

**IN THE MATTER OF AN INDEPENDENT REVIEW PROCESS
BEFORE THE INTERNATIONAL CENTRE FOR DISPUTE RESOLUTION**

AFILIAS DOMAINS NO. 3 LIMITED,
Claimant

v.

INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS,
Respondent

ICDR Case No. 01-18-0004-2702

REPORT OF DENNIS W. CARLTON

30 May 2019

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I. INTRODUCTION AND SUMMARY OF CONCLUSIONS

A. Qualifications

1. I am the David McDaniel Keller Professor of Economics at the Booth School of Business of The University of Chicago. I received my A.B. in Applied Mathematics and Economics from Harvard University and my M.S. in Operations Research and Ph.D. in Economics from the Massachusetts Institute of Technology. I have served on the faculties of the Law School and the Department of Economics at The University of Chicago and the Department of Economics at the Massachusetts Institute of Technology.

2. I specialize in the economics of industrial organization. I am co-author of the book *Modern Industrial Organization*, a leading text in the field of industrial organization, and I also have published over 100 articles in academic journals and books. In addition, I serve as Co-Editor of the *Journal of Law and Economics*, a leading journal that publishes research applying economic analysis to industrial organization and legal matters; serve on the Editorial Board of *Competition Policy International*, a journal devoted to competition policy; and serve on the Advisory Board of the *Journal of Competition Law and Economics*. I have also served as an Associate Editor of the *International Journal of Industrial Organization and Regional Science and Urban Studies*, and on the Editorial Board of *Intellectual Property Fraud Reporter*. I was designated the 2014 Distinguished Fellow of the Industrial Organization Society. I lecture frequently in the United States and in foreign countries on topics of competition policy and have given several keynote addresses at competition policy events, including at the International Competition Network and the Organisation for Economic Co-operation and Development.

3. In addition to my academic experience, I served as Deputy Assistant Attorney General for Economic Analysis, Antitrust Division, U.S. Department of Justice from October 2006 through January 2008. I also served as a Commissioner of the Antitrust Modernization Commission, created by Congress to evaluate U.S. antitrust laws. I have served as a consultant to the Department of Justice and Federal Trade Commission on the Horizontal Merger

Guidelines, as a general consultant to the Department of Justice and Federal Trade Commission on antitrust matters, as a member of the American Bar Association advisory committee that advises the next President on antitrust policy, and as an advisor appointed by the American Economic Association to the Bureau of the Census on the collection and interpretation of economic data.

4. I also am a Senior Managing Director of Compass Lexecon, a consulting firm that specializes in the application of economics to legal and regulatory issues and for which I served as President (of Lexecon) for several years. I have provided expert testimony before various U.S. state and federal courts, the U.S. Congress, a variety of state and federal regulatory agencies and foreign tribunals. My curriculum vitae, including a list of my testimony during the last four years, is attached as Appendix A. The materials I rely upon are listed in Appendix B.

5. I have been asked by the Internet Corporation for Assigned Names and Numbers (“ICANN”) to evaluate the claims made by Professor Jonathan Zittrain and Dr. George Sadowsky regarding the competitive significance of Verisign operating .WEB. Professor Zittrain and Dr. Sadowsky both claim that Verisign should not be allowed to operate .WEB because Verisign has market power¹ through its operation of .COM and because .WEB is the new generic top-level domain (“gTLD”) best positioned to meaningfully compete with .COM. I interpret these claims as concluding that competition from an Afilias-operated .WEB would impose a meaningful competitive constraint on .COM relative to a world in which Verisign operates .WEB. The economic implication of this conclusion is that an Afilias-operated .WEB would cause Verisign to reduce the prices it charges for .COM below the levels that would prevail if Verisign operated .WEB. Dr. Sadowsky also claims that Afilias will promote .WEB more aggressively than would Verisign. I interpret this claim by Dr. Sadowsky as concluding that

¹ “A firm [...] has market power if it is profitably able to charge a price above that which would prevail under competition...” Carlton, Dennis W. and Jeffrey M. Perloff, *Modern Industrial Organization*, 4th ed., p. 642.

Afilias would expand .WEB's domain registrations more effectively than would Verisign. I address these claims below.

