entrenchment of market power in one single company as a result of the network effects related to data collection. The more data is collected, the better might be the results, which attracts more users and both more data to be collected and more advertisers who will give money to be invested in the core algorithm of the search engine. It is not clear, nevertheless, if every query produces equally useful data for the improvement of a search engine. Moreover, it is difficult to tell if rival search engines are actually prevented of growing because of lack of access to the dominant firm's data (which is not necessarily impossible of being collected through other means) or due to other reasons (such as lack of proper investment in the platform).

The main positive effect of a restriction of access to search data is the subsistence of incentives for innovation in the search of sources of data, as the recognition of a duty to deal would give easy access to the same input. In the long-term, consumers could possibly be better-off if they could choose between search engines which operate over data collected in different ways.

From all the above considerations about the conduct, we propose three questions to be answered in order for a conduct of refusal of access to search data to be recognized as anti-competitive: (i) is the dominant firm's search data necessary for competition?; (ii) if so, are

consumers/competitors/etc. actually harmed by the limitation of non-dominant firm's businesses?; and (iii) if so, are consumers better-off with more competition between search data engines but less incentives for innovation in their services? How each of these questions are answered depends on public policy choices of competition agencies around the world.

In the case of the Brazilian competition agency, we conclude that the hypothetical conduct could be analyzed under Article 36 of the Brazilian Competition Act, with a similar assessment to that of previous refusal to deal cases. These previous cases usually consider the essentiality of an asset for competition in the downstream market for the recognition of a possible duty to deal. The essentiality of the dominant search engine's data for competition between search engines is, nevertheless, a difficult question which requires an in-depth technical analysis,

Case law indicates that a duty to deal would be recognized once an asset is recognized as essential for competition, although digital markets, due to its dynamism, might pose additional questions CADE is not used to ask itself: are consumers actually harmed by the refusal to deal or companies which do not provide search engine services could exert enough competitive pressure to avoid any harm? Is the consumer better-off when search engines have incentives to innovate in the search of sources of data?

A refusal to deal case concerning search data would require a careful study of the competitive conditions of the market. This also presents procedural challenges to the competition agency: will it be technically able to understand the market? Will it be able to make a decision in adequate time, before the market suffers irreparable damage?²⁴⁶

²⁴⁶ These are the challenges recognized by judge Posner in 2001: "Antitrust cases in new-economy industries present unusually difficult questions of fact because of the technical complexity of new-economy products and services. (...)

A further complication is that it is difficult to find competent neutral experts to advise the lawyers, judges, and enforcement agencies on technical questions in the new economy. There aren't that many competent experts and almost all of them are employed by or have other financial ties to firms involved in or potentially affected by antitrust litigation. (...)

(...)

The difficult factual questions presented by new-economy antitrust cases are not limited to technical areas. The presence in a single case of intellectual properties, network externalities, and rapid growth in consumer demand creates difficult questions involving the ascertainment and measurement of monopoly.

(...)

The rapidity of innovation in the new economy has another important institutional implication. (...) Antitrust litigation moves very slowly relative to the new economy. Law time is not real time (...), and the fact that litigation is conducted by lawyers before tribunals that are not technically trained or experienced inevitably slows the process.

The mismatch between law time and new-economy real time is deeply troubling. An antitrust case involving a new-economy firm may drag on for so long relative to the changing conditions of the industry as to become irrelevant, ineffectual. That was a problem even in the old economy. (...) And even if the case is rendered obsolete by the passage of time, its pendency may cast a pall over parties to and affected by the litigation, making investment riskier and complicating business planning.

Therefore, even though Brazilian competition law is able to offer remedies for a refusal of access to search data, a decision on the case would be difficult and should be constructed with uttermost care. In fact, the imposition of antitrust remedies in the case of recognition of a duty to provide access to search data poses yet further questions: what would be the price to be paid by non-dominant search engines to have access to the data? The recognition of a duty to deal could not be rendered moot by the imposition of unfair conditions for the provision of access.

These problems are aggravated by the tendency of antitrust litigation to create multiple lawsuits out of a single dispute (...) No sooner does the Antitrust Division bring a case, but the states and now the European union are likely to join the fray (...). The effect is to lengthen out the original lawsuit, complicate settlement, magnify and protract the uncertainty engendered by the litigation, and increase litigation costs”
POSNER, Richard A. **Antitrust law**. 2nd edition. Chicago: University of Chicago Press, 2009, p. 276-280.

REFERENCES

ADMINISTRATIVE COUNCIL FOR ECONOMIC DEFENSE (CADE). Resolução nº 20, de 9 de junho de 1999. **Official Journal of the Union**, Brasília, 28 Jun. 1999. Retrieved from <<http://www.cade.gov.br/assuntos/normas-e-legislacao/resolucao/resolucao-no-20-de-9-de-junho-de-1999.pdf/@@download/file/Resolu%C3%A7%C3%A3o%20n%C2%BA%2020,%20de%201999.pdf>>. Accessed on 17 Nov. 2017.

_____. **Administrative Proceeding No. 53500.000359/1999**. Parties: TVA Sistema de Televisão S/A and TV Globo Ltda. and TV Globo São Paulo Ltda. Commissioner-Rapporteur: João Bosco Leopoldino da Fonseca. Brasília, 20 Jun. 2001.

_____. **Administrative Proceeding No. 08000.022579/1997-05**. Parties: Messer Grieshem do Brasil Ltda. and S.A. White Martins. Commissioner-Rapporteur: Celso Fernandes Campilongo. Brasília, 26 Jun. 2002.

