

Expert report of Professor Dr. Frank Verboven and Dr. Gregor Langus
December 20, 2020

Contents

I.	INTRODUCTION	2
II.	SUMMARY OF CONCLUSIONS	2
III.	QUALIFICATIONS	4
IV.	DECLARATIONS AND RESTRICTIONS	5
V.	OVERVIEW OF THE PARTIES AND THE DISPUTE	6
A.	NAMECHEAP	6
B.	ICANN	6
C.	THE DISPUTE	7
VI.	ANALYSIS	9
A.	INTRODUCTION	9
B.	ASSUMPTIONS.....	10
C.	ANALYSIS OF THE FIRST ALLEGED VIOLATION: ICANN’S REMOVAL OF PRICE CONTROL PROVISIONS 10	
1.	<i>Theory of harm for the first alleged violation</i>	10
2.	<i>Analysis of the theory of harm for the removal of price controls</i>	11
3.	<i>Conclusion</i>	18
D.	ANALYSIS OF THE SECOND ALLEGED VIOLATION: ICANN’S LACK OF TRANSPARENCY WITH RESPECT TO CHANGE OF CONTROL.....	19
1.	<i>Theory of harm for the second alleged violation</i>	19
2.	<i>Analysis of the theory of harm for the second alleged violation</i>	21
3.	<i>Conclusion</i>	24
VII.	EXPERT DECLARATION	24
APPENDIX I	SCOPE OF REVIEW	25
APPENDIX II	CURRICULUM VITAE OF PROFESSOR DR. FRANK VERBOVEN	26
APPENDIX III	CURRICULUM VITAE OF DR. GREGOR LANGUS	38

I. INTRODUCTION

1. This report has been prepared by Professor Dr. Frank Verboven and Dr. Gregor Langus of E.CA Economics for Namecheap, Inc. ('Namecheap' or the 'Claimant') in connection with a dispute with the Internet Corporation for Assigned Names and Numbers ('ICANN' or the 'Respondent') administered by ICDR ('International Centre for Dispute Resolution') (the 'Proceedings'). The Claimant and the Respondent are collectively referred to as the 'Parties' in this report.
2. The dispute between the Parties arises out of the alleged violations of ICANN's Articles of Incorporation ('Articles') and ICANN's Bylaws ('Bylaws') in ICANN's actions and inactions related to ICANN's decision not to include price control provisions in the most recent version of the registry agreements for .ORG, .INFO, and .BIZ (removal of price caps), as well as ICANN's lack of transparency regarding its decision-making in connection with change of control requests.
3. The Claimant alleges that the actions and inactions, as set out in the Request for IRP dated 25 February 2020, constitute violations of the Respondent's obligations under ICANN's Articles of Incorporation and Bylaws.
4. We have been asked by PETILLION ('Counsel'), on behalf of the Claimant, to provide our independent opinion as to the injury or harm to the Claimant, if any, that is directly and causally connected to the alleged violations of the Respondent. We have limited our report to a response to this question, which, we understand, will assist the IRP Panel in its determination as to whether or not, for the purposes of meeting the standing requirement, the Claimant is materially affected by the dispute, i.e., whether it suffers an injury or harm that is directly and causally connected to the alleged violations. Nothing in this report should be construed as an opinion with respect to the legal merits of the claim.

II. SUMMARY OF CONCLUSIONS

5. Counsel have asked us to analyze whether, first, ICANN's removal of price control provisions on .ORG, .INFO, and .BIZ has caused harm or injury to Namecheap and, second, whether ICANN's withholding due transparency - where we assume ICANN has indeed withheld it - has caused harm or injury to Namecheap.
6. On the first question, we find that ICANN's removal of price control provisions has a significant potential to harm Namecheap. This is because it introduces an upward pressure on Namecheap's costs. The likelihood and the magnitude of the cost increase, and thus the quantum of Namecheap's harm, depend on how effective price controls could be expected to be in curbing

the exercise of market power today and in the future. At this stage, we have not quantified Namecheap's harm.

7. The reasons for our finding are as follows.
8. The removal of price control provisions (price caps) will increase registry prices for .ORG, .INFO or .BIZ (and therefore Namecheap's cost in relation to resale of these TLDs) if the price caps have been and could remain effective.
9. The evidence that we have reviewed indicates that registries operating .ORG, .INFO or .BIZ TLDs have significant market power that creates potential for high prices. Moreover, the evidence also suggests that the price controls were effective in keeping registry prices below the levels that would have prevailed in the counterfactual without price control provisions.
10. The removal of price control provisions does not only harm Namecheap in the event of an *actual* price increase for registry services today or in the future. A mere likelihood that price controls will be effective in curbing the registry's exercise of market power is sufficient for a removal of price caps to cause harm to Namecheap. This is because, when there is a likelihood that price controls are effective sometime in the future, Namecheap's expected profits - and its market value - drop if price controls are suddenly removed. Given that registries operating the concerned TLDs hold significant market power, there is every reason to believe that the price controls that ICANN has removed could be effective in the future, and that Namecheap is harmed by the removal. The quantum of harm from this removal increases as the likelihood of future price control effectiveness increases.
11. On the second question, we find that ICANN's withholding of due transparency about its decision-making process - if ICANN has indeed unduly withheld this transparency - may harm Namecheap. The reasons for our finding are as follows.
12. A transparent decision-making process in relation to the matters that affect the business environment of a firm can reduce the level of uncertainty that the firm faces, whereas withholding such transparency can increase it. The changes of controls in relation to which ICANN has allegedly withheld transparency, affected Namecheap's business environment.
13. Withholding transparency can increase Namecheap's uncertainty about the variables relevant to Namecheap's ability to generate profits. This increase in uncertainty has at least two possible adverse effects on Namecheap: (1) increasing investment risk and therefore the cost of financing such investment; (2) increasing Namecheap's costs of optimal decision making.

14. Withholding transparency may harm Namecheap irrespectively of whether the adverse effects on Namecheap have materialized - an increase in uncertainty is sufficient for that.

III. QUALIFICATIONS

15. This report has two authors, Prof. Dr. Frank Verboven and Dr. Gregor Langus. Our qualifications are set out briefly below and our CVs are attached in Appendix 2 and 3, respectively.

Prof. Dr. Frank Verboven

16. My name is Frank Verboven. I am professor of economics at the KU Leuven, and a Research Fellow of the Centre for Economic Policy Research (London). I obtained my PhD in Economics at the University of Toronto in 1993. I am currently a Managing Editor of the International Journal of Industrial Organization. I have been a member of the Economic Advisory Group of Competition Policy at DG-Competition of the European Commission during 2003-2019. I was Editor of the Journal of Industrial Economics during 2003-2008 and holder of the Chair of Innovation and Regulation at Telecom ParisTech during 2012-2015. I served as chairman of the Department of Economics of KU Leuven during 2013-2017.
17. My research focuses on Industrial Organization, in particular the econometric analysis of market power, with applications to competition policy and regulation. Among other things, I have developed tools for merger simulation and for evaluating these tools; I introduced a unified framework for evaluating cartel damages, showing how to account for passing-on effects under imperfect competition; I have empirically evaluated the impact of vertical restraints such as exclusive territories and exclusive dealing; I also developed empirical models to study the impact of entry on market performance. My research covered a variety of industries, including the European automobile market (vertical restraints and mergers), the telecommunications industry (global and individual countries), pharmaceuticals, health care professions, local service sectors and liberal professions. My work has been published in various top international journals, including the American Economic Review, American Economic Journal: Applied Economics, American Economic Journal: Policy, RAND Journal of Economics, Review of Economic Studies and the Review of Economics and Statistics.
18. I teach industrial organization, micro-economics and empirical methods for competition policy.
19. I have advised the European Commission, national competition authorities in several European member states, and many leading companies on various cases, including mergers, cartels and exclusionary practices, and damages from cartels and abuses.

20. I currently work together with E.CA Economics in advice on competition policy.

Dr. Gregor Langus

21. My name is Gregor Langus. I am a Director at E.CA Economics in Brussels. I have 13 years' experience as a competition economist, split between the Chief Economist Team at the European Commission, and economic consultancies E.CA Economics, CRA and Compass Lexecon.

22. I have advised clients and submitted written testimony in a number of antitrust investigations and damage disputes as well as merger reviews in multiple jurisdictions, involving the European Commission, the U.S. authorities, and the competition authorities of several European Union member states.

23. I earned my PhD degree in Economics from the European University Institute and have published on competition policy and economics in journals such as the Journal of Industrial Economics, International Journal of Industrial Organization, Economics Letters, the Journal of Competition Law and Economics, and Concurrences.

IV. DECLARATIONS AND RESTRICTIONS

24. In preparing this report, we have been assisted by staff from E.CA Economics working under our direction, supervision, and review. We have discussed issues relevant to the matter with Counsel and the Claimant. However, the opinions expressed in this report are our own.

25. We have acted independently and objectively in the preparation of this report and no portion of our compensation is contingent on any action or event resulting from the use of this report.¹

26. In the preparation of this report, we have relied upon the documents set forth in Appendix 1. To the extent any additional information is produced by any party, we reserve the right to incorporate such additional information into our report.

27. This report must not be construed as expressing opinions on matters of law, which are outside our expertise.

¹ We are being compensated at our standard rates of €[REDACTED] and €[REDACTED], respectively for time spent performing work on this engagement.

28. This report has been prepared solely for use in this matter. It should not be used for any other purpose without prior written authorization. We understand that it will be made available to the Respondent, its Counsel, the Panel, and any witnesses and experts in these Proceedings. We also understand that this report may be posted on ICANN's website in accordance with Section 4(3)(u) of the ICANN Bylaws. As this report contains confidential, proprietary, or private information for which special protection from public disclosure and from use for any purpose other than prosecuting this IRP may be warranted, we have been asked by the Claimant to submit both a redacted version of the report that may be posted on ICANN's website and a non-redacted version, containing information that is designated by the Claimant as 'CONFIDENTIAL' or 'HIGHLY CONFIDENTIAL - OUTSIDE ATTORNEYS' EYES ONLY' within the meaning of the Stipulated Protective Order, executed by the Parties on 29 October 2020, a copy of which was shared with us. We agree to be bound by the Stipulated Protective Order. Neither we nor E.CA Economics accept any responsibility to third parties for breaches of any confidentiality obligations or for any opinions expressed or information included within this report. No liability is accepted to any person other than the Claimant except as far as any liability arises to the Panel from the giving of evidence.

29. This report must be considered as a whole. Selecting portions of our analyses, without considering all factors and analysis together, could create a misleading view of the process underlying our conclusions.

V. OVERVIEW OF THE PARTIES AND THE DISPUTE

30. Below, we provide a summary of our understanding of the background to this matter, to the extent relevant to the issues we have been asked to consider.

A. Namecheap

31. Namecheap was founded in 2000 by CEO Richard Kirkendall. It is an ICANN-accredited domain registrar and technology company. With over 12 million domains under management, Namecheap is among the largest domain registrars and web hosting providers in the world. It manages [REDACTED] domains registered under the TLDs .ORG, .INFO or .BIZ.

B. ICANN

32. ICANN was founded in 1998 as a non-profit public benefit corporation, incorporated under the laws of California. Since its founding, ICANN has been responsible for coordinating key technical services critical to the continued operation of the Internet's Domain Name System (DNS).