B. Summary of My Conclusions

6. Professor Zittrain and Dr. Sadowsky both claim that an Afilias-operated .WEB is uniquely positioned to place competitive pressure on .COM. They justify this claim by emphasizing that .WEB is a short, memorable name with a connection to the Internet and by pointing to the bid price paid for .WEB at auction. To assess this claim from an economics standpoint, one needs to determine whether competitive pressure from an Afilias-operated .WEB would cause Verisign to reduce its .COM prices or otherwise improve the quality of the .COM offering. Professor Zittrain and Dr. Sadowsky provide no reliable empirical support for why an Afilias-operated .WEB would have such an effect on .COM, and I conclude that their reasoning is flawed for the following reasons:

- Professor Zittrain and Dr. Sadowsky ignore the fact that Verisign's .COM prices are regulated by price caps imposed by the federal government and that Verisign consistently charges the maximum-allowed, regulated price for .COM domain name registrations. This suggests that the regulated .COM price is below the price Verisign would charge absent those price caps. Professor Zittrain and Dr. Sadowsky also ignore the fact that the maximum-allowed price for .COM domain name registrations is low compared to the prices charged by other TLD operators in other TLDs. Both of these points indicate that Verisign is not likely to deviate from its long-standing strategy of charging the maximum-allowed price for .COM in response to an Afilias-operated .WEB, even if one accepts the proposition that .WEB will be a popular TLD.
- Professor Zittrain and Dr. Sadowsky ignore the fact that several other new gTLDs with similarly short, memorable names connected to the Internet have already launched and have had only a minimal competitive impact on .COM. Likewise, while the winning

auction bid for .WEB is high, parties have paid significant amounts to operate other TLDs that have not had a meaningful, competitive impact on .COM. Moreover, the winning .WEB bid price is small relative to the collective amount spent to operate other new gTLDs, which, collectively, have not had a significant, competitive impact on .COM.² While .WEB will offer consumer choice among domain-name registrants, Professor Zittrain and Dr. Sadowsky fail to demonstrate that an Afilias-operated .WEB would add meaningfully to the competition that .COM already faces from all other TLDs, even in the event that regulation one day does not bind .COM pricing.

7. Dr. Sadowsky's claim that .WEB would be promoted less intensively if operated by Verisign than if operated by Afilias is speculative and unsupported for the following reason:

- Dr. Sadowsky does not consider or address relative differences between Verisign and Afilias that could affect .WEB's promotion in the marketplace, including factors that could suggest Verisign would promote .WEB more than Afilias, such as relative operational cost differences between the companies. For example, if Verisign's relative costs in offering .WEB domain names are lower than Afilias's because Verisign is more efficient, that could translate into Verisign offering lower prices for .WEB domain names than Afilias. Without an analysis of these other factors, one cannot reliably conclude that a Verisign-operated .WEB would be promoted less or priced higher than an Afilias-operated .WEB. Moreover, there is some evidence suggesting the possibility that Verisign would be *more* effective at expanding .WEB's domain registrations than Afilias would be.

8. Finally, it is important to note that the Antitrust Division of the Department of Justice opened and then, approximately one year later, closed an investigation into Verisign's

² "Although ICANN's New gTLD Program has substantially expanded the number of top level domains, Verisign's market dominance persists as a result of the unique attributes of its .com and .net registries." Dr. Sadowsky's report, ¶ 17.

potential operation of .WEB without taking action. The Antitrust Division has expertise evaluating competition concerns such as those raised by Professor Zittrain and Dr. Sadowsky and almost certainly would have had access to more information than that available to Professor Zittrain, Dr. Sadowsky or me. Assuming that such an evaluation occurred, the Antitrust Division's apparent decision that competition concerns related to Verisign's operation of .WEB were not sufficient to justify blocking the transaction is significant evidence that the concerns raised by Professor Zittrain and Dr. Sadowsky are not supported.

9. I explain my conclusions, along with their underlying bases, in the sections that follow. Section II provides an overview of key historical and economic facts regarding the New gTLD Program that are relevant to my analysis. Section III provides a brief summary of the conclusions in Professor Zittrain's report ("Zittrain Report") and Dr. Sadowsky's report ("Sadowsky Report") that I address. Section IV explains why the effects of regulation are central to assessing Professor Zittrain and Dr. Sadowsky's claims and why their failure to incorporate these effects into their evaluation leads them to an incorrect conclusion. Section V considers whether the evidence supports the contention of both Professor Zittrain and Dr. Sadowsky regarding the special importance of .WEB as a competitive force and addresses the effects of competition on .COM from the New gTLD Program. Section VI addresses Dr. Sadowsky's claim that Verisign would promote .WEB less intensively than would Afilias. Section VII explains why the Department of Justice's decision to not challenge Verisign's possible operation of .WEB suggests that Verisign's operation of .WEB does not raise significant competitive issues. I conclude in Section VIII.

10. My research and analysis regarding this matter are continuing, and my opinions may be supplemented or updated to reflect any additional information provided to me. I also intend to review any additional information, witness statements or expert reports that may be submitted by Afilias or other entities involved in this matter, such as Verisign and Nu Dot Co LLC. If necessary, I will revise and update my analysis.