_____. **Administrative Proceeding No. 08012.000172/1998-42**. Parties: Power-Tech Teleinformática Ltda. and Damovo do Brasil S.A. Commissioner-Rapporteur: Celso Fernandes Campilongo. Brasília, 26 Mar. 2003.

_____. **Administrative Proceeding No. 08012.007443/1999-17**. Parties: Secretariat of Economic Law and Terminal para Contêineres da Margem Direita - TECONDI, Santos Libra Terminais S/A - Terminal 37, Rio Cubatão Logística Portuária Ltda. and Santos Brasil - TECON. Commissioner-Rapporteur: Luiz Carlos Delorme Prado. Brasília, 27 Apr. 2005.

_____. **Administrative Proceeding No. 08012.003048/2001-31**. Parties: Associação Neo TV and Globosat Programadora Ltda. and Globo Comunicações e Participações Ltda. Commissioner-Rapporteur: Paulo Furquim de Azevedo. Brasília, 31 Mai. 2006.

_____. **Merger No. 08012.005478/2006-01**. Parties: Buscapé Informação e Tecnologia Ltda. and BondFaro.com S.A. Commissioner-Rapporteur: Luiz Carlos Delorme Prado. Brasília, 10 Oct. 2007.

_____. **Merger No. 08012.005304/2007-11**. Parties: Google Inc. and Click Holding Group. Commissioner-Rapporteur: Fernando de Magalhães Furlan. Brasília, 23 Apr. 2008.

_____. **Merger No. 08012.006419/2009-94**. Parties: Microsoft Corporation and Yahoo! Inc. Commissioner-Rapporteur: Fernando de Magalhães Furlan. Brasília, 16 Dec. 2009.

_____. **Preliminary Investigation No. 08012.011463/2007-54**. Parties: Prontomed Sociedade Simples and Santa Casa de Arcos. Commissioner-Rapporteur: Carlos Emmanuel Joppert Ragazzo. Brasília, 20 Jan. 2011.

_____. **Merger No. 08012.009089/2011-11**. Parties: Serasa S.A., Confederação Nacional de Dirigentes Lojistas and Serviço Nacional de Proteção ao Crédito. Commissioner-Rapporteur: Eduardo Pontual Ribeiro. Brasília, 14 Oct. 2013a.

_____. **Cade investiga supostas práticas anticompetitivas do Google no mercado brasileiro de buscas online**, 11 Oct. 2013b. Retrieved from <<http://www.cade.gov.br/noticias/cade-investiga-supostas-praticas-anticompetitivas-do-google-no-mercado-brasileiro-de-buscas-online>>. Accessed on 15 Nov. 2017.

_____. **Administrative Proceedings Nos. 08012.010483/2011-94 and 08700.009082/2013-03**. Parties: E-Commerce Media Group Informação e Tecnologia Ltda. and Google Inc. and Google Brasil Internet Ltda. Decision of the General Superintendence to initiate Administrative Proceedings. Brasília, 10 Oct. 2013c.

_____. **Administrative Proceeding No. 08700.005694/2013-19**. Parties: General Superintendence and Google Inc. and Google Brasil Internet Ltda. Decision of the General Superintendence to initiate the Administrative Proceeding. Brasília, 10 Oct. 2013d.

_____. **Administrative Proceeding No. 08012.007505/2002-48**. Parties: Líder Signature S.A and Helicópteros do Brasil S.A - Helibras. Opinion of the General Superintendence to close the Administrative Proceeding. Brasília, 21 Jan. 2015a.

_____. **Administrative Proceeding No. 08012.010208/2005-22**. Parties: Empresa de Cimentos Liz S.A. and Intercement Brasil S/A. Commissioner-Rapporteur: Ana de Oliveira Frazão Vieira de Mello. Brasília, 3 Jul. 2015b.

_____. **Guia para Análise de Atos de Concentração Horizontal**. Brasília, Jul. 2016a. Retrieved from <http://www.cade.gov.br/aceso-a-informacao/publicacoes-institucionais/guias_do_Cade/guia-para-analise-de-atos-de-concentracao-horizontal.pdf>. Accessed on 21 Nov. 2017.

_____. **Merger No. 08700.006084/2016-85**. Parties: Microsoft Corporation and LinkedIn Corporation. Decision of the General Superintendence to unconditionally approve the case. Brasília, 21 Sep. 2016b.

ANDERS, Eduardo Caminati et al. **Nova Lei de Defesa da Concorrência Comentada: Lei 12.529, de 30 de novembro de 2011**. São Paulo: Editora Revista dos Tribunais, 2011.

ARGENTON, Cédric; PRÜFER, Jens. Search engine competition with network externalities. **Journal of Competition Law and Economics**, v. 8, n. 1, p. 73-105, 2012.

ATHAYDE, Amanda. As três ondas do antitruste no Brasil. In: **Jota**, 1 Nov. 2017. Retrieved from <<https://jota.info/artigos/as-tres-ondas-do-antitruste-no-brasil-01112017>>. Accessed on 20 Nov. 2017. Paula Forgioni also has similar expectations. See FORGIONI, op. cit., p. 125.

AUTORITÉ DE LA CONCURRENCE; BUNDESKARTELLAMT. **Competition Law and Data**. 10 May 2016. Retrieved from <<http://www.autoritedelaconurrence.fr/doc/reportcompetitionlawanddatafinal.pdf>>. Accessed on 6 nov. 2017.