33. Article II of ICANN's Articles provide that ICANN *'is a nonprofit public benefit corporation and is not organized for the private gain of any person. It is organized under the Nonprofit Public Benefit Corporation Law for charitable and public purposes. The Corporation is organized, and will be operated, exclusively for charitable, educational, and scientific purposes within the meaning of § 501(c)(3) of the Internal Revenue Code of 1986, as amended (the "Code"), or the corresponding provision of any future United States tax code. Any reference in these Articles to the Code shall include the corresponding provisions of any future United States tax code. In furtherance of the foregoing purposes, and in recognition of the fact that the Internet is an international network of networks, owned by no single nation, individual or organization, the Corporation shall, except as limited by Article IV hereof, pursue the charitable and public purposes of lessening the burdens of government and promoting the global public interest in the operational stability of the Internet by carrying out the mission set forth in the bylaws of the Corporation ("Bylaws"). Such global public interest may be determined from time to time. Any determination of such global public interest shall be made by the multistakeholder community through an inclusive bottom-up multistakeholder community process.'*
34. Article III of the Articles sets forth that ICANN *'shall operate in a manner consistent with these Articles and its Bylaws for the benefit of the Internet community as a whole, carrying out its activities in conformity with relevant principles of international law and international conventions and applicable local law and through open and transparent processes that enable competition and open entry in Internet-related markets. To this effect, the Corporation shall cooperate as appropriate with relevant international organizations.'*

C. The Dispute

35. Namecheap alleges that ICANN has acted inconsistently with its Articles, its Bylaws, and/or the binding commitments contained in policies and longstanding practice, and that ICANN has violated international law in ICANN's decision-making process to remove the price control provisions (or price caps) in the .ORG, .INFO and .BIZ Registry Agreements and in ICANN's evaluation of the proposed change of control of the .ORG registry operator, Public Interest Registry ('PIR'). Namecheap maintains *inter alia* that ICANN failed to remain open and transparent, failed to remain accountable, and failed to act in the interest of the Internet community as a whole. With respect to the proposed change of control of the .ORG registry in particular, Namecheap requested ICANN to be open and transparent with a view to being given an opportunity to scrutinize ICANN's decision on the issue.

36. After the Request for IRP was filed, ICANN decided on 30 April 2020 to withhold its consent to PIR's Change of Control Request² *'without prejudice to PIR to submit a new notice of indirect change of control and entity conversion for consideration if PIR successfully achieves an entity conversion approval in Pennsylvania through the Pennsylvania Court, which the ICANN Board and org will consider when evaluating any new notice.'*³
37. Before ICANN took the decision to withhold its consent, Namecheap had submitted a reconsideration request with the ICANN Board, asking that ICANN provide full transparency with respect to the actions surrounding the proposed acquisition of PIR and ICANN's approval process. Namecheap submits that it was not given full transparency.
38. According to the Minutes of the Board meeting of 30 April 2020, ICANN's decision to withhold its consent to PIR's Change of Control Request was preceded by (i) an earlier briefing in which the Board discussed and considered alternative draft resolutions for potential Board action, and (ii) *'approximately 30 briefings from ICANN org [to the Board] on this issue, representing over 30 hours of scheduled meetings'*.⁴
39. Apart from the Board meeting of 16 April 2020 where the 'PIR Change of Control' was on the agenda⁵ but subsequently removed⁶, we are currently unaware of any document or communication discussing scheduled Board meetings prior to the 30 April 2020 meeting in which PIR's proposed Change of Control has been discussed. We understand that Namecheap is seeking transparency in this respect and that Namecheap is claiming that ICANN's lack of openness and transparency constitutes a violation of ICANN's Articles and Bylaws.
40. Pending the IRP, GoDaddy Inc., the world's largest registrar, announced its acquisition of the registry business of Neustar, the registry operator of .BIZ and several other TLDs.⁷ On 19 November 2020, Donuts Inc., a registry operator holding company managing the largest portfolio of new gTLDs, announced its acquisition of Afilias Inc., the registry of .INFO, who also acts as

² ICANN. (2020, 30 April). *Approved Board Resolution 2020.04.30.01 - Special Meeting of the ICANN Board*. Retrieved from <https://www.icann.org/resources/board-material/resolutions-2020-04-30-en>.

³ ICANN. (2020, 30 April). *Approved Board Resolution 2020.04.30.02 - Special Meeting of the ICANN Board*. Retrieved from <https://www.icann.org/resources/board-material/resolutions-2020-04-30-en>.

⁴ ICANN. (2020, 21 May). *Minutes - Special Meeting of the ICANN Board of 30 April 2020*. Retrieved from <https://www.icann.org/resources/board-material/minutes-2020-04-30-en>.

⁵ ICANN. (2020, 14 April). *Agenda - Special Meeting of the ICANN Board of 16 April 2020*. Retrieved from <https://www.icann.org/resources/board-material/agenda-2020-04-16-en>.

⁶ ICANN. (2020, 20 April). *Approved Board Resolutions - Special Meeting of the ICANN Board of 16 April 2020*. Retrieved from <https://www.icann.org/resources/board-material/resolutions-2020-04-16-en#1.b>. ICANN. (2020, 21 May). *Minutes - Special Meeting of the ICANN Board of 16 April 2020*. Retrieved from <https://www.icann.org/resources/board-material/minutes-2020-04-16-en>.

⁷ PR Newswire. (2020, 6 April). *GoDaddy Acquires Neustar's Registry Business*. Retrieved from <https://www.prnewswire.com/news-releases/godaddy-acquires-neustars-registry-business-301036134.html>.

the back-end registry operator of .ORG.⁸ We understand that, with this acquisition, Donuts Inc. would become a registry with approximately 450 gTLDs under management. Donuts Inc. announced that the transaction is expected to close in Q4 2020, following successful completion of regulatory requirements.⁹ On 27 November 2020, ICANN ascertained that Donuts Inc.'s proposed acquisition of Afilias Inc.'s registry operations had not yet been consummated.

41. We understand that Namecheap is asking for transparency about ICANN's role in, and deliberations on, these transactions. We understand that Namecheap wants to know whether the effects of these transactions and /or the possibility of similar future transactions, were part of ICANN's deliberative process when ICANN decided to remove the price caps in .ORG, .INFO and .BIZ. We also understand that Namecheap is seeking transparency as to whether or not, and to what extent, the absence of price caps in the .ORG, .INFO and .BIZ gTLDs is, has been, or will be, a factor in ICANN's consideration of proposed changes of control with respect to the registry operators of these gTLDs. Namecheap maintains that the environment in which it had operated was stable and limited the potential for dominant registry operators to abuse their market power. Namecheap considers that ICANN's removal of the price caps and recent developments made possible by ICANN constitute a radical shift to ICANN's practices and policies, which damages both Namecheap and the Internet community as a whole.

42. In response to Namecheap's allegations, ICANN contends that Namecheap has not established that it has suffered any harm because of ICANN's conduct. ICANN argues that, therefore, Namecheap is not a proper Claimant under ICANN's Bylaws and that Namecheap lacks standing to pursue this IRP Request. ICANN also argues that Namecheap would not have demonstrated that ICANN violated its Articles or Bylaws in any of the respects identified in Namecheap's Request for IRP.

VI. ANALYSIS

A. Introduction

43. Article 4(3)(b)(i) of ICANN's Bylaws contains the following standing requirement:

'A "Claimant" is any legal or natural person, group, or entity including, but not limited to the EC, a Supporting Organization, or an Advisory Committee that has been materially affected by a Dispute. To be materially affected by a Dispute, the Claimant must suffer an injury or harm that is directly and causally connected to the alleged violation.'

⁸ Donuts Inc. (2020, 19 November). *Donuts Inc. to Acquire Afilias, Inc.* Retrieved from <https://donuts.news/donuts-inc-to-acquire-afilias-inc>.

⁹ Donuts Inc. (2020, 19 November). *Donuts Inc. to Acquire Afilias, Inc.* Retrieved from <https://donuts.news/donuts-inc-to-acquire-afilias-inc>.

44. To assist the Panel in its analysis whether Namecheap has been materially affected by the dispute, we were asked to perform an independent analysis as to whether Namecheap suffers an injury or harm that is directly and causally connected to the alleged violation.
45. The objective of the analysis was to establish whether Namecheap suffers an injury or harm for the purposes of standing in relation to (a) removal of price control provisions and (b) in relation to ICANN's withholding due transparency.

B. Assumptions

46. For this analysis, we have taken the following assumptions without verifying them
 - a. ICANN has violated its Articles and/or Bylaws by removing the price control provisions from the registry agreements on .ORG, .BIZ and .INFO;
 - b. ICANN has violated its Articles and/or Bylaws by not providing transparency on proposed and actual changes of controls, even if such changes of controls have not been consummated or authorized;
 - c. ICANN has the authority to approve or disapprove such changes of controls.

C. Analysis of the First Alleged Violation: ICANN's Removal of Price Control Provisions

1. Theory of harm for the first alleged violation

47. A removal of a wholesale price control provision generates an injury or harm to a downstream reseller if the removal creates the potential of a cost increase and the downstream reseller cannot pass through the cost increase without losing customers.¹⁰
48. A removal of wholesale price caps results in a cost increase if the price control has been effective, or may be effective in the future, in constraining the exploitation of the market power by upstream sellers. Price caps are effective if (a) sellers have market power¹¹ and (b) price caps are set at sufficiently low levels.

¹⁰ As a matter of fact, ICANN requires registries to provide an advance notice to ICANN accredited registrars before raising prices of at least 30 calendar days for new subscriptions and at least 180 calendar days for renewals, with a possibility to purchase registrations at the old price for 1 to 10 years into the future. The fact that the registrar, even after the removal of price cap, gets an advance period notice of a price increase and an opportunity to buy domain name registrations for stocking does not eliminate the potential injury or harm, but can only affect its quantum. This is because (i) stocking is costly, and (ii) the reseller cannot perfectly foresee the future demand for registrations and insulate itself from the price increase.

¹¹ Market power refers to 'the ability of a firm to raise prices above some competitive level - the benchmark price - in a profitable way.' See Motta, M. (2004). *Competition Policy: Theory and Practice*. Cambridge University Press. Chapter 2.

49. For the reasons set out below, registries operating .ORG, .INFO or .BIZ TLDs have significant market power. And the evidence that we have reviewed suggests that the price control provisions were effective in keeping registry prices below the levels that would prevail in the counterfactual without the price control provisions.
50. Therefore, the removal by ICANN of the price control provisions in relation to the domains in this dispute may result in an increase of registry prices, i.e. Namecheap's costs. With price control provisions removed, the likelihood and magnitude of a price increase, and thus the quantum of harm, depends on the degree to which price controls may be expected to be effective in curbing the exercise of market power today and in the future.
51. A removal of price control provisions does not only harm registrars in the event of an actual price increase for registry services today or in the future. If the removal of price control provisions is unexpected, a mere likelihood that price controls will be effective in the future may be enough for the registrar's expected profits - and its market value - to drop after a removal of price control provisions.

2. Analysis of the theory of harm for the removal of price controls

a. A registry price increase of the TLDs concerned harms Namecheap

52. Other things being equal, an increase in registry prices increases Namecheap's costs, reduces its margins and/or sales and ultimately reduces profits, causing harm to Namecheap.
53. Following an increase in its costs in relation to .ORG, .INFO or .BIZ, Namecheap would likely absorb a part of the cost increase by accepting a lower margin on its sales. At the same time, Namecheap would pass on (or pass-through) the remainder of the cost increase by increasing its retail prices for initial registrations and renewals.¹²
54. Namecheap's passing-on of the increase in its input costs increases prices for registrants. The price increases result in reduced demand, and lost sales, as some customers do not purchase at higher retail prices unless the demand is perfectly inelastic.¹³ Lost sales represent harm to

¹² Oxera. (2009). *Quantifying antitrust damages: Towards non-binding guidance for courts*. Luxembourg: Publications Office of the European Union. Figure 2.4, p. 24. We use pass-on and pass-through as synonyms. However, pass-through can sometimes be used to denote a 100% pass-on of costs to consumers.

¹³ As a matter of economics, perfectly inelastic demand arises in exceptional circumstances that do not apply in our context.