II. OVERVIEW OF THE NEW gTLD PROGRAM

A. History

11. ICANN is a California nonprofit public-benefit corporation whose mission is to “ensure the stable and secure operation of the Internet’s unique identifier systems.”³ One of ICANN’s core values is, “[w]here feasible and appropriate, depending on market mechanisms to promote and sustain a competitive environment in the DNS market.”⁴ “The introduction of new top-level domains into the DNS has thus been a fundamental part of ICANN’s mission from its inception, and was specified in ICANN’s Memorandum of Understanding and Joint Project Agreement with the U.S. Department of Commerce.”⁵

12. ICANN has worked towards adding new TLDs since at least 2000 with the first set (e.g., .INFO and .BIZ) being introduced in 2001 and 2002.⁶ The current New gTLD Program is the latest round of gTLD expansion.⁷ It began with a policy development process by ICANN’s Generic Names Supporting Organization (“GNSO”) from 2005 to 2007,⁸ from which the GNSO recommended that ICANN expand the number of gTLDs.⁹ In October 2008, “ICANN posted the Draft Applicant Guidebook, including an outline of the evaluation procedures (incorporating both reviews of the applied-for gTLD string and of the applicant), as well as the intended application

³ ICANN Bylaws (18 June 2018), Article 1, Section 1.1.

<https://www.icann.org/resources/pages/governance/bylaws-en>.

⁴ ICANN Bylaws (18 June 2018), Article 1, Section 1.2(b)(iii).

<https://www.icann.org/resources/pages/governance/bylaws-en>. “DNS” refers to the Domain Name System, which is a protocol that maps “easy-to-understand domain names like ‘howstuffworks.com’ into an Internet Protocol (IP) address, such as 70.42.251.42 that computers use to identify each other on the network.” Brain, Marshall, Nathan Chandler and Stephanie Crawford. “How Domain Name Servers Work.” *HowStuffWorks*, 31 January 2019, <https://computer.howstuffworks.com/dns.htm/printable>.

⁵ ICANN Board Rationales for the Approval of the Launch of the New gTLD Program, p. 4.

⁶ See ICANN Board Rationales for the Approval of the Launch of the New gTLD Program, p. 4 and <https://archive.icann.org/en/tlds/>.

⁷ https://icannwiki.org/New_gTLD_Program.

⁸ https://icannwiki.org/New_gTLD_Program.

⁹ ICANN Board Rationales for the Approval of the Launch of the New gTLD Program, p. 5.

questions and scoring criteria. These were continually revised, updated, and posted for comment through successive drafts of the [Applicant] Guidebook.”¹⁰

13. In 2009, at ICANN’s request, I analyzed ICANN’s anticipated introduction of new gTLDs from an economic perspective and opined on the benefits and costs associated with ICANN’s proposal. I concluded that “[a]n increase in the number of gTLDs increases the number of alternatives available to consumers, and thus offers the potential for increased competition, reduced prices, and increased output.”¹¹

14. ICANN’s Board of Directors approved the Applicant Guidebook and authorized the launch of the New gTLD Program in June 2011.¹² The application window opened in January 2012, and the first new gTLDs were authorized in October 2013.¹³

B. Goals of the New gTLD Program

15. Consistent with ICANN’s mission and core values, one of the goals of the New gTLD Program was to “[introduce] competition and consumer choice in the DNS” while “ensuring internet security and stability.”¹⁴

16. The GNSO also recommended that:

The evaluation and selection procedure for new gTLD registries should respect the principles of fairness, transparency and non-discrimination. [...] All applicants for a new gTLD registry should therefore be evaluated against transparent and predictable criteria, fully available to the applicants prior to the initiation of the process. Normally, therefore, no subsequent additional selection criteria should be used in the selection process.¹⁵

¹⁰ ICANN Board Rationales for the Approval of the Launch of the New gTLD Program, p. 10.

¹¹ Preliminary Report of Dennis Carlton Regarding Impact of New gTLDs on Consumer Welfare, p. 5.

¹² <https://newgtlds.icann.org/en/about/program>

¹³ <https://newgtlds.icann.org/en/about/program>

¹⁴ ICANN Board Rationales for the Approval of the Launch of the New gTLD Program, pp. 7 and 4.

¹⁵ ICANN Board Rationales for the Approval of the Launch of the New gTLD Program, p. 11.