BAKER, Jonathan B. Product differentiation through space and time: some antitrust policy issues. In: **The Antitrust Bulletin**, v. 42, No. 1, p. 177-196, 1997.

BAKER, Loren. Ask.com & Google Sign \$3.5 Billion Search Advertising Deal. **Search Engine Journal**, 6 Nov. 2007. Retrieved from <<https://www.searchenginejournal.com/askcom-google-sign-35-billion-search-advertising-deal/5951/>>. Accessed on 16 Nov. 2017.

BERARDO, José Carlos da Matta; ROSENBERG, Barbara. Brazil. In: CRANE, Daniel; EZRACHI, Ariel; SOKOL, D Daniel (Eds.). **Global Antitrust Compliance Handbook**. Oxford: Oxford University Press, 2014, p. 66.

BRACHA, Oren; PASQUALE, Frank. Federal Search Commission: Access, Fairness, and Accountability in the Law of Search. In: **Cornell L. Rev.**, v. 93, p. 1149, 2007.

BRAMMER, Lynnette et al. Detecting influenza epidemics using search engine query data. **Nature**, v. 457, No. 7232, p. 1012-1014, 2009.

BRAZIL. Law No. 8.884 of June 11, 1994. **Official Journal of the Union**, Brasilia, 13 Jun. 1994. Translated by the Administrative Council for Economic Defense. Retrieved from <<http://en.cade.gov.br/topics/legislation/laws/law-8884-1994b.pdf/@download/file/Law-8884-1994b.pdf>>. Accessed on 25 Nov. 2017.

_____. Law No. 9.021 of March 30, 1995. **Official Journal of the Union**, Brasilia, 31 Mar. 1995.

_____. SEAE and SDE's Joint Decree No. 50 of August 1, 2001. **Official Journal of the Union**. Brasilia, 17 Aug. 2001. Retrieved from <http://www.cade.gov.br/assuntos/normas-e-legislacao/portarias/2001portariaconjunta50-1_guia_para_analise_economica_de_atos_de_concentracao.pdf/@download/file/2001portariaConjunta50-1_guia_para_analise_economica_de_atos_de_concentracao.pdf>. Accessed on 17 Nov. 2017.

_____. Law No. 12.529 of November 30, 2011. **Official Journal of the Union**, Brasilia, 2 Dec. 2011. Translated by Administrative Council for Economic Defense. Retrieved from <[http://en.cade.gov.br/topics/legislation/laws/law-no-12529-2011-english-version-from-18-05-2012.pdf/@download/file/LAW%20N%C2%BA%2012529%202011%20\(English%20version%20from%2018%2005%202012\).pdf](http://en.cade.gov.br/topics/legislation/laws/law-no-12529-2011-english-version-from-18-05-2012.pdf/@download/file/LAW%20N%C2%BA%2012529%202011%20(English%20version%20from%2018%2005%202012).pdf)>. Accessed on 17 Nov. 2017.

BRIN, Sergey; PAGE, Lawrence. Reprint of: The anatomy of a large-scale hypertextual web search engine. **Computer networks**, v. 56, n. 18, p. 3825-3833, 2012.

BROWN, Brad et al. Big data: the next frontier for innovation, competition, and productivity. **McKinsey Global Institute**, 2011.

_____; CHUI, Michael; MANYIKA, James. Are you ready for the era of 'big data'? **McKinsey Quarterly**, oct. 2011. Retrieved from <<https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/are-you-ready-for-the-era-of-big-data>>. Accessed on 6 nov. 2017.

BUNDESKARTELLAMT. **Big Data und Wettbewerb**. 6 Oct. 2017. Retrieved from <http://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Schriftenreihe_Digitales/Schriftenreihe_Digitales_1.pdf?__blob=publicationFile&v=3>. Accessed on 30 nov. 2017.

CASAGRANDE, Paulo Leonardo; PEREIRA NETO, Caio Mário da Silva. **Direito Concorrencial**. São Paulo: Saraiva, 2016.

COASE, Ronald. The nature of the firm. In: **Economica**, London, No. 4, fasc. 16, p. 386-406, 1937.

COLBOW, Brad. A brief history of search engines. **YouTube**, 26 apr. 2014. Retrieved from <<https://youtu.be/VWQ34IEsd0c>>. Accessed on 5 nov. 2017.

COMPETITION BUREAU. **Competition Bureau statement regarding its investigation into alleged anti-competitive conduct by Google**, 19 Apr. 2016. Retrieved from <<http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04066.html>>. Accessed on 15 Nov. 2017.

_____. **Big data and Innovation: Implications for Competition Policy in Canada**, 18 set. 2017. Retrieved from <[http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/Big-Data-e.pdf/\\$file/Big-Data-e.pdf](http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/Big-Data-e.pdf/$file/Big-Data-e.pdf)>. Accessed on 7 nov. 2017.

COOPER, Michael; MELL, Peter. Tackling big data. **NIST information technology laboratory computer security division**, 2012.

CUKIER, Kenneth; MAYER-SCHONBERGER, Viktor. Now. In: _____. **Big Data: The Essential Guide to Work, Life and Learning in the Age of Insight**. London: John Murray, 2017.

DATA. **Merriam-Webster.com**, [n.d.].a. Retrieved from <<https://www.merriam-webster.com/dictionary/data>>. Accessed on 2 nov. 2017.

DATA. **Oxford Dictionaries**, [n.d.].b. Retrieved from <<https://en.oxforddictionaries.com/definition/data>>. Accessed on 2 nov. 2017.