Namecheap. In the literature on economic damages of cost increases, this is usually referred to as the 'output effect'¹⁴ or 'lost profit on lost volumes'.¹⁵

55. Faced with an increase in registry costs, Namecheap has no ability to pass this increase on without losing some customers. In consequence, higher registry prices unequivocally reduce Namecheap's profits, causing harm to Namecheap.

b. TLDs for which price controls have been removed possess market power

56. The registries operating TLDs for which the price controls have been removed (i.e. .ORG, .INFO, and .BIZ) continue to have a significant degree of market power and an incentive to raise the price for their registry services above competitive levels. Because of this, the removal of price controls may increase registry prices.¹⁶

57. First, each TLD, including .ORG, .INFO or .BIZ, is operated by a single registry by an exclusive appointment by ICANN. Therefore, there is no actual or potential competition for registry services in relation to each specific TLD. The only competitive pressure on registry services of a given TLD could potentially come from competition between different TLDs.

58. Second, market power of registries, including for .ORG, .INFO and .BIZ, is further amplified by significant costs of switching from one TLD to another.¹⁷ These switching costs arise from, among other things, disruption in client communication and TLD-specific investments in brand marketing or search engine optimization.¹⁸ For example, to preserve at least part of the latter kind of investment, a registrant wishing to switch TLDs would need to set up a '301 redirect'.¹⁹ Without a 301 redirect, a website linked to a different TLD will lose traffic, current positions, and incoming links from general search engines. An effective 301 redirect requires the registrant

¹⁴ Verboven, F., & Dijk, v. T. (2009). Cartel damages claim and the passing-on defense. *The Journal of Industrial Economics*, 57, 457-491.

¹⁵ Oxera. (2009). Quantifying antitrust damages: Towards non-binding guidance for courts. Luxembourg: Publications Office of the European Union. Figure 2.4, p. 24.

¹⁶ The most plausible reason for the introduction of the price control provisions in relation to .ORG, .INFO or .BIZ is that registries operating these domains were perceived to have held a significant degree of market power. The market power gave the registries the incentive to raise the price for registry services above competitive levels, and price caps were put in place to curb the exercise of market power.

¹⁷ Switching costs arise when 'switching any one component often involves switching others as well', when components tend to work together. See Varian, H. (2014). *Intermediate microeconomics: A modern approach*. New York: W.W. Norton & Company. Chapter 36.

¹⁸ Affidavit of Marina Zhuravlova in support of Namecheap's request for an independent review process of 16 December 2020.

¹⁹ When a website changes its URL address, 301 redirect is a server instruction that can be used to forward visitors from the old URL to the new URL; roughly it can be thought of as an online analogue of mail-forwarding when one changes her physical address. See e.g. Google. (2020). *Change page URLs with 301 redirects*. Retrieved December 14, 2020, from Google Search Central: <https://developers.google.com/search/docs/advanced/crawling/301-redirects>.

to have the old domain name permanently pointing to the new domain name, which requires the registrant to continue paying for the old domain name. Consequently, the willingness to pay for a domain name and thus also prices can be higher for existing customers (after the lock-in) than for new customers (before they are locked in with a TLD).²⁰

59. Professor Dennis Carlton acknowledged the existence of switching costs for registrants in his 2009 report for ICANN:²¹

'Registrants that adopt a particular Internet domain name face costs from switching registries because the use of the TLD in the domain name prevents Internet addresses from being ported across registries.'

60. Third, the introduction of multiple new TLDs (as of 2020 there are about 1500 TLDs, including ccTLDs²²) does not appear to have brought significant new competition that would effectively restrain the market power of the registries operating some of important original TLDs, including .ORG, .INFO and, potentially, .BIZ.²³ This is the case especially in relation to existing registrants who face switching costs.

61. After the introduction of new TLDs, both consumer end-users and registrants indeed continued to trust legacy TLDs more than new TLDs. For example, based on studies by Nielsen commissioned by ICANN²⁴, a report by the Competition, Consumer Trust, and Consumer Choice (CCT) Review Team found that both consumer end-users and registrants trust new gTLDs less than legacy TLDs:

'In both 2015 and 2016, consumer end-users reported trusting specified new gTLDs approximately only half as much as specified legacy gTLDs. For example, in 2015, consumer end-users found 90 percent of specified legacy gTLDs to be "very" or "somewhat" trustworthy, but only 49 percent of specified new gTLDs were found to be "very" or "somewhat" trustworthy. Results were similar in 2016, with

²⁰ 'When switching costs are very high, users might find themselves experiencing lock-in, a situation where the cost of changing to a different system is so high that switching is virtually inconceivable. [...] Since the locked-in user has a very *inelastic* demand, the seller(s) can jack up the prices of their components to extract consumer surplus from the user. [...] Competition among sellers of systems will force prices down for the *initial* purchase, since the locked-in customers can provide them with a steady revenue stream afterwards.' See Varian, H. (2014). *Intermediate microeconomics: A modern approach*. New York: W.W. Norton & Company. Chapter 36.

²¹ Carlton, D. (2009). Preliminary analysis of Dennis Carlton regarding price caps for new gTLD internet registries. Paragraph 11.

²² IANA. (2020). Retrieved December 14, 2020, from <https://data.iana.org/TLD/tlds-alpha-by-domain.txt>.

²³ For example, a recent report by the CCT Review Team (2018) finds that 'although concentration among operators was somewhat lower than in 2004, a market that consisted of operators of gTLDs was still highly concentrated and Verisign's share was essentially unchanged'. Competition, Consumer Trust, and Consumer Choice (CCT) Review Team. (2018). *Competition, consumer trust, and consumer choice review*. Retrieved from <https://www.icann.org/public-comments/cct-final-recs-2018-10-08-en>. Page 51.

²⁴ Nielsen. (2015). *ICANN Global Consumer Research*. Retrieved from <https://www.icann.org/news/announcement-2015-05-29-en>. Nielsen. (2016). *ICANN Global Consumer Research: Wave 2*. Retrieved from <https://www.icann.org/news/announcement-2-2016-06-23-en>.

consumer end-users reporting that 91 percent found specified legacy gTLDs to be “very” or “somewhat” trustworthy, whereas 45 percent found new gTLDs to be “very” or “somewhat” trustworthy.’

‘Compared to consumer end-users, registrants consistently reported higher levels of trust for specified gTLDs, but still reported lower levels of trust for new gTLDs when compared to legacy gTLDs. Registrants associated the term “trustworthy” with legacy gTLDs more than with new gTLDs. For example, in 2015, 83 percent of registrants associated the term “trustworthy” with legacy gTLDs compared to a rate of 58 percent for new gTLDs. In 2016, 79 percent of registrants viewed legacy gTLDs as “trustworthy” compared to 60 percent for new gTLDs.’²⁵

62. To make more precise statements on the competitive effect of the introduction of new TLDs on original and legacy TLDs would require a careful analysis, using historical data on registry prices and the evolution of demand. We have not carried out such analysis for the purposes of this report. We are collecting and analyzing data, some of which we understand has been requested from ICANN. However, economists Greg Rafert and Professor Catherine Tucker²⁶ have carried out such analysis in 2016 for ICANN. They report evidence consistent with new TLDs generally not being close substitutes for legacy TLDs:²⁷

*‘Finally, in both our Phase I and Phase II Assessments, we found no aggregate (worldwide) effect of new gTLD entry or registrations on legacy TLD registrations. This is consistent with **new gTLDs generally not being treated as substitutes for legacy TLDs.**’ (emphasis added)*

63. More specifically, Rafert and Tucker noted that the introduction of new TLDs has had no discernible effect (reduction) on either registration volumes or registration growth rates of legacy gTLDs.
64. Moreover, Rafert and Tucker report evidence that wholesale prices of legacy gTLDs following the introduction of new TLDs have, in some cases, continued to increase by the maximum amounts allowed by the price cap contracts.²⁸
65. Together, these observations indicate that new TLDs do not present an effective competitive constraint on the pricing for the registry services in relation to the legacy gTLDs. While the analysis by Rafert and Tucker was carried out in 2016, we see no indications that the market would have significantly changed in dimensions relevant to competitive analysis of .ORG, .INFO

²⁵ Competition, Consumer Trust, and Consumer Choice (CCT) Review Team. (2018). *Competition, consumer trust, and consumer choice review*. Retrieved from <https://www.icann.org/public-comments/cct-final-recs-2018-10-08-en>. Pages 80-81.

²⁶ Rafert, G., & Tucker, C. (2016). Phase II Assessment of the Competitive Effects Associated with the New gTLD Program.

²⁷ Rafert, G., & Tucker, C. (2016). Phase II Assessment of the Competitive Effects Associated with the New gTLD Program. Page 53.

²⁸ Rafert and Tucker (2016, page 33) reason as follows: they observe that price caps in some cases have increased, but also note that because the price caps of .ORG, INFO, .BIZ are relative to the previous year’s price, any increase in price caps can potentially be interpreted as the result of an increase in wholesale prices for these legacy TLDs.

or .BIZ between then and now, so the evidence still appears valid today. Considering all this, registries operating .ORG, .INFO or .BIZ TLDs appear to continue to command a significant degree of market power.

c. Evidence suggests that price controls were effective in constraining the relevant registries in their pricing

66. A removal of effective price controls harms Namecheap. This is because such a removal introduces an upward pressure on the registry prices for the TLDs concerned and eventually results in higher registry price levels - an increase in costs for Namecheap.
67. A mere likelihood that price controls are effective in the future is sufficient for a sudden and unexpected removal of price controls to harm Namecheap. This is because the removal of price controls in the presence of such likelihood causes a decrease in future profits that Namecheap can expect. As this likelihood increases, so does the magnitude of the drop in expected profits. The drop in expected profits reduces Namecheap's market value, which harms its owners.
68. We have not yet carried out a detailed analysis of the effectiveness of price controls in constraining the exercise of market power for this report. However, our preliminary analysis of data on the wholesale price for .BIZ domain indicates that its price has increased in 2019 and 2020 by 10%, which was the maximum annual increase allowed by the price control provisions. Similarly, the wholesale price for .INFO domain also increased by nearly 10% in 2017, 2018 and 2020, while the maximum annual increase allowed by the price control provisions was 10%.²⁹
69. Additionally, we understand that the wholesale price of .ORG domain has also increased by the maximum allowed 10% in 2015 and 2016, even though it has remained constant since. Pricing at the level of the cap is a strong indication that price controls were effective.
70. At the same time, the fact that a registry under price controls did not price its services at the cap level in some years does not necessarily indicate that price caps were not effective in those years. This is because ICANN had the possibility to review the evolution of prices and periodically, on every cycle, adjust the relevant price cap. The periodic review may have deterred the relevant registries from fully displaying their market power in the hope to avoid triggering a corrective action and tightening of the price controls in the next round of ICANN's review.

²⁹ Source: E.CA Economics based on wholesale prices provided by Namecheap.

71. The evidence in the 2016 report by Rafert and Tucker also suggests that the price controls were effective.³⁰

‘The overall price level of legacy TLD wholesale price caps continues to be lower than wholesale prices for new gTLDs. In addition, we find effectively no change in wholesale price caps for legacy TLDs, nor wholesale price levels for new gTLDs, when comparing our Phase I and Phase II results. The presence of price caps on legacy TLDs may help to explain the absence of changes in legacy TLD wholesale prices.’

‘While a number of legacy TLDs have price caps that adjust relative to the previous year’s price (and therefore do not necessarily bind the TLD to a specific price level), the presence of the cap may still limit the incentive for the TLD to change its price.’ (emphasis added).

72. Another piece of evidence of price controls effectiveness comes from price differentials between new registrations and renewals. In our preliminary analysis, we find a difference in price differentials³¹ between TLDs that were not subject to a price cap and TLDs that were subject to a price cap - TLDs under price controls show significantly lower price differentials.³² The most plausible explanation for such a difference is that regulated TLDs would like to increase prices for renewals.³³ However, they are prevented from doing so by the price controls. Thus, observing lower price differentials with regulated TLDs serves as indirect evidence of the effectiveness of the price caps under consideration.