These principles were also recognized by the ICANN Board as important goals of the New gTLD Program.¹⁶

C. Application and Auction Process

17. ICANN identified several financial considerations it deemed important in evaluating and deciding on a fee structure for the New gTLD Program. These included ensuring that the New gTLD Program be fully self-funding and that applicants have the financial wherewithal to operate a new gTLD.¹⁷ Both considerations caused ICANN to set an application fee of \$185,000.¹⁸

18. The final process for submitting new gTLD applications and approving gTLD operators is similar to what I described in my 2009 report. “ICANN [evaluates] both the technical and financial capabilities of the applicant, the effect of the proposed gTLD on consumer confusion, and the effects of the proposed gTLD on Internet stability.”¹⁹ “If more than one application for similar (or identical) gTLDs passes ICANN’s evaluation phase, these applications enter the ‘string contention’ process, in which ICANN determines which application will ultimately be approved. ICANN will first encourage the interested parties to negotiate a solution amongst themselves. If the applicants are unable to negotiate a resolution, they enter [an ICANN contention resolution] phase.”²⁰ If more than one application still remains after this phase, ICANN employs a public auction as a tie-break mechanism.

¹⁶ See ICANN Board Rationales for the Approval of the Launch of the New gTLD Program, pp. 14-15, stating the importance of “fairness, transparency and non-discrimination” in addition to “stimulat[ing] competition”.

¹⁷ ICANN Board Rationales for the Approval of the Launch of the New gTLD Program, pp. 12, 19-20 and 27.

¹⁸ ICANN Board Rationales for the Approval of the Launch of the New gTLD Program, p. 23.

¹⁹ Preliminary Report of Dennis Carlton Regarding Impact of New gTLDs on Consumer Welfare, p. 6.

²⁰ Preliminary Report of Dennis Carlton Regarding Impact of New gTLDs on Consumer Welfare, p. 6. See also ICANN Board Rationales for the Approval of the Launch of the New gTLD Program pp. 99-101.

19. The exact public auction procedure is an “ascending clock auction” with an “activity rule,” where a bidder needs to have been ‘in’ at early prices in the auction in order to continue to stay ‘in’ at later prices.”²¹ This is a type of second-price auction in which the winning bidder pays the final bid of the second-highest bidder.²²

D. Results of the New gTLD Program

20. The New gTLD Program received a total of 1,930 applications.²³ Most of these applications involved unique strings and were successful, resulting in the delegation (to date) of more than 1,200 new gTLDs.²⁴ These newly-created gTLDs joined pre-existing TLDs, such as .COM and .ORG, and pre-existing country-code TLDs (“ccTLDs”), such as .FR, .JP and .US, which are administered by country-code managers recognized by ICANN, in the DNS.²⁵ According to DomainTools.com, with the pre-existing TLDs, new gTLDs and ccTLDs, there are over 1,500 operable TLDs with at least one registered domain name.²⁶

21. Applicants have collectively spent several hundred million dollars to become the operators of these new gTLDs. From 2013 to 2017, applicants spent a total of \$294.6 million in new gTLD application fees, paid another \$240.6 million for winning public auctions (including the .WEB auction),²⁷ and expended many millions more in privately resolved contention sets.²⁸

²¹ ICANN Board Rationales for the Approval of the Launch of the New gTLD Program, pp. 104-105. See also <https://www.icann.org/public-comments/new-gtld-auction-rules-2013-12-17-en>.

²² Auction Rules for New gTLDs, Version 2013-12-12, pp. 6-7.

²³ See <https://gtldresult.icann.org/applicationstatus/viewstatus> or <https://newgtlds.icann.org/en/program-status/statistics>.

²⁴ <https://newgtlds.icann.org/en/program-status/statistics>.

²⁵ <https://www.icann.org/resources/pages/cctlds-21-2012-02-25-en>

²⁶ <https://research.domaintools.com/statistics/tld-counts/>, last accessed 4/29/2019.

²⁷ See ICANN financial statements for the years ending June 2013 – June 2017. Over those five years, ICANN recognized new gTLD application fees of \$294.6, excluding deferred revenues received by ICANN but not yet recognized in ICANN's financial statements. I understand that the recognized fees reflect refunds for withdrawn applications and reduced application fees for certain gTLD applicants based on financial need.

²⁸ As mentioned above, ICANN encourages applicants to privately resolve string contentions. “Usually, this entails a private auction in which the winning bid is shared evenly between the losing applicants.” <http://domainincite.com/23818-how-new-gtld-auctions-could-kill-gaming-for-good>. See also <https://gnso.icann.org/sites/default/files/file/field-file-attach/supplemental-report-01nov18-en.pdf>: “Based

While I understand that ICANN does not have precise information about the sums spent in private resolutions, existing information suggests that the number is substantial. For example, one publicly-traded registry operator has disclosed that it has received over \$50 million from losing private auctions.²⁹

E. Challenges to the Verisign's Efforts to Operate .WEB

22. In July 2016, Nu Dot Co LLC won the .WEB auction using funding from Verisign.³⁰ I understand that various parties have objected to Verisign's involvement in the .WEB auction and potential operation of .WEB.