DATA is giving rise to a new economy. **The Economist**, 6 May 2017. Retrieved from <<https://www.economist.com/news/briefing/21721634-how-it-shaping-up-data-giving-rise-new-economy>>. Accessed on 6 nov. 2017.

DEPARTMENT OF JUSTICE. **Statement of the Department of Justice Antitrust Division on Its Decision to Close Its Investigation of the Internet Search and Paid Search Advertising Agreement Between Microsoft Corporation and Yahoo! Inc.**, 18 Feb. 2010. Retrieved from <<https://www.justice.gov/opa/pr/statement-department-justice-antitrust-division-its-decision-close-its-investigation-internet>>. Accessed on 16 Nov. 2017.

DUCKDUCKGO. **About Us**, [n.d.]. Retrieved from <<https://duckduckgo.com/about>>. Accessed on 7 nov. 2017.

EUROPEAN COMMISSION. Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive

exclusionary conduct by dominant undertakings. **Official Journal of the European Union**, Brussels, 24 Feb. 2009. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2009.045.01.0007.01.ENG&toc=OJ:C:2009:045:TOC>. Accessed on 17 Nov. 2017.

_____. **Mergers: Commission clears Microsoft's proposed acquisition of the Yahoo search business**, 18 Feb. 2010a. Retrieved from <http://europa.eu/rapid/press-release_IP-10-167_en.htm>. Accessed on 16 Nov. 2017.

_____. **Case No. COMP/M.5727**. Parties: Microsoft Corporation and Yahoo! Inc. Decision signed by Joaquín Almunia, Vice-President of the Commission. Brussels, 18 Feb. 2010b. Available _____ at <http://ec.europa.eu/competition/mergers/cases/decisions/M5727_20100218_20310_261202_EN.pdf>. Accessed on 16 Nov. 2017.

_____. **Antitrust: Commission takes further steps in investigations alleging Google's comparison shopping and advertising-related practices breach EU rules**, 14 Jul. 2016a. Retrieved from <http://europa.eu/rapid/press-release_IP-16-2532_en.htm>. Accessed on 15 Nov. 2017.

_____. **Case No. COMP/M.8124**. Parties: Microsoft Corporation and LinkedIn Corporation. Decision signed by Margrethe Vestager, European Commissioner for Competition. Brussels, 6 Dec. 2016b. Available _____ at <http://ec.europa.eu/competition/mergers/cases/decisions/m8124_1349_5.pdf>. Accessed on 28 Nov. 2017.

_____. **Clearing the path for innovation**, 7 Nov. 2017a. Retrieved from <https://ec.europa.eu/commission/commissioners/2014-2019/vestager/announcements/clearing-path-innovation_en>. Accessed on 29 Nov. 2017.

_____. **Antitrust: Commission fines Google €2.42 billion for abusing dominance as search engine by giving illegal advantage to own comparison shopping service**, 27 Jun. 2017b. Retrieved from <http://europa.eu/rapid/press-release_IP-17-1784_en.htm>. Accessed on 15 Nov. 2017.

EUROPEAN ECONOMIC COMMUNITY. Court of Justice of the European Communities. **Case 22/78**. Parties: Hugin Kassaregister AB and Hugin Cash Registers Ltd. and Commission of the European Communities. Judgement of the Court. Luxembourg, 31 May. 1979. Retrieved _____ from _____ <<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:61978CJ0022>>. Accessed on 26 Nov. 2017.

_____. Court of Justice of the European Communities. **Case 322/81**. Parties: NV Nederlandsche Banden Industrie Michelin and Commission of the European Communities. Judgement of the Court. Luxembourg, 9 Nov. 1983. Retrieved from: <<http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:61981CJ0322&from=EN>> Accessed on 18 Nov. 2017.

_____. Court of First Instance. **Case No. T-201/04**. Parties: Microsoft Cop. and Commission of the European Communities. Judgement of the Court. Luxembourg, 17 Sep. 2017. Retrieved

from:

<<http://curia.europa.eu/juris/document/document.jsf?text=&docid=62940&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=306587>>. Accessed on 18 Nov. 2017.

EVANS, David. S. The Antitrust Economics of Two-Sided Markets. In: **SSRN**, 14 Nov. 2002. Retrieved from <<https://ssrn.com/abstract=332022>>. Accessed on 26 Nov. 2017.

_____; NOEL, Michael D. Defining Markets that Involve Multi-Sided Platform Businesses: An Empirical Framework with an Application to Google's Purchase of DoubleClick. **SSRN**, 2007. Retrieved from <<https://ssrn.com/abstract=1027933>>. Accessed on 18 Nov. 2017.

FEDERAL TRADE COMMISSION. **Google Agrees to Change Its Business Practices to Resolve FTC Competition Concerns In the Markets for Devices Like Smart Phones, Games and Tablets, and in Online Search**, 3 Jan. 2013a. Retrieved from <<https://www.ftc.gov/news-events/press-releases/2013/01/google-agrees-change-its-business-practices-resolve-ftc>>. Accessed on 15 Nov. 2017.

_____. **File No. 111-0163**. In the matter of Google Inc. Statement of the Commission. Washington, D.C., 3 Jan. 2013b. Retrieved from <<https://www.ftc.gov/public-statements/2013/01/statement-commission-regarding-googles-search-practices>>. Accessed on 16 Nov. 2017.

FILHO, Calixto Salomão. **Direito Concorrencial**. São Paulo: Malheiros, 2013.