73. Finally, the fact that a registry does not price at a cap level in some years does not mean that price controls could not be effective - and relevant - in the future. In case they are effective, a removal of price controls harms Namecheap.

³⁰ Rafert, G., & Tucker, C. (2016). Phase II Assessment of the Competitive Effects Associated with the New gTLD Program. Page 1.

³¹ While there are many factors that determine differences in price levels between different TLDs, we would expect switching costs to most significantly affect price differentials between those TLDs. We expect other TLD-specific factors to be ‘differenced-out’ to a significant extent, i.e., controlled for by considering price differentials.

³² Wholesale price data provided by Namecheap indicates that in 2019, registries set prices for renewals at a multiple (double sometimes triple and more) of the price for registrations for the TLDs .BUZZ, .CLUB, .ICU, .LIVE, .ONLINE, .SHOP, .SITE, .SITE, .TOP, .VIP, .WORK and .XYZ, all of which are not subject to a price cap. In contrast, the difference between renewal and registration prices for .COM and .NET was ██████████ and only about █% for .ORG in 2019, all of which are or in the case of .ORG used to be subject to price caps.

³³ Another explanation could be that the switching costs for users of regulated and non-regulated TLDs are systematically different, with the costs of switching away from regulated TLDs being significantly lower. This explanation does not appear plausible.

- d. The not-for-profit status of PIR does not necessarily mean that it has no incentive to exercise its market power

74. We note that the tendency to exercise market power by setting prices above competitive levels is not limited to firms that pursue maximization of profits as their objective. PIR, despite being a not-for-profit organization, may have an incentive to increase its price above competitive levels, even if that incentive may be less pronounced because of its status. While not-for-profit organizations cannot distribute profits to owners, they may still pursue objectives other than serving their customers. These objectives may be best served when the organization generates substantial revenues, for example when it distributes its proceeds to charities.³⁴ Therefore, the fact that a not-for-profit operates .ORG does not imply that the removal of price controls is not capable of harming Namecheap.

75. Nevertheless, it is plausible that the incentive to exercise market power is stronger for an owner motivated purely by profits. In that regard, we note that a financial investor (Ethos Capital) made a high-value bid (\$1.135 billion) for PIR after the price cap was removed. The value of this bid may suggest that the investors saw a significant scope for the .ORG registry to profitably increase the price over the levels set in the past when they were constrained by price controls.

- e. Market participants likely view the removal of price caps for .ORG, .BIZ and .INFO as an indication that price caps may also be removed for .NET (and .COM) in the future

76. It is possible that the removal of price caps for .ORG, .BIZ and .INFO is viewed by registrars, registrants, as well as registries, as an indication that ICANN is less willing than it had been prior to this removal also to maintain price caps in relation to .NET. The removal of price caps could also indicate that the continued maintenance of price caps in relation to .COM has now become less certain.³⁵ The increase in the likelihood of the removal of these price caps, as perceived by the market participants, results in a drop of profits that Namecheap can expect, and a reduction in Namecheap's present value (see also paragraphs 78 and 79).

³⁴ Another potential reason for an increase in prices in such a case is related to the phenomenon called 'X-inefficiency'. It describes a situation in which a firm lacks the incentive to control costs, which can cause the cost to increase higher than necessary. Higher costs can be then used as a rationale to increase prices. The concept of X-inefficiency was introduced by Harvey Leibenstein: Leibenstein, Harvey (1966), "Allocative Efficiency vs. X-Efficiency", *American Economic Review*, 56 (3): 392-415.

³⁵ Albeit, we understand that .COM price controls are subject to an oversight by the US Department of Commerce.

77. If .NET price caps were to be removed in the future³⁶, one can expect a significant upward pricing pressure on .NET registry prices, which would harm Namecheap directly by increasing its costs. The reasons for this are as follows:

- a. .NET has a large base of customers that face switching costs.³⁷
- b. .NET is operated by a for-profit registry which has every incentive to exercise market power (see also section d. above).
- c. There are strong indications that the price caps have been effective in keeping the price for .NET at relatively low levels and there has been no differential in registry prices between renewals and registrations (see also footnote 32).
- f. A mere likelihood that price controls could be effective in constraining registries in their exercising market power in the future is sufficient for the removal of price controls to harm to Namecheap

78. Harm to Namecheap as a result of the removal of price control provisions not only exists in the event of an actual increase in the registry prices for the concerned TLDs today or in the future. Namecheap is also harmed by an unexpected removal of price controls if there is a mere likelihood that price controls are effective in keeping future prices low compared to the level in the counterfactual without price control provisions.

79. This is because such likelihood causes a decrease in future profits flow that Namecheap can expect if price controls are removed. As this likelihood increases, so does the magnitude of the expected profits drop. The drop reduces Namecheap's value, which harms its owners. Based on our review of the evidence above, we conclude that there is indeed a significant likelihood that price controls would be effective in the future.

3. Conclusion

80. To summarize, the results of our reasoning in relation to the first alleged violation are that:

- a. Registries operating .ORG, .INFO or .BIZ TLDs have a significant degree of market power;

³⁶ We understand that existing .NET registry agreement expires in 2023 and ICANN could decide to remove price caps from the subsequent agreement thereafter.

³⁷ According to Verisign Domain Name Industry Brief, in September 2020 about 13.4 million .NET domains were registered, compared to about 10.2 million for .ORG; source: <https://www.verisign.com/assets/domain-name-report-Q32020.pdf>

- b. They have been subject to price control provisions, which were intended to limit, and which in practice seem to have been effective in limiting, the ability of the registries to exploit their market power by increasing their prices;
- c. Therefore, the removal of the price control provisions in relation to these TLDs may result in an increase of registry prices of affected gTLDs, i.e. Namecheap's costs;
- d. Because Namecheap has no ability to pass the increased costs through without losing customers, ICANN's removal of price controls can be expected to reduce Namecheap's profits, causing harm to Namecheap;
- e. Moreover, a likelihood that price controls will be effective in the future means that the removal of price control provisions highly likely causes a drop in expected future profits for Namecheap in relation to the sales of affected TLDs. This presents harm for Namecheap's owners irrespective of whether price controls are effective in the future or not.

D. Analysis of the Second Alleged Violation: ICANN's lack of transparency with respect to change of control

1. Theory of harm for the second alleged violation

81. The second alleged violation relates to ICANN's failure to provide transparency about its decision-making process in relation to proposed and actual changes of controls over registries or registrars.
82. Compared to a situation in which regulation of one or more markets is transparent, lack of such transparency can harm firms participating in the market (or markets) by increasing the level of uncertainty about the firms' current and future business environment.³⁸
83. An increase in the uncertainty is harmful when it concerns variables that are important to the firm's ability to participate effectively in relevant markets. This is directly so because of risk aversion, but also because of higher information processing and decision-making costs related to uncertainty, as we explain in the two following paragraphs.

³⁸ There is a large literature focusing on the relationship between transparency, uncertainty, and investment. See, for example, Drabek, Z., & Payne, W. (2002). The Impact of Transparency on Foreign Direct Investment. *Journal of Economic Integration*, 17(4), 777-810. Retrieved December 15, 2020, from <http://www.jstor.org/stable/23000835>.

84. Uncertainty about future costs leads to a greater risk of the investments and therefore increases the cost of financing such investment. Carruth et al. (2000)³⁹ provide a survey of large empirical literature establishing that increased uncertainty leads to lower investment rates. Based on this evidence, the authors conclude that investment delay caused by uncertainty dominates any potential increase in marginal profitability of capital. Abberger et al. (2016)⁴⁰ find that uncertainty about public policy dampens investment plans of the firms.⁴¹

85. When higher uncertainty means more contingencies to account for, as is the case with the lack of transparency about the policies of suppliers or business partners, this leads to the increase in complexity of business environment and requires higher costs to be incurred in the information processing and analysis.⁴² Alternatively, for the same level of resources devoted to decision-making, higher uncertainty will increase the probability of suboptimal decisions.

86. In summary:

- a. A reduction in the level of transparency may increase uncertainty; and
- b. an increase in uncertainty can harm a firm when it concerns variables, such as costs, that are important to the firm's ability to effectively compete.

87. Thus, to determine whether ICANN's failure to provide transparency on the changes of controls has resulted in harm or injury to Namecheap, we will evaluate whether the (proposed or actual) changes of control at issue are important to Namecheap's ability to compete effectively.

³⁹ Carruth, A., Dickerson, A., & Henley, A. (2000) What do we know about investment under uncertainty? *Journal of Economic Surveys*, 14, 119-154.

⁴⁰ Abberger, A., Dibiasi, A., Siegenthaler, M., & Sturm J.-E. (2016). The Effect of Policy Uncertainty on Investment Plans: Evidence from the Unexpected Acceptance of a Far-Reaching Referendum in Switzerland. CESifo Working Paper 5887.

⁴¹ The lack of transparency about ICANN's policies can be viewed as a form of policy uncertainty.

⁴² There is a large literature describing how one can manage risk and uncertainty in business environments, i.e. uncertainty is generally perceived as something to actively manage. An example of contribution from such literature is "Handling Uncertainty - the key to truly effective Enterprise Risk Management" (2011). Retrieved December 14, 2020, from <https://www.engc.org.uk/engcdocuments/internet/website/Handling-uncertainty-the-key-to-truly-effective-En.pdf>.

2. Analysis of the theory of harm for the second alleged violation

- a. Change of control that introduces a vertical relationship between a registry and registrar may harm rival registrar's ability to effectively compete

88. Recently GoDaddy Inc., the world's largest registrar, acquired the registry business of Neustar, the registry operator of .BIZ.⁴³ This acquisition may increase Namecheap's costs or otherwise harm its profits.

89. After the change of control introduced by a merger between an upstream firm (i.e., an input supplier) and a reseller's rival downstream (i.e., an input buyer) the reseller's costs may increase if the merged entity has both the *ability* and *incentive* to worsen the conditions of supply to the rival reseller. In antitrust literature this mechanism is often referred to as input foreclosure, and sometimes as raising rival's costs. Input foreclosure is a dominant theory of harm of antitrust enforcement agencies in vertical mergers.⁴⁴

90. The merged firm has the *ability* to degrade the conditions of supply when it supplies an important input to the reseller for which there are no close substitutes. Neustar supplies Namecheap with registry services for several TLDs, including .BIZ. Neustar's services are therefore important to Namecheap's registrar business and there is no alternative for them.⁴⁵ Even though registry agreements prohibit any preferential treatment of one registrar over another (including a vertically integrated one), such discrimination can be feasible in practice as it is in general difficult to discover.⁴⁶ Neustar may thus be able to degrade the conditions of supply to Namecheap.

91. The merged firm has an *incentive* to increase price or otherwise degrade terms of its supply to downstream rivals if it benefits when rivals, facing higher costs, become less effective competitors downstream.⁴⁷ Neustar may have an incentive to degrade the terms of supply to registrars other than GoDaddy, including Namecheap, notably because GoDaddy can earn

⁴³ We understand that Neustar is the parent company of Registry Services, LLC. Since 2017, Neustar assigned the .BIZ registry agreement to its wholly owned subsidiary Registry Services, LLC (See Assignment and Assumption Agreement of 8 August 2017, <https://www.icann.org/sites/default/files/tlds/biz/biz-assign-pdf-08aug17-en.pdf>). For ease of reference, we refer to Neustar as the registry operator of .BIZ.

⁴⁴ U.S. Department of Justice & The Federal Trade Commission. (2020). *Vertical Merger Guidelines*. Pages 4 ff.