III. PRIMARY CONCLUSIONS REACHED BY PROFESSOR ZITTRAIN AND DR. SADOWSKY

23. Professor Zittrain and Dr. Sadowsky both claim that Verisign should not be allowed to operate .WEB because Verisign has market power through its operation of .COM and that .WEB is the new gTLD best positioned to meaningfully compete with .COM.³¹

24. According to Professor Zittrain, "the purpose of the New gTLD Program was to create competition for Verisign."³² He also claims that ".WEB is the strongest potential

on input from applicants in the 2012 round of the New gTLD Program, applicants resolving their contention privately through various means, including private auctions, was common."

²⁹ In 2014 alone, MMX received \$37.5 million dollars from gTLD auctions. See <http://domainincite.com/23818-how-new-gtld-auctions-could-kill-gaming-for-good> and MMX's annual reports, e.g., <https://mmx.co/wp-content/uploads/2016/04/2015-Audited-Financial-Statements.pdf>.

³⁰ "[Verisign] entered into an agreement with Nu Dot Co LLC wherein [Verisign] provided funds for Nu Dot Co's bid for the .web TLD. We are pleased that the Nu Dot Co bid was successful." Verisign, *VeriSign Statement Regarding .Web Auction Results*, <https://www.businesswire.com/news/home/20160801005586/en/Verisign-Statement-.Web-Auction-Results>.

³¹ "[.WEB] had and continues to have the potential to meaningfully compete with .COM as a standard-bearer for web-based entities." Zittrain Report, ¶ 46. "In my opinion, the only new domain that is likely to compete strongly with .com is .web, due to properties inherent in its name." Sadowsky Report, ¶ 39. "I would expect to see very considerable early demand for .web registrations that offer value to specific registrants, demand that would greatly exceed that for registrations in any other new gTLD." Sadowsky Report, ¶ 40.

³² Zittrain Report, ¶ 52.

competitor of all the new gTLDs,”³³ and that allowing Verisign to operate .WEB would “[violate] ICANN’s Competition Mandate.”³⁴

25. Dr. Sadowsky makes similar claims. First, he claims that “Verisign is the dominant entity in the registry services industry,” that Verisign’s market power is evinced by the U.S. government’s imposition of price caps on .COM, and that “Verisign’s market dominance persists” despite the entrance of other new gTLDs. Second, he claims that .WEB is the new gTLD best positioned to meaningfully compete with .COM and so “[a]llowing Verisign to control [.WEB] would prevent any other industry participant from seriously challenging Verisign’s dominant position...” Third, he claims that “[t]o fulfill its competition mandate, ICANN must attack and weaken Verisign’s industry dominance.”³⁵ Dr. Sadowsky also makes an additional claim that “Verisign would have only a limited incentive to promote .web, because its success would come, at least in part, at the expense of .com and .net.”³⁶

26. The claims made by Professor Zittrain and Dr. Sadowsky that .WEB is uniquely positioned to challenge Verisign’s dominance are not supported by empirical evidence. They argue that .WEB is a special TLD because its name is short, generic, evocative of the Internet, and memorable.³⁷ Dr. Sadowsky further argues that the competitive significance of .WEB is demonstrated by statements made by .WEB applicants and other industry participants, as well as the significant, winning bid price at the .WEB auction.³⁸

27. I interpret Professor Zittrain and Dr. Sadowsky as concluding that competition from an Afilias-operated .WEB would impose a meaningful competitive constraint on .COM relative to a world in which Verisign operates .WEB. The economic implication of this conclusion

³³ Zittrain Report, ¶ 46.

³⁴ Zittrain Report, ¶ 55.

³⁵ Sadowsky Report, ¶ 17.

³⁶ Sadowsky Report, ¶ 48.

³⁷ See, *inter alia*, Zittrain Report, ¶¶ 46-49 and Sadowsky Report, ¶ 41.

³⁸ “Three kinds of evidence support my belief that .web would be a competitive threat to .com if it were owned by an entity other than Verisign...” Sadowsky Report, ¶ 42.

is that an Afilias-operated .WEB would impose a meaningful competitive constraint on the price that Verisign could charge for .COM. In other words, Professor Zittrain and Dr. Sadowsky's conclusion implies that an Afilias-operated .WEB would cause Verisign to reduce its .COM price below the levels that would prevail if Verisign operated .WEB. Analogously, I interpret Dr. Sadowsky's claim regarding Verisign's promotion of .WEB as concluding that Afilias would expand .WEB's domain registrations more effectively than would Verisign. I address these claims below. I do not, however, attempt to evaluate the claims that ICANN is required to take certain actions to block a Verisign-operated .WEB based on its foundational documents (such as ICANN's Bylaws) or as part of the New gTLD Program because that involves a legal interpretation.