FILIPOWICZ, Luke; GIL, Lory. How to access and use Siri Search Suggestions (Spotlight) on your iPhone and iPad. **iMore**, 26 Oct. 2017. Retrieved from <<https://www.imore.com/how-access-and-use-siri-search-suggestions-spotlight-your-iphone-and-ipad>>. Accessed on 18 Nov. 2017.

FOLEY, Mary Jo. Microsoft: 'We do not copy Google's results'. **ZDNet**, 1 Feb 2011. Retrieved from <<http://www.zdnet.com/article/microsoft-we-do-not-copy-googles-results/>>. Accessed on 16 Nov. 2017.

FORGIONI, Paula A. **Os Fundamentos do Antitruste**. 7th ed. São Paulo: Editora Revista dos Tribunais, 2014.

_____. **Os Fundamentos do Antitruste**. 8th ed. São Paulo: Editora Revista dos Tribunais, 2015.

FRAZÃO, Ana. **Direito da Concorrência: Pressupostos e perspectivas**. São Paulo: Saraiva, 2017.

GONÇALVES, Priscila Brólio. **A obrigatoriedade de contratar como sanção fundada no direito concorrencial brasileiro**. 2008. Doctoral Thesis-Law School, University of São Paulo, São Paulo, 2008.

GOOGLE. How Google Search Works. **Search Console Help**, [n.d.]. Retrieved from <<https://support.google.com/webmasters/answer/70897>>. Accessed on 5 nov. 2017.

_____. Discover how easy it is to use AdSense. **Google AdSense**, [n.d.]b. Retrieved from <<https://www.google.com/intl/en/adsense/start/how-it-works/>>. Accessed on 6 nov. 2017.

_____. Google to Acquire DoubleClick. In: **News from Google**, 13 Apr. 2007. Retrieved from <http://googlepress.blogspot.com.br/2007/04/google-to-acquire-doubleclick_13.html>. Accessed on 21 Nov. 2017.

_____. The Next Chapter for Flu Trends. **Google Research Blog**, 20 Aug. 2015. Retrieved from <<https://research.googleblog.com/2015/08/the-next-chapter-for-flu-trends.html>>. Accessed on 6 nov. 2017.

GRUNES, Allen; Maurice, Stucke. Defining Big Data. In: _____. **Big Data and Competition Policy**. Oxford: Oxford University Press, 2016.

HOVENKAMP, Herbert. **Federal Antitrust Policy: The law of competition and its practice**. Saint Paul: Thomson West, 2005.

JANSEN, Bernard J. et al. Real life information retrieval: A study of user queries on the web. In: **ACM SIGIR Forum**, vol. 32, No. 1. ACM, 1998. p. 5-17.

JIANG, Hui et al. Energy big data: A survey. **IEEE Access**, v. 4, p. 3844-3861, 2016.

JONES, Alison; SUFRIN, Brenda. **EU Competition Law: Text, Cases, and Materials**. 6th edition. Oxford: Oxford University Press, 2016.

LAMBRECHT, Anja; TUCKER, Catherine E. Can Big Data Protect a Firm from Competition? In: **SSRN**, 22 Dec. 2015. Retrieved from <<https://ssrn.com/abstract=2705530>>. Accessed on 18 Nov. 2017.

LEINER, Barry M. et al. A brief history of the Internet. **ACM SIGCOMM Computer Communication Review**, v. 39, n. 5, p. 22-31, 2009.

LERNER, Andres V. The Role of “Big Data” in Online Platform Competition. **SSRN**, 27 Aug. 2014. Retrieved from <<https://ssrn.com/abstract=2482780>>. Accessed on 18 nov. 2017.

LEVENE, Mark. **An Introduction to Search Engines and Web Navigation**. Hoboken: John Wiley & Sons, 2010.

LIANOS, Ioannis; MOTCHENKOVA, Evgenia. Market dominance and search quality in the search engine market. **Journal of Competition Law & Economics**, v. 9, No. 2, p. 451, 2013.

MICROSOFT CORPORATION. **2009 Annual Report**, 2009, p. 78. Retrieved from <https://www.microsoft.com/investor/reports/ar09/downloads/MS_2009_AR.doc>. Accessed on 17 Nov. 2017.

_____. **2011 Annual Report**, 2011. Retrieved from <<https://www.microsoft.com/investor/reports/ar11/docs/2011%20Annual%20Report.doc>>. Accessed on 17 Nov. 2017.

_____. **2014 Annual Report**, 2014. Retrieved from <https://www.microsoft.com/investor/reports/ar14/docs/2014_Annual_Report.docx>. Accessed on 17 Nov. 2017

_____. **2016 Annual Report**, 2016. Retrieved from <https://www.microsoft.com/investor/reports/ar16/docs/2016_Annual_Report.docx>. Accessed on 17 Nov. 2017.

MOCKAPETRIS, Paul; DUNLAP, Kevin J. Development of the domain name system. **ACM**, v. 18, No. 4, p. 123-133, 1988.

MONOPOLKOMMISSION. **Competition policy: the challenge of digital markets**, 2015. Retrieved from: <http://www.monopolkommission.de/images/PDF/SG/s68_fulltext_eng.pdf>. Accessed on 30 Nov. 2017.

MOTTA, Massimo; SALGADO, Lúcia Helena. **Política de concorrência: teoria e prática e sua aplicação no Brasil**. Rio de Janeiro: Elsevier, 2015.