⁴⁵ In addition to .BIZ, Neustar also operates the TLDs .COMPARE, .SELECT, .NEUSTAR, .MELBOURNE and .SYDNEY, among others. These TLDs account for ████████ of Namecheap's domains under management.

⁴⁶ As GoDaddy is the largest registrar in the market, Neustar could e.g. increase prices for its registry services and at the same offer a volume discount conditional on reaching a volume that only GoDaddy's surpasses, hence absorbing the price increase for GoDaddy. Even though all registries would generally be eligible for such a discount, it remained effectively unavailable for registrars other than GoDaddy. Consequently, the merged firm would reduce retail margins of competing registrars, including Namecheap's, while serving GoDaddy on more favorable terms.

⁴⁷ U.S. Department of Justice & The Federal Trade Commission (2020). *Vertical Merger Guidelines*. Page 5.

additional margins above those from its domain name registration business by cross-selling services other than registration or by bundling these services. Such a degradation of supply terms would harm Neustar's margins and profits.

92. A vertical merger can also adversely affect the ability of a reseller to effectively compete if the integrated input supplier passes commercially sensitive information that it obtains on the reseller to its downstream arm that competes with the reseller. Commercially sensitive information may include information on downstream rival's sales. Such information may be obtained in a supplier-buyer relationship.⁴⁸ As its supplier, Neustar may be able to obtain such information from Namecheap.

93. It is possible that Neustar has an incentive to pass such information on to GoDaddy because that could make GoDaddy a more effective competitor, boosting its profits, while harming Namecheap's profits.

b. Change of control that brings multiple previously independent TLDs under the management of a single registry may result in harm to registrars

94. A horizontal merger between two independent TLD registries, like a recently proposed merger between Donuts Inc. and Afiliias, could also result in an increase in Namecheap's costs, and thus in harm to Namecheap. Both Donuts Inc. and Afiliias operate many new TLDs, while Afiliias is also the registry for .INFO. A merger that brings together substitute products or services introduces an upward pricing pressure on the affected products. Other things equal, the magnitude of the expected price increase is related to the degree of competition between the products concerned.⁴⁹

95. While evidence outlined in paragraphs 57 to 65 suggests that competition between legacy TLDs and new TLDs is limited, competition between different new TLDs may be more intense. A horizontal merger of two registries that brings together competing TLDs may be expected to result in an upward pricing pressure on these TLDs and, in turn, harm to Namecheap.

⁴⁸ Official Journal of the European Union (2008). Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings. Paragraph 78.

⁴⁹ U.S. Department of Justice & The Federal Trade Commission. (2010). *Horizontal Merger Guidelines*. Page 20.

c. Change of control over a registry from a not-for-profit to for-profit organization may result in higher costs for registrars

96. Even when it does not create a new vertical relationship or bring multiple TLDs under the management of a single registry, a change of control over an input supplier can introduce the incentive for the supplier to increase its prices or otherwise degrade its supply terms.
97. The recent proposed acquisition of the not-for-profit .ORG registry operator PIR by a profit-driven financial investor Ethos Capital, presented a risk of an increase in input costs for Namecheap. This is because, if consummated, the acquisition could have enhanced an incentive for PIR to increase the price for registry services in relation to .ORG.
98. The ICANN Board withheld its consent for a change of control of PIR because of ‘various factors that create unacceptable uncertainty over the future’. More specifically, ICANN stated that the factors that determined that withholding consent was reasonable include:⁵⁰

‘A change from the fundamental public interest nature of PIR to an entity that is bound to serve the interests of its corporate stakeholders, and which has no meaningful plan to protect or serve the .ORG community.’

‘ICANN is being asked to agree to contract with a wholly different form of entity; instead of maintaining its contract with the mission-based, not-for-profit that has responsibly operated the .ORG registry for nearly 20 years, with the protections for its own community embedded in its mission and status as a not-for-profit entity.’

‘The US\$360 million debt instrument forces PIR to service that debt and provide returns to its shareholders, which raises further question about how the .ORG registrants will be protected or will benefit from this conversion. This is a fundamental change in financial position from a not-for-profit entity.’

99. ICANN has thus implicitly acknowledged:
- a. The potential negative impact of a change from the fundamental public interest (not-for-profit) nature of PIR to a (for-profit) entity that is bound to serve the interests of its corporate stakeholders; and
 - b. The important role of a stable and predictable environment for the participants, and ICANN’s role in providing such environment.
100. In other words, ICANN has implicitly acknowledged that the acquisition of PIR by a for-profit Ethos could harm Namecheap. This, in turn, implies that, to the extent ICANN’s deliberation in

⁵⁰ ICANN. (2020). *ICANN Board Withholds Consent for a Change of Control of the Public Interest Registry (PIR)*. Retrieved December 14, 2020, from <https://www.icann.org/news/blog/icann-board-withholds-consent-for-a-change-of-control-of-the-public-interest-registry-pir>.

the assessment of the acquisition lacked transparency, ICANN introduced uncertainty which represents harm for Namecheap.

3. Conclusion

101. Lack of ICANN's transparency increases uncertainty about costs or other variables that affect the ability of Namecheap to effectively compete, compared to a situation in which the decision-making process in relation to the changes of controls relevant to this dispute is transparent.
102. Such an increase in the uncertainty increases the cost of doing business for Namecheap irrespective of whether the adverse effects on the firm's ability have materialized or not.
103. If ICANN has withheld due transparency in relation to the concerned changes of controls, it has unduly increased the uncertainty for Namecheap and its costs, and has thus harmed Namecheap.

VII. EXPERT DECLARATION

104. We confirm that we understand that our overriding duty is to the IRP Panel and that we must assist the IRP Panel on matters within our expertise. We believe that we have complied with this duty.
105. The assumptions upon which our analysis is based are reasonable and likely assumptions, corroborated by well-established economic literature, our review of the relevant facts, our preliminary analysis of data, and our review of the studies cited in this report.
106. We have no present or past relationship with any of the Parties.
107. We confirm that, as far as the facts stated in our report are within our own knowledge, we have made clear which they are and we believe them to be true, and that the opinions we have expressed represent our true and complete professional opinion.



Professor Dr. Verboven



Dr. Gregor Langus

Appendix I SCOPE OF REVIEW

In addition to discussion with Namecheap and Counsel and the references taken up in the report itself, we have relied upon the following documents in the course of our review:

- Request for Independent Review Process by Namecheap, 25 February 2020
- Claimant Namecheap's Request for Emergency Arbitrator and Interim Measures of Protection, 25 February 2020
- ICANN's Opposition to Namecheap's Request for Emergency Arbitrator and Interim Measures of Protection, 11 March 2020
- Decision on Request for Emergency Relief, ICDR Case No. 01-20-0000-6787, 20 March 2020
- ICANN's Response to Namecheap's Request for Independent Review Process, 10 April 2020
- Claimant's Motion to Compel, 4 November 2020
- ICANN's Motion to Compel Production of Documents from Claimant Namecheap, Inc., 4 November 2020
- Claimant's Response to ICANN's Motion to Compel, 24 November 2020
- ICANN's Opposition to Namecheap's Motion to Compel, 24 November 2020
- The annexes, appendices, reference material attached to the documents mentioned above
- Email from 26 November 2020 by Mr. Flip Petillion to the IRP Panel
- Email from 27 November 2020 by Mr. Jeffrey A. Levee to the IRP Panel
- Affidavit by Marina Zhuravlova of 16 December 2020
- Namecheap data files (HIGHLY CONFIDENTIAL - OUTSIDE ATTORNEYS' EYES ONLY) sent in attachment together with this report
 - *Average Costs by tld and provider - Highly Confidential - Contains Business Secrets.xlsx*
 - *Domains under management - Highly Confidential - Contains Business Secrets.xlsx*

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EDUCATION

- 1993 Ph.D. in Economics, University of Toronto
Title: “Theoretical and Empirical Essays in Oligopoly Behavior”
(Supervisor: Nancy Gallini)
- 1989 M.A. in Economics, University of Toronto
- 1988 Lic. in Economics, KU Leuven
- 1986 Kan. in Economics, KU Leuven

RESEARCH FIELDS OF INTEREST

Industrial Organization, Competition Policy, Applied Microeconomics

PROFESSIONAL EXPERIENCE

- 2006- Professor (Gewoon Hoogleraar), KU Leuven
- 2002-2006 Professor (Hoogleraar), KU Leuven
- 2000-2002 Associate Professor (Hoofddocent), KU Leuven
- 2000-2001 Professor (Hoogleraar), University of Antwerp (Part-time)
- 1998-2000 Associate Professor (Hoofddocent), University of Antwerp
- 1997-1998 Assistant Professor (Docent), University of Antwerp
- 1996-1997 Postdoctoral Researcher, FWO/KU Leuven
- 1995-1996 Postdoctoral Researcher, BOF/KU Leuven
- 1993-1995 Postdoctoral Researcher, CentER Tilburg University
- 1988-1993 Teaching Assistant, University of Toronto

OTHER POSITIONS

KU Leuven service

- Member of Assessment Committee Economics & Business, 2016-
- Chairman of Department of Economics, 2013-2017
- Member of University Research Council, 2010-2012

Holder of the Orange Chair of Regulation and Innovation, Telecom ParisTech, 2012-2015

Research Fellow

- Centre for Economic Policy Research, London, 1997-
- CentER for Economic Research, Tilburg University, 1997-

Member of:

- Academic Panel, Ofcom, UK, 2008-
- Elected academic member steering committee of the Association of Competition Economists (ACE), 2008-2011.
- Economic Advisory Group Competition Policy, European Commission, 2003-2019
- Raad van Bestuur, Vereniging voor Economie, 2003-2012
- E.A.R.I.E. Executive Committee, 2001-2007
- Steering Committee of the Annual C.E.P.R. Applied IO Conference, 1997-2017

Editorial positions

- Managing Editor, International Journal of Industrial Organization, 2019-
- Co-editor, Journal of Industrial Economics, 2003-2008

- Associate Editor, Review of Network Economics, 2016-
- Associate Editor, Economic Journal, 2011-2016
- Associate Editor, De Economist, 2011-
- Associate Editor, Journal of the European Economic Association, 2003-2008
- Associate Editor, Journal of Industrial Economics, 1999-2003
- Associate Editor, European Economic Review, 1999-2002
- Associate Editor, Economisch en Sociaal Tijdschrift, 1998-2001

AWARDS AND GRANTS

- Methusalem, 2015-2022: The granular economy, co-promotor (promotor: Joep Konings)
- KKV Project, 2013-2014, Modeling Uncertainty in Merger Simulation (with Jonas Björnerstedt)
- SEEK-ZEW Project, 2011, “Competitiveness of the European Car Industry”.
- Fund for Scientific Research (Flanders) Onderzoeksproject, promotor, 2011-2015: “A Retailer’s Private-Label Portfolio: Budget, Standard and Premium Private Labels”.
- KU Leuven Programmafinanciering “Centre of Excellence”, promotor, 2010-2018: “Governments & Markets: Institutions and Regulation in a Changing World”.
- NBB Onderzoekstoelage, 2010: “Constructie van een samengestelde indicator voor het evalueren van markten in de Belgische economie”.
- Agora, promotor, 2009-2011: “MMS: Monitoring, Markten en Sectoren” Fund for Scientific Research (Flanders), Onderzoeksproject, promotor, 2009-2014: “Vertical Control of the Size and Geographic coverage of Distribution Networks: Empirical Methodology and Applications”.
- NBB Onderzoekstoelage, 2007: “Concurrentie en Europese integratie in de automarkt”.
- PAI Project, co-promotor Leuven node, 2007-2011