IV. THE CLAIM THAT AN AFILIAS-OPERATED .WEB WOULD PLACE COMPETITIVE PRESSURE ON .COM IGNORES THE IMPACT OF PRICE REGULATION

28. Professor Zittrain and Dr. Sadowsky both claim that an Afilias-operated .WEB is uniquely positioned to place competitive pressure on .COM. To assess the relevance of this claim from an economics standpoint, one needs to determine whether competitive pressure from an Afilias-operated .WEB would cause Verisign to reduce its .COM prices or otherwise improve the quality of the .COM offering. Professor Zittrain and Dr. Sadowsky provide no empirical support for why an Afilias-operated .WEB would have such an effect on .COM. By contrast, I present evidence that an Afilias-operated .WEB is not likely to have such an effect on .COM given the government regulations that constrain .COM pricing and relatively-higher pricing in other gTLDs. In other words, there exists evidence suggesting that an Afilias-operated .WEB is not likely to cause Verisign to reduce its already relatively-low .COM price below the regulated level.

29. Verisign's .COM prices are regulated by price caps imposed by the federal government,³⁹ and the empirical evidence I present below demonstrates that Verisign has consistently charged the maximum-allowed, regulated price for .COM domain name registrations. This suggests that the regulated .COM price is below the price that Verisign would set absent regulation. Dr. Sadowsky agrees that, absent price caps, "it is highly likely that, because of its industry dominance, Verisign would be able to charge prices that are substantially higher than those that are permitted under the price caps."⁴⁰ Therefore, according to this reasoning and the fact that price regulations are set to remain in place for several years,⁴¹ the claim that .WEB would impose price constraints on .COM requires the conclusion that an Afilias-operated .WEB would force Verisign to reduce its .COM prices below the maximum regulated level. Even if .WEB is special in some way, as Professor Zittrain and Dr. Sadowsky postulate, neither of them provides reliable support for this conclusion. To the contrary, the evidence I present indicates that competition from .WEB is unlikely to cause Verisign to deviate from its long-standing strategy of charging the maximum-allowed regulated price, a price that I show below is lower than the prices typically charged by other TLD operators in other TLDs.

30. The evidence I have examined indicates that Verisign has consistently set .COM prices equal to the maximum level allowed under existing price caps. For example, since 2012, the maximum price Verisign has been allowed to charge registrars for .COM domain name

³⁹ I understand that the U.S. Department of Commerce has an oversight role in regulating the maximum price that Verisign can charge registrars for .COM domain names. This is managed through the Verisign Cooperative Agreement, which was last updated in 2018.

https://www.ntia.doc.gov/files/ntia/publications/amendment_35.pdf.

⁴⁰ Sadowsky Report, ¶ 17.

⁴¹ Amendment 35 to the Verisign Cooperative Agreement with the Department of Commerce sets a maximum price that Verisign can charge registrars of \$7.85 through 2020. After 2020, the maximum allowable rate increases by 7% per year until 2024 when the current term of the Cooperative Agreement ends. After 2024, the agreement will automatically renew for another six-year term unless the Department chooses not to renew. https://www.ntia.doc.gov/files/ntia/publications/amendment_35.pdf.

registrations is \$7.85, a cap that will remain in place through 2020.⁴² In reviewing current .COM prices as well as snapshots of .COM prices on the seven observable dates from 2015 through 2017,⁴³ I find that, in every case, Verisign charged a .COM price of exactly \$7.85 to registrars for both new and existing registrations. The fact that Verisign has consistently charged the maximum-allowable price for .COM domain name registrations indicates that regulation is a binding constraint and that Verisign would set a higher price for .COM absent the regulation.

31. Also of relevance is the fact that the maximum-allowable .COM price is lower than the price typically charged to registrars for domain name registrations in other TLDs. The registrar Domain Cost Club publishes information on registry pricing to registrars for 413 TLDs.⁴⁴ Table 1 shows that the median price charged by these TLDs to registrars is \$20 and that one quarter of TLDs charge prices of \$33 or more. .COM is priced in the lower quartile.⁴⁵ Only 7% of other TLDs offer lower prices to registrars than those offered for .COM.⁴⁶ Further, 89% of other TLDs charge prices over 30% higher than the .COM price.⁴⁷ Hence, the continued

⁴² 2012 .COM Registry Agreement, available at <https://www.icann.org/resources/pages/agreement-2012-12-05-en>. 2018 Cooperative Agreement, available at https://www.ntia.doc.gov/files/ntia/publications/amendment_35.pdf. After 2020, the maximum allowable rate increases by 7% per year for four years, or 31% total.