NATARAJAN, Armanath. AOL Decides To Close DMOZ. After 19 Years, It Is Time To Say Good Bye. **Prime Inspiration**, 6 mar. 2017. Retrieved from <<https://www.primeinspiration.com/aol-decides-close-dmoz-19-years-time-say-good-bye.html>>. Accessed on 7 nov. 2017.

NAZZINI, Renato. Legal Foundations. In: _____. **The Foundations of European Union Competition Law: The Objective and Principles of Article 102**. Oxford: Oxford University Press, 2011, p. 150-151.

NEWMAN, Nathan. Search, Antitrust, and the Economics of the Control of User Data. In: **Yale Journal on Regulation**, v. 31, p. 401, 2014.

OFFICE OF THE MISSOURI ATTORNEY GENERAL. **AG Hawley Issues Investigative Demands to Google, Inc.**, 13 Nov. 2017. Retrieved from <<https://www.ago.mo.gov/home/breaking-news/ag-hawley-issues-investigative-demands-to-google-inc->>. Accessed on 15 Nov. 2017.

OHLHAUSEN, Maureen. Keynote Address. In: BRIEFING ON BIG DATA, PRIVACY, AND ANTITRUST, 2017, Arlington. **Welcome & Keynote Address**. Retrieved from: <<https://vimeo.com/122601187>>. Accessed on: 30 Nov. 2017, 44:14:00.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. Competition Committee. **Two-sided markets**. 17 Dec. 2009. Retrieved from <<http://www.oecd.org/daf/competition/44445730.pdf>>. Accessed on 18 Nov. 2017.

_____. **Competition Law and Policy in Brazil: a Peer Review**. 14 May 2010. Retrieved from <<http://www.oecd.org/daf/competition/45154362.pdf>>. Accessed on 20 Nov 2017.

_____. **Big Data for Growth and Well-Being: Interim Synthesis Report**. Oct. 2014.

_____. **Big Data**: Bringing competition policy to the digital era, 27 Oct. 2016. Retrieved from <[https://one.oecd.org/document/DAF/COMP\(2016\)14/en/pdf](https://one.oecd.org/document/DAF/COMP(2016)14/en/pdf)>. Accessed on 30 Nov. 2017.

PABLO, Alfonso Lamadrid de. The double duality of two-sided markets. In: **Competition Law Journal**, v. 64, p. 5-18, 2015. Retrieved from: <https://antitrustlair.files.wordpress.com/2015/05/the-double-duality-of-two-sided-markets_clj_lamadrid.pdf>. Accessed on 18 Nov. 2017.

PASQUALE, Frank. Privacy, antitrust, and power. **Geo. Mason L. Rev.**, v. 20, p. 1009, 2012.

POLLOCK, Rufus. Is Google the next Microsoft: competition, welfare and regulation in online search. In: **Review of Network Economics**, v. 9, No. 4, 2010.

POSNER, Richard A. **Antitrust law**. 2nd edition. Chicago: University of Chicago Press, 2009

REP. Ellison letter to the Federal Trade Commission on Google investigation. **Congressman Keith Ellison**, 11 Oct. 2017. Retrieved from <<https://ellison.house.gov/media-center/press-releases/rep-ellison-letter-to-the-federal-trade-commission-on-google>>. Accessed on 30 Nov. 2017.

ROCHET, Jean-Charles; TIROLE, Jean. Platform Competition in Two-Sided Markets. **Journal of the european economic association**, v. 1, no. 4, p. 990-1029, 2003.

_____; TIROLE, Jean. Two-sided markets: a progress report. In: **The RAND journal of economics**, v. 37, No. 3, p. 645-667, 2006.

SALINGER, Michael A.; LEVINSON, Robert J. **The Role for Economic Analysis in the FTC's Google Investigation**. 2013. Retrieved from <http://awards.concurrences.com/IMG/pdf/salinger_economics_of_google_and_antitrust_case_searle_conference_version.pdf>. Accessed on 7 nov. 2017.

SCHWARTZ, Barry. Google officially stops using DMOZ for source of search results snippets. **Search Engine Land**, 2 jun. 2017. Retrieved from <<https://searchengineland.com/google-officially-stops-using-dmoz-source-search-results-snippets-276205>>. Accessed on 7 nov. 2017.

SCHWARTZ, Candy. Web search engines. **Journal of the Association for Information Science and Technology**, v. 49, n. 11, p. 973-982, 1998.

SEYMOUR, Tom; FRANTZVOG, Dean; KUMAR, Satheesh. History of search engines. **International Journal of Management and Information Systems**, v. 15, n. 4, p. 47, 2011.

SHERMAN, Chris; PRICE, Gary. Information seeking on the visible web. In: _____. **The invisible Web**: Uncovering information sources search engines can't see. Medford: Information Today, Inc., 2001.

SHUM, Harry. Thoughts on search quality. **Bing Search Blog**, 1 Feb 2011. Retrieved from <<https://blogs.bing.com/search/2011/02/01/thoughts-on-search-quality>>. Accessed on 16 Nov. 2017.

SILVERSTEIN, Craig et al. Analysis of a very large web search engine query log. In: **ACM SIGIR Forum**, vol. 33, No. 1. ACM, 1999. p. 6-12.

SINGHAL, Amit. Microsoft's Bing uses Google search results—and denies it. **Official Google Blog**, 1 Feb. 2011. Retrieved from <<https://googleblog.blogspot.com.br/2011/02/microsofts-bing-uses-google-search.html>>. Accessed on 16 Nov. 2017.