- K.U.Leuven OT Onderzoeksproject, promotor, 2005-2008: “Entry, Competition and Economic Efficiency: Applications to Banking, Health Services and Retail”,
- Fund for Scientific Research (Flanders) Onderzoeksproject, co-promotor, 2004-2007: “Entry, Competition and Econ Efficiency: Applications to Banking, Health Services and Retail”.
- PAI Project, co-promotor Leuven node, 2003-2006: “Universities and Firms: A Comparative Analysis of the Interaction Between Market Processes, Organizational Strategies and Governance”
- RTN Network Fellowship, promotor Leuven node, 2002-2006: “Competition Policy in International Markets”.
- Fund for Scientific Research (Flanders) Onderzoeksproject, promotor, 2002-2005: “New Industrial Organization Methods in Marketing, with Applications to Automobiles and Telecommunications”.
- Tweejaarlijkse Prijs Vereniging voor Economie, 2001.
- University of Antwerp BOF Onderzoeksproject, promotor, 1998-2001: “Structural Modeling of the European Automobile Industry”.
- Fund for Scientific Research (Flanders) Onderzoeksproject, promotor, 1998-2003: “Deregulation in telecommunications, with applications to the Mobile Telecommunications Industry”.
- Fund for Scientific Research (Flanders) Krediet aan Navorsers, promotor, 1997-2000: “Empirical Analysis of the Automobile and Semiconductor industries”.
- Phare ACE Research Grant for project P96-6204-R, participant, 1996-1999: “Industrial Change in Transition: a Comparative Analysis of Three Industries in Three Countries”
- Fellow at the Institute for Policy Analysis, University of Toronto, 1992
- Winner of “Young Economists’ Essay Competition” European Association of Research in Industrial Economics, 1992
- Open Fellowship, University of Toronto, 1992
- Mary H. Beatty Fellowship, University of Toronto, 1991
- Connaught Fellowship, University of Toronto, 1989-1990
- Margaret and Nicholas Fodor Fellowship, University of Toronto, 1988

TEACHING

Graduate:

- Microeconomics
- Applied Econometrics
- Advanced Industrial Organization
- Empirical Industrial Organization
- Empirical Methods in Competition Policy
- Network Industries and the Digital Economy

Undergraduate:

- Intermediate Microeconomics
- Industrial Organization
- Seminar Economic Policy & Econometrics

CURRENT RESEARCH PROJECTS AND WORKING PAPERS

Current research projects:

- The Impact of Geo-Blocking Practices on Consumers and Producers with Nestor Duch-Brown, Lukasz Grzybowski and André Romahn
- The Profit and Consumer Welfare Effects of National Pricing Policies and International Price Differentiation in the retail industry
- Strategic Trade Liberalization, with Jo Van Biesebroeck and Hang Gao

Working papers:

- Nestor Duch-Brown, Lukasz Grzybowski, André Romahn and Frank Verboven “Evaluating the Impact of Online Market Integration: Evidence from the EC Portable PC Market,” revise&resubmit at American Economic Journal: Microeconomics.
- Marc Bourreau, Yutec Sun and Frank Verboven, “Market Entry and Fighting Brands and Tacit Collusion: Evidence from the French Mobile Telecom Industry,” revise&resubmit at American Economic Review.
- Nestor Duch-Brown, Lukasz Grzybowski, André Romahn and Frank Verboven “Are Online Markets More Integrated than Traditional Markets: Evidence from the Consumer Electronics,” revise&resubmit at Journal of International Economics.
- “Implicit Interest Rates in Durable Goods Purchasing Decisions - Evidence from Automobile Purchasing Data,” (1998) also C.E.P.R. Discussion paper no. 2069.

PUBLICATIONS

International publications:

- Olivier De Groot and Frank Verboven, Subsidies and Time Discounting in Technology Adoption: Evidence from Solar Photovoltaic Systems, American Economic Review, 2019, 109(6), 2137-72.
- Koen Declercq and Frank Verboven, Enrollment and Degree Completion in Higher Education without Admission Standards, Economics of Education Review, 2018, 66, 223-244.
- Laura Grigolon, Mathias Reynaert and Frank Verboven, Consumer Valuation of Fuel Costs and Tax Policy: Evidence from the European Car Market, American Economic Journal: Economic Policy, 2018, 10(3), 193-225.
- Christos Genakos, Tommaso Valletti and Frank Verboven, Evaluating Market Consolidation in Mobile Telecommunications, Economic Policy, 2018, 33 (93), 45-100.
- Gizem Hökelekli, Lien Lamey and Frank Verboven, The Battle of Traditional Retailers versus Discounters: the Role of Private Label Tiers, Journal of Retailing and Consumer Services, 2017, 39, 11-22.
- Gizem Hökelekli, Lien Lamey and Frank Verboven, Private Label Line Proliferation and Private Label Tier Pricing: a New Dimension of Competition between Private Labels and National Brands, Journal of Retailing and Consumer Services, 2017, 36, 39-52.
- Nestor Duch-Brown, Lukasz Grzybowski, André Romahn and Frank Verboven, The Impact of Online Sales on Consumers and Firms -- Evidence from Consumer Electronics, International Journal of Industrial Organization, 2017, 52, 30-62.
- Olivier De Groot, Guido Pepermans and Frank Verboven, Heterogeneity in the Adoption of Photovoltaic Systems in Flanders, Energy Economics, 2016, 59, 45-57.

- Lukasz Grzybowski and Frank Verboven, Substitution between Fixed and Mobile Access - The Role of Complementarities, *Journal of Regulatory Economics*, 2016, 49(2), 113-151.
- Laura Grigolon, Nina Leheyda and Frank Verboven, Scrapping Schemes in the Financial Crisis - Evidence from Europe, *International Journal of Industrial Organization*, 2016, 44, 41-59.
- Jonas Björnerstedt and Frank Verboven, Does Merger Simulation Work? Evidence from the Swedish Analgesics Market, *American Economic Journal: Applied Economics*, 2016, 8(3), 125-164.
- Laura Nurski and Frank Verboven, Exclusive Dealing as a Barrier to Entry? - Evidence from the Car Market, *Review of Economic Studies*, 2016, 83, 1156-1188.
- Koen Declercq and Frank Verboven, Socio-economic Status and Enrollment in Higher Education: Do Costs Matter?, *Education Economics*, 2015, 23(5), 532-556.
- Mattia Nardotto, Tommaso Valletti and Frank Verboven, Unbundling the Incumbent: Evidence from UK Broadband, *Journal of the European Economic Association*, 2015, 13(2), 330-362.
- Laura Grigolon, Nina Leheyda and Frank Verboven, Public Support to the European Car Industry: the Impact of the Financial Crisis, *Journal of Industry, Competition and Trade*, 2015, 15(3), 283-321.
- Catherine Schaumans and Frank Verboven, Entry and Competition in Concentrated Markets with Product Differentiation, *Review of Economics and Statistics*, 2015, 97(1), 195-209.
- Laura Grigolon and Frank Verboven, Nested or Random Coefficients Logit? A Comparison between Alternative Discrete Choice Models of Product Differentiation, *Review of Economics and Statistics*, 2015, 96(5), 916-935.
- Lukasz Grzybowski, Rainer Nitsche, Frank Verboven and Lars Wiethaus, Market Definition of Broadband Internet in Slovakia: are Fixed and Mobile in the Relevant Market? *Information Economics and Policy*, 2014, 28, 39-56.
- Laura Nurski and Frank Verboven, Incumbency Advantages, Distribution Networks and Exclusivity - Evidence from the European Car Markets, *International Journal of Industrial Organization*, 2014, 34, 75-79.
- Jonas Björnerstedt and Frank Verboven, Merger simulation with Nested Logit Demand: Implementation using Stata, 2014, *Stata Journal*.
- Frank Verboven, The effects of Environmental Policies in the Car Sector, *Economic Journal*, 2014, 124 (578), F389-F392.
- Mathias Reynaert and Frank Verboven, Improving the Performance of Random Coefficients Demand Models - the Role of Optimal Instruments, *Journal of Econometrics*, 2014, 179(1), 83-98.
- Stijn Ferrari and Frank Verboven, Vertical Control of a Distribution Network - Evidence from Magazines, *RAND Journal of Economics*, 2012, 43(1), 26-50.
- Catherine Haeck and Frank Verboven, The Internal Economics of a University - Evidence from Personnel Data, *Journal of Labor Economics*, 2012, 30(3), 591-626.
- Jan Bouckaert, Theon van Dijk and Frank Verboven, Access Regulation, Competition and Broadband Penetration: an Empirical Study, *Telecommunications Policy*, 2010, 34, 661-671.

- Stijn Ferrari and Frank Verboven, Empirical Analysis of Markets with Free and Restricted Entry
International Journal of Industrial Organization, 2010, 28, 403-406.
- Stijn Kelchtermans and Frank Verboven, Program Duplication in Higher Education is not Necessarily Bad, Journal of Public Economics, 2010, 94 (5-6), 397-409.
- Kathleen Cleeren, Marnik Dekimpe, Katrijn Gielens and Frank Verboven, Intra- and Inter-format Competition among Discounters and Supermarkets, Marketing Science, 2010, 29(3), 456-473.
- Stijn Ferrari, Frank Verboven and Hans Degryse, Investment and Usage of New Technologies: Evidence from a Shared ATM Network, American Economic Review, 2010, 100(3), 1046-1079.
- Stijn Kelchtermans and Frank Verboven, Participation and Study Decisions in Higher Education
Journal of Applied Econometrics, 2010, 25, 355-391.
- Frank Verboven and Theon van Dijk, Cartel Damages Claims and the Passing-on Defense
Journal of Industrial Economics, 2009, 57(3), 457-491.
- Stijn Kelchtermans and Frank Verboven, Regulation of Program Supply in Higher Education: Lessons from a Funding System Reform in Flanders, CESifo Economic Studies, 2008, 54(2), 204-228.
- Catherine Schaumans and Frank Verboven, Entry and Regulation - Evidence from Health Care Professions, RAND Journal of Economics, 2008, 39, 949-972.
- Kathleen Cleeren, Marnik Dekimpe and Frank Verboven, Competition in Local services: the Video Rental Case, International Journal of Research in Marketing, 2006, 23, 357-367.
- Randy Brenkers and Frank Verboven, Liberalizing a Distribution System: the European Car Market, Journal of the European Economic Association, 2006, 4(1), 216-251.
- Marc Ivaldi and Frank Verboven, Quantifying the Effects from Horizontal Mergers in European Competition Policy, International Journal of Industrial Organization, 2005, 23 (9-10), 669-691.
- Marc Ivaldi and Frank Verboven, Quantifying the Effects from Horizontal Mergers in European Competition Policy: comments on the underlying assumptions, International Journal of Industrial Organization, 2005, 23(9-10), 693-698.
- Chaim Fershtman, Uri Gneezy and Frank Verboven, Discrimination and Nepotism: the Efficiency of the Anonymity Rule, Journal of Legal Studies, 2005, 34(2), 371-394.
- Pinelopi K. Goldberg and Frank Verboven, Market Integration and Convergence to the Law of One Price: Evidence from the Automobile Industry, Journal of International Economics, 2005, 65(1), 49-73.
- Penny Goldberg and Frank Verboven, Cross-country Price Dispersion in the Euro Era: a Case Study of the European Car Market, Economic Policy, 19(40), 2004, 484-521.
- Jan Bouckaert and Frank Verboven, Price Squeezes in a Regulatory Environment
Journal of Regulatory Economics, 2004, 26(3), 321-351.