⁴³ I observe data on the current prices that TLDs charge to registrars for new and existing domain registrations from <https://www.domaincostclub.com/pricing.dhtml>, last accessed 4/29/2019. Using the Wayback Machine Internet archive for <https://www.domaincostclub.com/pricing.dhtml>, I am also able to observe TLD prices on 3/15/2015, 10/16/2015, 3/25/2016, 5/5/2016, 6/17/2016, 10/18/2016 and 7/1/2017.

⁴⁴ The wholesale price that registry operators charge registrars to register a domain is typically lower than the retail price that registrars charge registrants. The previously discussed \$7.85 that Verisign charges for a .COM registration is the wholesale price. I observe wholesale prices for other TLDs from Domain Cost Club, which is an ICANN-accredited registrar that operates as a buying club. According to Domain Cost Club's website, registrants pay a membership fee and are then able to register domains at the wholesale price registrars pay to registries. See <https://www.icann.org/registrar-reports/accredited-list.html>, <https://www.domaincostclub.com/index.dhtml> and <https://www.domaincostclub.com/pricing.dhtml>, last accessed 4/29/2019. I understand that occasionally some registries may have marketing incentive programs for registrars that could lower the effective registration price below the wholesale price.

⁴⁵ Table 1 weights all TLDs equally. If TLDs are instead weighted by the volume of domain registrations, then the numbers change, though the conclusions are similar. .COM is still priced in the lower quartile. When weighted by volume and excluding .COM, the 25th percentile of prices is \$8.33, the 50th percentile is \$9.93, and the 75th percentile is \$11.48.

⁴⁶ Many TLDs offer a first-year discount for new registrations. In total, 41% of the TLDs considered by Domain Cost Club have first-year prices that are below .COM's price.

⁴⁷ <https://www.domaincostclub.com/pricing.dhtml>, last accessed 4/29/2019.

regulation of .COM pricing, with its limited allowed future increases, implies that the price registrars will pay for .COM in 2024 will still be below the price that registrars currently pay for most other registries.⁴⁸

Table 1
Distribution of Prices for TLDs

Percentile	Price
25 th	\$13.33
50 th	\$20.00
75 th	\$33.00

Notes: DomainCostClub.com member pricing for renewal registrations. .COM is priced at \$7.85.

32. In sum, when evaluating the claims of Professor Zittrain and Dr. Sadowsky that an Afilias-operated .WEB would provide a competitive check on Verisign’s alleged market power in .COM, a key economic question is whether Verisign would reduce .COM prices in response to an Afilias-operated .WEB. In this regard, the evidence I have reviewed demonstrates two points. One, price regulation on .COM appears to constrain .COM pricing in that Verisign consistently prices .COM domain name registrations at the maximum-allowable level, which is likely below what Verisign would choose absent regulation. Two, the regulated .COM price charged to registrars is low compared to prices charged to registrars in other TLDs, even factoring in the anticipated increases in the maximum allowed pricing for .COM. Both of these points indicate that Verisign is not likely to reduce its already low, regulated .COM prices in response to an Afilias-operated .WEB. And neither Professor Zittrain nor Dr. Sadowsky offer any contrary evidence suggesting that an Afilias-operated .WEB would in fact force .COM’s pricing below the regulated rates, even if one accepts their assumption that .WEB is special.

⁴⁸ The new gTLDs .ONLINE, .SITE and .WEBSITE, which appear to have similar desirable features as .WEB (see Section V-A), have prices above those of .COM. Their prices are \$25.00, \$20.00 and \$15.00 respectively. <https://www.domaincostclub.com/pricing.dhtml>, last accessed 4/29/2019.

Hence, because both Professor Zittrain and Dr. Sadowsky ignore the importance of regulation and relative TLD pricing, they arrive at an erroneous conclusion.

V. PROFESSOR ZITTRAIN AND DR. SADOWSKY FAIL TO DEMONSTRATE THAT .WEB WOULD IMPOSE COMPETITIVE CONSTRAINTS ON .COM BEYOND THOSE ALREADY IMPOSED BY OTHER TLDS

33. When evaluating existing and potential competition effects, economists generally evaluate effects on price. In the prior section, I explained that, even if an Afilias-operated .WEB were a popular TLD, it is not likely to cause Verisign to reduce its already-low, regulated .COM price. If one adopts the view that regulation will continue to limit .COM pricing, this should end the analysis of whether .WEB will be a unique competitive check on .COM, as I conclude it likely will not.