SOKOL, D. Daniel. The Broader Implications of Merger Remedies in High Technology Markets. **Competition Policy International**, 16 Dec. 2014. Retrieved from <<https://www.competitionpolicyinternational.com/the-broader-implications-of-merger-remedies-in-high-technology-markets/>>. Accessed on 18 Nov. 2017.

_____; COMERFORD, Roisin E. Does antitrust have a role to play in regulating big data? In: BLAIR, R.; SOKOL, D. Daniel (eds.). **The Cambridge Handbook of Antitrust, Intellectual Property, and High Tech**. Cambridge: Cambridge University Press, 2017, p. 293-316.

STATCOUNTER. About. **StatCounter Global Stats**, [n.d.]a. Retrieved from <<http://gs.statcounter.com/about>>. Accessed on 7 nov. 2017.

_____. Search Market Share. **StatCounter Global Stats**, [n. d]b. Retrieved from <<http://gs.statcounter.com/search-engine-market-share>>. Accessed on 17 nov. 2017.

_____. Search Market Share. **StatCounter Global Stats**, [n. d]b. Retrieved from <<http://gs.statcounter.com/search-engine-market-share>>. Accessed on 7 nov. 2017.

STERLING, Greg. Google Wins Vertical Search Antitrust Case In Germany. **Search Engine Land**, 7 May 2013. Retrieved from <<http://searchengineland.com/google-wins-vertical-search-antitrust-case-in-germany-158544>>. Accessed on 15 Nov. 2017.

_____. Yahoo-Bing Reach New Search Deal; Yahoo Gains Right To Serve Search Ads On The PC. **Search Engine Land**, 16 Apr. 2016. Retrieved from <<https://searchengineland.com/yahoo-bing-renegotiate-search-deal-yahoo-gains-right-to-serve-search-ads-on-the-pc-219020#>>. Accessed on 16 Nov. 2017.

STIEBEN, Danny. The Archie Search Engine: the World's first search!. **MakeUseOf**, 20 May 2013. Retrieved from <<http://www.makeuseof.com/tag/the-archie-search-engine-the-worlds-first-search/>>. Accessed on 2 nov. 2017.

SULLIVAN, Danny. The Microsoft-Yahoo Search Deal, In Simple Terms. **Search Engine Land**, 30 Jul. 2009. Retrieved from <<https://searchengineland.com/microsoft-yahoo-search-deal-simplified-23299>>. Accessed on 16 Nov. 2017.

_____. Bing: Why Google's Wrong In Its Accusations. **Search Engine Land**, 4 Feb. 2011. Retrieved from <<https://searchengineland.com/bing-why-googles-wrong-in-its-accusations-63279>>. Accessed on 16 Nov. 2017.

_____. A Eulogy For AltaVista, The Google Of Its Time. **Search Engine Land**, 28 jun. 2013. Retrieved from <<https://searchengineland.com/altavista-eulogy-165366>>. Accessed on 7 nov. 2017.

THE ECONOMIST. Print Edition: May 6th 2017. **The data economy demands a new approach to antitrust**, 6 May 2017. Retrieved from <<https://www.economist.com/printedition/2017-05-06>>. Accessed on 29 Nov. 2017.

THE WORLD'S most valuable resource is no longer oil, but data. **The Economist**, 6 May 2017. Retrieved from <<https://www.economist.com/news/leaders/21721656-data-economy-demands-new-approach-antitrust-rules-worlds-most-valuable-resource>>. Accessed on 6 nov. 2017.

TIKU, Natasha. Yelp claims Google broke promise to antitrust regulators. In: **WIRED**, 12 Sep. 2017. Retrieved from <<https://www.wired.com/story/yelp-claims-google-broke-promise-to-antitrust-regulators/>>. Accessed on 30 Nov. 2017.

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND. England and Wales High Court of Justice. **Case No. HC-2013-000090**. Parties: Streetmap.eu Limited and Google Inc., Google Ireland Limited and Google UK Limited. Judgement from Mr. Justice Roth. London, 12 Fev. 2016. Retrieved from <<http://www.bailii.org/ew/cases/EWHC/Ch/2016/253.html>>. Accessed on 15 Nov. 2017.

UNITED STATES OF AMERICA. Supreme Court. **250 U.S. 300**. Parties: United States of America and Colgate & Co. Opinion of the Court written by Justice McReynolds. Washington, D.C., 2 Jun. 1919. Retrieved from: <<https://supreme.justia.com/cases/federal/us/250/300/case.html>>. Accessed on 20 Nov. 2017.

_____. Supreme Court. **504 U.S. 451**. Parties: Eastman Kodak Co. and Image Technical Services, Inc. Opinion of the Court written by Justice Blackmun. Washington, D.C., 8 Jun. 1992. Retrieved from: <<https://supreme.justia.com/cases/federal/us/504/451/case.html>>. Accessed on 26 Nov. 2017.

_____. Supreme Court. **540 U.S. 398**. Parties: Verizon Communications Inc. and Law Offices of Curtis V. Trinko, LLP. Opinion of the Court written by Justice Scalia. Washington, D.C., 13 Jan. 2004. Retrieved from: <<https://supreme.justia.com/cases/federal/us/540/02-682/opinion.html>>. Accessed on 18 Nov. 2017.

WALKER, Kent. Improving Quality Isn't Anti-Competitive, Part II. **Google Blog**, 3 nov. 2016. Retrieved from <<https://www.blog.google/topics/google-europe/improving-quality-isnt-anti-competitive-part-ii/>>. Accessed on 7 nov. 2017.