- Frank Verboven, Quality-based Price Discrimination and Tax Incidence - the Market for Gasoline and Diesel Cars In Europe, *RAND Journal of Economics*, 2002, 33(2), 275-297.
- Companion paper:
Frank Verboven, Implicit Interest Rates in Durable Goods Purchasing Decisions - Evidence from Automobile Purchasing Data, C.E.P.R. Discussion paper no. 2069, 1998.
- Pinelopi K. Goldberg and Frank Verboven, The Evolution of Price Dispersion in the European Car Market, *Review of Economic Studies*, 2001, 68(4), 811-848.
- Frank Verboven, Testing for “Monopoly” Market Power when Products are Differentiated in Quality, *The Manchester School - Special Issue on Industrial Organization*, 2002, 70(1), 115-133.
- Harald Gruber and Frank Verboven, The Evolution of Markets under Entry and Standards Regulation - the Case of Global Mobile Telecommunications, *International Journal of Industrial Organization*, 2001, 19(7), 1189-1212.
- Harald Gruber and Frank Verboven, The Diffusion of Mobile Telecommunications Services in the European Union countries, *European Economic Review*, 2001, 45(3), 577-588.
- Uri Gneezy, Werner Guth and Frank Verboven, Presents or Investments? - An Experimental Analysis, *Journal of Economic Psychology*, 2000, 21(5), 481-493.
- Leon Bettendorf and Frank Verboven, Incomplete Transmission of Coffee Bean Prices: Evidence from the Netherlands, *European Review of Agricultural Economics*, 2000, 27(1), 1-16.
- Frank Verboven, Product Line Rivalry and Market Segmentation, with an application to the Pricing of Optional Engine Power on Automobiles, *Journal of Industrial Economics*, 1999, 47(4), 399-425.
- Frank Verboven, Localized Competition, Multimarket Operation, and Collusive Behavior, *International Economic Review*, 1998, 39(2), 371-398.
- Frank Verboven, Collusive Behavior with Heterogeneous Firms, *Journal of Economic Behavior and Organization*, 1997, 33(1), 21-36.
- Frank Verboven, International Price Discrimination in the European Car Market, *RAND Journal of Economics*, 1996, 27 (2), 240-268.
- Frank Verboven, The Nested Logit Model and Representative Consumer Theory, *Economics Letters*, 1996, 50(1), 57-63.
- Frank Verboven, Corporate Restructuring in a Collusive Oligopoly, *International Journal of Industrial Organization*, 1995, 13(3), 335-354.

Chapters in books:

- Frank Verboven, “Efficiency Enhancing or Anti-Competitive Vertical Restraints: Selective and Exclusive Car Distribution in Europe,” (2008), forthcoming in *Cases in European Competition Policy: the Economic Analysis*, Edited by Bruce Lyons, Cambridge University Press.
- Theon van Dijk and Frank Verboven, “Quantification of Damages,” (2008), in: Wayne D. Collins, ed., *Issues in Competition Law and Policy (Volume III)*, American Bar Association, August 2008.

- Frank Verboven, “Price Discrimination: Empirical Studies,” (2008) in: Stephen N. Durlauf and Lawrence E. Blume, ed., *The New Palgrave: A Dictionary in Economics*, MacMillan, second edition.
- Randy Brenkers and Frank Verboven, “Market Definition with Differentiated Products - Lessons from the Car Market,” (2006), in: Jay Pil Choi (ed.), *Recent Developments in Antitrust: Theory and Evidence*, MIT Press, p. 153-186.
- Lars-Hendrik Röller, Johan Stennek and Frank Verboven, “Efficiency Gains from Mergers,” (2001) with, *European Economy*, 5, 31-127.
- Johan Stennek and Frank Verboven, “Merger Control and Enterprise Competitiveness: Empirical Analysis and Policy Recommendations,” (2001), *European Economy*, 5, 130-194.
- Jan Bouckaert and Frank Verboven, “Price Differences and Price Setting in the European Car Market,” (2000), in: Ooghe H., Heylen F. and Vander Vennet, R. (eds.), *The Economic and Business Consequences of EMU: a Challenge for Governments, Financial Institutions and Firms*, Kluwer Academic Publishers, 438p.

Selected publications in Dutch:

- Koen Declercq and Frank Verboven, “Slaagkansen aan Vlaamse Universiteiten - Tijd om het Beleid bij te Sturen?” (2010), *Impuls*, 41(2), 88-98.
- Frank Verboven, “Motieven voor het selectieve en exclusieve distributiesysteem in de Europese automarkt,” (2003) *Tijdschrift voor Economie en Management*, 48 (3), p. 405-430.
- Frank Verboven, “Nieuwe technieken ten dienste van het mededingingsbeleid,” *Business InZicht*, (2002).
- Eric van Damme, Theon van Dijk and Frank Verboven, “Het nieuwe toezicht op ondernemingen: economische aspecten van marktwerking en regulering,” (2001), in H. Schenk (ed.), *Herpositionering van Ondernemingen*, KVS Preadviezen, LEMMA, Utrecht.
- Frank Verboven, “Het Gebruik van Simulatieanalyse in het Europese Mededingingsbeleid,” (2001) *Markt & Mededinging*.
- Jan Bouckaert and Frank Verboven, “Mededinging en de E.M.U.: Prijsverschillen en Prijszetting in de Europese automarkt,” (2000), in F. Heylen, H. Ooghe and R. Vander Vennet (eds.), *E.M.U.: dé Uitdaging*, Vereniging voor Economie vzw, 593p.
- Frank Verboven, “Prijsverschillen in de Europese automarkt,” (1999) *Trends Review*, nr. 6.
- Frank Verboven, “De Markten voor Benzine- en Dieselauto’s in de Europese Unie,” (1999) *Economische en Statistische Berichten*, 84, nr. 4203.
- Frank Verboven, “Productdifferentiatie, Prijszetting en Overheidsinterventie in de Europese automarkt,” (1999) *Economisch en Sociaal Tijdschrift*.

Selected policy reports:

- “Regulation and Broadband Penetration - What is Required to Regain Speed in Belgium?” (2008), with Jan Bouckaert and Theon van Dijk.
- “Report on: an economic analysis of the Austrian/German soft drink sectors,” (2003) report for the Competition Directorate-General of the European Commission.

- “Efficiency Defense and Consumers’ Interests in European Merger Control,” (2003) with Johan Stennek, report for Directorate General of Health and Consumer Protection.
- “Quantitative Techniques to Assess Price Effects in European Merger Control from a Consumer Protection Perspective,” (2003) with Johan Stennek, report for Directorate General of Health and Consumer Protection.
- “Quantitative Study to Define the Relevant Market in the Passenger Car Sector,” (2002) report for the Competition Directorate-General of the European Commission.
- “Enterprise Competitiveness and Merger Control,” (2001) with Johan Stennek, report for the Enterprise Directorate General of the European Commission.
- “Car Price Differentials in the European Union: and Economic Analysis,” (2000) with Hans Degryse, report for the Competition Directorate-General of the European Commission.
- “The European Heavy Trucks Market: an Economic Analysis,” (2000) with Marc Ivaldi, report for the Competition Directorate General of the European Commission.
- “The Efficiency Defense in Merger Analysis,” (1999) with Lars-Hendrik Röller and Johan Stennek, report for the Economic and Financial Affairs Directorate General of the European Commission.
- “Restructuring in the Automotive Sector in Three Countries in Transition: a Comparative Analysis,” (1999) report for Phare ACE-program.

PHD SUPERVISION

Currently (co-)supervising at KU Leuven includes (expected graduation year in parentheses):

Cam Birchall (2021), Enrico Camarda (2022), Debashrita Mohapatra (2022), Julian Hidalgo (2023)

Promotor at KU Leuven of (year and first job in parentheses):

Randy Brenkers (2006, BNP Paribas), Kathleen Cleeren (2007, Maastricht University), Stijn Kelchtermans (2007, HUB), Catherine Schaumans (2008, Tilburg University), Stijn Ferrari (2009, National Bank of Belgium), Catherine Haeck (2012, U Montreal), Laura Grigolon (2012, McMaster University), Mathias Reynaert (2015, Toulouse School of Economics), Laura Nurski (2015, KBC Bank), Koen Declercq (2016, KU Leuven), Gizem Hokelekli (2017, Nike), Olivier De Groote (2018, Toulouse School of Economics), Ruben Savelkoul (2019, Compass Lexecon)

Co-promotor at KU Leuven of:

Yunus Aksoy (2000), Roel Helgers (2016), Thi Hien Pham (2017)

Internal Committee member at KU Leuven of:

Bert Willems (Leuven, 2004), Marc Callens (2004), Kristien Coucke (2005), Jan De Loecker (2006), Katrin Hussinger (2007), Tom Franck (2008), Ilke Van Beveren (Leuven, 2008), Koen Jochmans (2009), Eline Poelmans (2009), Carine Van De Voorde (2010), Saskia van der Loo (2011), Dries Desmedt (2011), Jo Reynaerts (2011), Linda Van Bouwel (2012), Koen Deconinck (2014), Hang Gao (2014),

Alexander Schmitt (2015), Simon Michielsen (2016), Hendrik Meder (2016), Sven Daemen (2017), Marten Ovaere (2017), Paul Hünermund (2017), Thomas Wouters (2019), Deni Mazrekaj (2019), Michael Rubens (2020)

External committee member of:

Youdi Schipper (Amsterdam, 1999), Zsolt Sandor (Groningen, 2001), Vincent Verouden (Tilburg, 2001), Ziv Hagai (Tel Aviv, 2004), Christos Genakos (London Business School, 2005), Lapo Filistrucchi (Florence, 2005), Szabolcs Lorincz (Toulouse, 2006), Gorm Gronnevet (Norwegian School of Economics, 2007), Nina Leheyda (U Mannheim, 2008), An Renckens (Antwerp, 2008), Eve Van Haacht (Antwerp, 2008), Sandra Jodar (Toulouse, 2008), Marie Goppelsroeder (Amsterdam, 2009), Riemer Faber (Rotterdam, 2010), Ricardo Ribeiro (LSE, 2010), Raquel Sampaio (Toulouse, 2011), Daniel Coublucq (Toulouse, 2012), Isis Durrmeyer (CREST, 2012), Nan Yang (Amsterdam, 2012), Yufeng Huang (Tilburg, 2015), George Vivien Hounghonon (Paris, 2015), Laura Lazio (Toulouse, 2015), Giulia Pavan (Rome, 2016), Roxana Fernandez (Tilburg, 2017), Ambre Nicolle (ParisTech, 2018), Simon Martin (Vienna, 2019)

REFEREEING SERVICES

Research grants:

US National Science Foundation, EU-ERC, FWO (Flanders)

Journals:

American Economic Review; Econometrica; Economic Policy; Economisch en Sociaal Tijdschrift; European Economic Review; European Review of Agricultural Economics; Games and Economic Behavior, International Journal of Industrial Organization; Journal of Applied Econometrics; Journal of Economic Behavior and Organization; Journal of the European Economic Association; Journal of Competition, Industry and Trade; Journal of Political Economy; Journal of Public Economics; RAND Journal of Economics; Recherches Economiques de Louvain; Regional Science and Urban Economics; Review of Economics and Statistics; Review of Economic Studies; Quarterly Journal of Economics; Telecommunications Policy; Tijdschrift voor Economie en Management; and other journals.