WANG, Su-Wan; WANG, Elizabeth Xiao-Ru. Focus on Innovation: a review of the Taiwan Fair Trade Commission's investigation on Google Maps. **Competition Policy International**, 17 July 2016. Retrieved from <<https://www.competitionpolicyinternational.com/focus-on-innovation-a-review-of-the-taiwan-fair-trade-commissions-investigation-on-google-maps/>>. Accessed on 15 Nov. 2017.

WORLDSTREAM. **The History of Search Engines**, [n.d.]. Retrieved from <<http://www.wordstream.com/articles/internet-search-engines-history>>. Accessed on 7 nov. 2017.

YOUNG, Rob D. Google Directory Has Been Shut Down. **Search Engine Watch**, 25 jul. 2011. Retrieved from <<https://searchenginewatch.com/sew/news/2096661/google-directory-shut>>. Accessed on 7 nov. 2017.

APPENDIX A - Cases cited in the consulted sources and the reason for their non-inclusion in topic 4.3

Case file No.	Parties	Judgement date	Found in...	Selected as a refusal to deal comparable to the hypothetical conduct? If not, why so?
53500.000359/ 1999	TVA vs. Globo	20/06/2001	GONÇALVES, 2008, p. 258-277; MOTTA; SALGADO, 2015, p. 49; CASAGRANDE; PEREIRA NETO, 2016, p. 165; FRAZÃO, 2017, p. 467-470	Yes
08000.022579/ 1997-05	Messer Grieshem vs. White Martins	26/06/2002	GONÇALVES, 2008, p. 258-277; FRAZÃO, 2017, p. 467-471	Yes
08012.000172/ 1998-42	Power-tech vs. Matec	26/03/2003	GONÇALVES, 2008, p. 258-277	Yes
08012.007443/ 1999-17	SDE vs. TECONDI, Libra Terminais, Usiminas and Tecon	27/04/2005	GONÇALVES, 2008, p. 258-277	Yes
08012.003048/ 2001-31	Associação Neo TV vs. Globosat and Globopar	31/05/2006	GONÇALVES, 2008, p. 258-277; BERARDO; ROSENBERG, 2014	Yes

08012.010208/ 2005-22	Cimento Liz vs. Camargo Correa	03/07/2015	FRAZÃO, 2017, p. 467-472	Yes
08012.007505/ 2002-48	Líder vs. Helibras	Not judged yet	GONÇALVES, 2008, p. 258-277	No: there is no final decision yet. The case is referenced in a footnote.
08012.000391/ 1998-86	Sourcotech vs. Merck	29/04/2009	GONÇALVES, 2008, p. 258-277	No: the case was closed based on the statute of limitations and the merits were never analyzed.
08700.001291/ 2003-29	Embratel vs. Brasil Telecom	16/12/2004	CASAGRANDE; PEREIRA NETO, 2016, p. 165	No: it was about price discrimination; the accused company did not operate in the downstream market.
08012.007897/ 2005-98	Refinaria de Manguinhos and Reginaria Ipiranga vs. Petrobras	24/07/2008	GONÇALVES, 2008, p. 258-277	No: it was about predatory pricing, price discrimination and cross- sector subsidies.
08012.003303/ 1998-25	Philio Morris vs. Souza Cruz	13/09/2000	GONÇALVES, 2008, p. 258-277	No: it was about exclusivity contracts.

08012.009991/ 1998-82	Shopping Center Jardim Sul vs. Shoppint Center Iguatemi	03/03/2004	GONÇALVES, 2008, p. 258-277	No: it was about exclusivity contracts.
08012.003805/ 2004-10	Schnicariol vs. AMBEV	22/07/2009	GONÇALVES, 2008, p. 258-277	No: it was about exclusivity contracts and rebates.
08012.006504/ 1997-11	Chandre de Araújo Costa, José Cândido de Carvalho Júnior and Rogério Santos Muniz vs. Globo, Clube dos Treze, Clube dos Onze and several soccer teams	20/10/2010	MOTTA; SALGADO, 2015, p. 49	No: it was about exclusivity contracts and collusive practice.
08012.008224/ 1998-38	ABRIVE vs. Several insurance companies	28/08/2013	GONÇALVES, 2008, p. 258-277	No: it was about exclusivity contracts and collusive practice.

08000.022500/ 1996-66	American Express vs. Visa	19/06/2002	GONÇALVES, 2008, p. 258-277	No: it was about exclusivity and the case was closed because the conduct was never implemented in Brazil.
08012.011924/ 1999-17	Unimed Litoral Sul Paulista vs. Several hospitals	26/09/2012	BERARDO; ROSENBERG, 2014	No: it was about collusive practice and the accused companies did not operate in the downstream market.
08012.011463/ 2007-54	Prontomed vs. Santa Casa de Arcos	19/01/2011	BERARDO; ROSENBERG, 2014	No: the accused company did not operate in the downstream market. The case is referenced in a footnote.
08012.008024/ 1998-49	SDE vs. Microsoft and TBA	25/08/2004	GONÇALVES, 2008, p. 258-277	No: the accused company did not operate in the downstream market.

08012.000416/ 2005-13	SEAE vs. Sumitomo	18/07/2012	BERARDO; ROSENBERG, 2014	No: the accused company did not operate in the downstream market.
--------------------------	----------------------	------------	--------------------------------	-------------------------------------------------------------------------------------