SERVICES TO INTERNATIONAL CONFERENCES

Organizer:

Flemish Economic Association (bi-annual) 2010 (Leuven)
CEPR IO Conference 2003 (Leuven)

Member of program committee at (until 2012):

EARIE 2012 (Rome), 2008 (Toulouse), 2011 (Stockholm), 2007 (Valencia), 2005 (Porto), 2004 (Berlin), 2003 (Helsinki), 2002 (Madrid), Lausanne (2000), Leuven

(1997)

CEPR IO meetings 2011 (Tel-Aviv), 2010 (Toulouse), 2009 (Mannheim), 2008 (Paris), 2007 (Taragona), 2006 (Madeira), 2005 (Munich), 2004 (Hydra), 2003 (Leuven), 2000 (Lissabon), 1999 (Toulouse)

EEA 2011 (Oslo), 2007 (Budapest), 1999 (Santiago), 1998 (Berlin)

ESEM 2003 (Stockholm)

CONFERENCE AND SEMINAR PRESENTATIONS

Keynote lectures at conferences

- EARIE 2017 (European Association of Research in Industrial Economics (Maastricht)
- ParisTech ICT conference 2017 (Paris)
- CEPR Applied IO Conference 2013 (Bologna)
- Research Network on Innovation and Competition Policy 2009 (Vienna).
- Spanish Industrial Economics Association 2008 (Reus)

Invited sessions at conferences

- ASSA 2018 (Atlanta)
- China Econometric Society meeting 2018 (Shanghai)
- EEA/ESEM 2016 (Zürich)
- EEA/ESEM 2011 (Oslo)
- EARIE 2009 (Ljubljana)
- EARIE 2008 (Toulouse)
- EARIE 2002 (Madrid)

Selected other presentations at annual conferences (until 2012 only):

- EARIE 2012 (Rome), 1997 (Leuven), Nice (1995), Chania (1994)
- CEPR IO Conference 2010 (Toulouse), 2009 (Paris), 2006 (Madeira), 2004 (Hydra)
- CRESSE 2012 (Chania), 2011(Rhodes), 2009 (Chania), 2008 (Athens)
- EEA/ESEM 2005 (Amsterdam), 2003 (Stockholm), 2001 (Lausanne), 1999 (Santiago), 1998 (Berlin), 1994 (Maastricht), 1993 (Tel Aviv), 1992 (Stuttgart)
- ASSA 2011 (Denver)
- Marketing Science 2001 (Wiesbaden)

Selected other conference presentations (until 2012 only):

- 2012: SEEK Conference on the Economics of State Aid, Brussels
 Workshop on Industrial Economics, Amsterdam
 Conference on Merger Control, Bergen
- 2010: CCP Conference on Vertical Restraints, East Anglia
 IFS Conference on Econometric Analysis of Scanner Data, London
- 2007: UK Network of Industrial Economics Conference, Oxford University
- 2006: Professional Services Conference of the European Commission
- 2005: Conference Centrum voor Economische Studies, Leuven
 Conference in Industrial Organization and Competition Policy, Madrid
- 2004: WZB/RTN Conference on Competition Policy in International Markets, Berlin

- PAI Conference on the Economics of Education, Toulouse
- CEPR/Economic Policy Conference, Trinity College, Dublin
- Conference on Antitrust and Regulation, University of Brescia
- Conference on Issues on the Economics of Pricing, Utrecht School of Economics
- UK Network of Industrial Economics Conference, University of Lancaster
- 2003: RTN/C.E.P.R. Conference Competition Policy in International Markets, Toulouse
- C.E.P.R. Conference on Competition Policy, Madrid
- 2001: 2nd Tel Aviv Workshop on Industrial Organization and Antitrust
- 2000: Conference on the Economics of Antitrust, Wissenschaftszentrum Berlin
- 1997: Conference on Advances in Empirical Industrial Organization, WZB
- 1996: CEPR Conference on Applied Theory and Empirical Work in IO, Champéry

Selected seminar presentations:

- 2020: Autonoma Barcelona
- 2019: Cambridge, Federal trade Commission, Vienna, Research Center Ispra (European Commission), IFN Stockholm, Research Center Sevilla (European Commission), DG-Competition
- 2018: Tinbergen Institute (Amsterdam), CREST (Paris), University of East Anglia, University of Virginia, Department of Justice (Washington), Yale University, Science Po (Paris)
- 2017: Stern & Colombia (New York), ZEW (Mannheim), HEC & McGill (Montreal)
- 2016: Enaudi (Rome), DICE (Dusseldorf), Humbolt (Berlin)
- 2015: European Commission, Tilburg University
- 2014: London School of Economics
- 2013: Toulouse School of Economics, UvA (Amsterdam)
- 2012: Bocconi (Milan), Northwestern (Evanston)
- 2011: European Commission, Tilburg University, Toulouse School of Economics, Telecom ParisTech, CREST (Paris)
- 2010: University of Zürich, University of Mannheim
- 2008: CREST (Paris), Harvard & MIT, Stern Business School, Wharton, Tilec (Tilburg)
- 2007: Stockholm School of Economics, Helsinki Center for Economic Research
- 2006: Tinbergen Institute (Rotterdam), CPB/EZ/Tilburg (Den Haag), Norwegian School of Economics and Business Administration (Bergen), Collegio Carlo Alberto (Turin), Ecares (Brussels), London School of Economics
- 2005: CREST (Paris), Warwick University
- 2004: Portugese Competition Authority (Lissabon), UCL (London), European Commission (Brussels), Nationale Bank (Brussels)
- 2003: European University Institute (Florence), Tilburg University, Maastricht University, Cemfi (Madrid), London School of Economics, Encore (Amsterdam)
- 2002: University of Chicago GSB, University of Cyprus, London Business School, Office of Fair Trading, University of Toulouse
- 2001: UCL (Louvain-La-Neuve), IUI (Stockholm), FUNDP (Namur), DG-ECFIN of European Commission (Brussels), Tilburg University
- 1999: University of Lausanne, University of Toulouse, WZB (Berlin), K.U.Leuven, Ecares (Brussels).
- 1998: London Business School, Tinbergen Institute (Amsterdam), Norwegian School of Economics (Bergen)
- 1997: Ecares (Brussels), UCL (Louvain)
- 1996: UFSIA (Antwerp), RUG (Groningen), WZB (Berlin), R.U.Limburg (Maastricht)
- 1995: WZB (Berlin)
- 1994: CEME (Brussels), ENCAE-CREST (Paris)
- 1993: Tinbergen Institute (Rotterdam), Erasmus University (Rotterdam), CES (Leuven), CentER (Tilburg), University of Toronto

CURRICULUM VITAE

GREGOR LANGUS

CONTACT INFORMATION

- Working address: Dr. Gregor Langus
Avenue Louise 500, 1050 Brussels, Belgium
- Email: Contact Information Redacted

PROFESSIONAL EXPERIENCE

- 2020 - Present, *Director*, E.CA Economics
- 2018 - 2020, *Senior Vice President*, Compass Lexecon
- 2016 - 2018, *Economist*, Chief Economist Team, Directorate General for Competition, European Commission, Brussels
- 2014 - 2016, *Senior Vice President*, Compass Lexecon
- 2011 - 2014, *Senior Consultant*, Charles River Associates
- 2007 - 2011, *Directorate for Competition, Chief Economist Team, Economist*, European Commission
- 2007, *Researcher, Lecturer*, Tilburg University
- 2003 - 2006, *Researcher*, European University Institute

EDUCATION

- 2003 - 2007, *Ph.D. in Economics*, European University Institute
- 2000 - 2002, *M.A. in Economics*, Central European University

SELECTED PUBLICATIONS

- *Non-horizontal mergers with investments into compatibility* (jointly with Vilen Lipatov and Jorge Padilla); CESifo Working Paper Series, 2019.
- *Horizontal mergers and product innovation* (jointly with Giulio Federico and Tommaso Valletti); International Journal of Industrial Organization, 2018.
- *A simple model of mergers and innovation* (jointly with Giulio Federico and Tommaso Valletti); Economics Letters, 2017.
- *Recent Developments at DG Competition: 2016/2017* (jointly Benno Buehler, Daniel Coublucq, Cyril Hariton, Tommaso Valletti); Review of Industrial Organization, 2017.

- *Standards of proofs in sequential merger control procedures* (jointly with Vilen Lipatov and Damien Neven); *Concurrences*, 2018.
- *Economic Analysis of the Territoriality of the Making Available Right in the EU* (jointly with Damien Neven and Sophie Poukens); report for the EC, DG Markt, 2014.
- *Assessing the Economic Impacts of Adapting Certain Limitations and Exceptions to Copyright and Related Rights in the EU* (jointly with Damien Neven and Gareth Shier); report for the EC, DG Markt, 2014.
- *The Effect of EU Antitrust Investigations and Fines on a Firms' Valuation* (jointly with Luca Aguzzoni and Massimo Motta); *Journal of Industrial Economics*, 2013.
- *Injunctions for Standard Essential Patents: Justice is not Blind* (jointly with Peter Camesaca, Damien Neven and Pat Treacy); *Journal of Competition Law and Economics*, 2013.
- *Injunctions for Standard Essential Patents: Who is Really Holding Up (and when)?* (jointly with Damien Neven and Vilen Lipatov); *Journal of Competition Law and Economics*, 2013.
- *Casting Methodologies and Incentives to Invest in Fibre* (jointly with Jenny Haydock, Vilen Lipatov, Damien Neven and Gareth Shier); report for the EC, DG Connect, 2012.
- *RWE/Essent: On the Borderline* (jointly with Miriam Driessen Reilly, Krisztian Kecsmar, Philippe Redondo, Phillipe Chauve and Kristof Kovacs); *Competition Policy Newsletter*, 2009.
- *The E.ON Electricity cases: an antitrust decision with structural remedies* (jointly with Philippe Chauve, Martin Godfried, Kristof Kovacs, Karoly Nagy and Stefan Siebert); *Competition Policy Newsletter*, 2009.

Speaking Engagements

- November 2020 - *Concurrences: Digital Ecosystem: Regulatory Intervention & Efficiency Trade-Offs* - panellist
- December 2019 - *Karanovic and Partners, Annual Competition and Regulation Conference: "Competition Law and Digital Economy"* - panellist

- June 2019 - CCP Annual Conference: Machine Learning and AI as Business Tools: Threat or Blessing to Competition - Session on Privacy & Competition - panellist
- April 2019 - Barcelona Graduate School of Economics: “Course on the economics of digital platforms”
- September 2018 - Ljubljana, Slovenian Competition Day: “Competition Assessment in Digital Markets - Digital Platforms”
- Nov 2017 - Madrid, ACE plenary session: “When do mergers mute innovation and harm consumers” - panellist
- Oct 2017 - Brussels: “Mergers and innovation - a discussion with Gregor Langus, from the EU CET” - American Bar Association event speaker
- June 2014 - London: GCR Live 3rd Annual Telecoms, Media and Technology - territoriality in copyright - panellist.
- June 2014 - Ljubljana Law Faculty: The use of economics in competition cases in front of national courts - Education and Training of National Judges in the Field of EU Competition Law.
- April 2014 - Johannesburg: Comesa workshop on merger guidelines (The economics of merger control), Key speaker on economic aspects of new Comesa merger guidelines.
- March 2014 - Brussels: JRC workshop on Copyright, panellist.
- March 2013 - WIPO Seminar, Geneva: Patents and Standard Setting.
- December 2012 - Florence School of Regulation - Annual Training 2012-13 on Communications and Media Regulation: “Costing methodologies and investments into Fibre”, Lecture.
- June 2012 - Florence School of Regulation, Florence: “Regulation and investments into Fibre”, Conference address.
- May 2012 - ETNO and Total Telecom Regulatory Summit, Brussels: “Costing methodologies and investments into Fibre infrastructure”, Keynote address.

- October 2011 - Workshop on Legal aspects and Economics of Vertical Restraints, Bucarest: “RPM Efficiencies”, Panel address.
- May 2011 - Seminar at GSE Pompeu Fabra, Barcelona: “Use of Economics at the Directorate for Competition of the EC in abuse and merger cases”, Lecture.

Awards

- 2007 - 2009, Netherlands Organization for Scientific Research (NWO) - post doctoral grant
- 2006, European Doctoral Programme scholarship and *Marie Currie* fellowship
- 2003 - 2007, Scholarship of the *European University Institute*
- 2002, M.A. degree in Economics with honors, M.A. thesis judged outstanding and awarded departmental distinction
- 2000 - 2002, Scholarship of the Soros foundation
- 1997, Award for Outstanding study results at *Ljubljana State University*, B.A. Thesis - Distinction
- 1993 - 1997, *Zois* state merit scholarship

Additional Information

- Tilburg Law and Economics Centre, extramural fellow, 2007 - 2010