34. In this section, I explain that, even if one ignores the binding regulation on .COM pricing, the evidence relied upon by Afilias's experts does not provide a reliable basis from which to conclude that a .WEB operated by Afilias would impose unique competitive constraints on .COM. In developing my conclusion, I identify other factors indicating that an Afilias-operated .WEB likely will not have such a unique competitive effect. I first explain, in Section A, that the reasons Professor Zittrain and Dr. Sadowsky rely on to justify their claim that .WEB will provide a unique competitive constraint on .COM (short, appealing name) are not convincing in light of the evidence that they fail to cite about other, similar TLD names. I then show, in Section B, that the reliance by Dr. Sadowsky on the auction fee for .WEB does not establish that .WEB would be a unique competitive constraint on .COM. In Section C, I report on the large increase in the number and importance of other TLDs that already provide some competitive constraint on .COM. If .WEB is not unique compared to these other TLDs, it is unclear why .WEB should be expected to provide a special competitive constraint on .COM beyond what these many

hundreds of other TLDs collectively would provide.⁴⁹ Finally, in Section D, I explain that a fundamental shortcoming of Professor Zittrain and Dr. Sadowsky’s analyses is that they fail to evaluate whether .WEB is a good substitute for .COM, and so they provide no basis from which to assess whether .COM and .WEB would significantly compete for domain name registrations.

A. Professor Zittrain and Dr. Sadowsky Fail to Establish That .WEB Would Exert a Unique Competitive Constraint on .COM Based on Its Name

35. Professor Zittrain states that “.WEB is the strongest potential competitor of all new gTLDs” and that .WEB has “the potential to meaningfully compete with .COM as a standard-bearer for web-based entities.”⁵⁰ Dr. Sadowsky similarly claims that .WEB is uniquely positioned to challenge Verisign’s dominance.⁵¹ He reasons that .WEB is special because its name is short, generic, evocative of the Internet, and memorable. He quotes industry participants and analysts to bolster his claim.⁵²

36. Professor Zittrain and Dr. Sadowsky, however, ignore the fact that industry participants and analysts have made similar claims about other new gTLDs such as .ONLINE, .SITE and .WEBSITE. These gTLDs are also short, generic, evocative of the internet, and memorable, but they have not had a meaningful competitive impact on .COM’s pricing or share of domain registrations. Statements made by applicants for these TLDs characterize them as strong competitors to .COM. As to .ONLINE, for example:

Registrants and Internet Users will benefit from the .ONLINE TLD as a generic, available, relevant and memorable alternative to existing gTLD’s [...] The .ONLINE string is immediately apprehended by most minds as eminently related to the Internet, and the word is now a part of the common vernacular. Registrants will no doubt benefit from the

⁴⁹ According to DomainTools.com, there are over 1,500 operable TLDs—including legacy TLDs, new gTLDs and ccTLDs—with at least one registered domain. There is a total of 340 million registered domains, of which TLDs other than .COM account for 198 million. See <https://research.domaintools.com/statistics/tld-counts/>, last accessed 4/29/2019.

⁵⁰ Zittrain Report, ¶ 46.

⁵¹ “In my opinion, the only new domain that is likely to compete strongly with .com is .web, due to properties inherent in its name.” Sadowsky Report, ¶ 39. “I would expect to see very considerable early demand for .web registrations that offer value to specific registrants, demand that would greatly exceed that for registrations in any other new gTLD.” Sadowsky Report, ¶ 40.

⁵² Sadowsky Report, ¶ 41.

introduction of the .ONLINE TLD into the Internet namespace, simply due to the increase in available keyword strings paired with a memorable, relevant TLD string.⁵³

While certainly distinct from all existing TLDs, .online is essentially a better alternative to existing generics such as .com or .net. The proposed gTLD will create a new space open to any organization and participant conducting its activities on the internet. Although there are existing generic TLDs (e.g. .com, .net, .info), businesses and individuals describe being on or using the internet as “being online” or “going online.” The .com registry in particular has become overcrowded and most useful names have already been registered. The .online Registry will provide all potential registrants with a wide selection of relevant and shorter-string domain names.⁵⁴

The .Online registry will be a new direct and formidable competitor to the current group of global generic TLDs. This will be especially true in the key growing international markets.⁵⁵

With respect to .SITE:

As the New gTLD expansion takes place, SiTE's mission and purpose will be to provide an intuitive new namespace for individuals, hobbyists, and business owners alike. The word "site" is intrinsically connected to the Internet, and is recognized to mean “a space on the Internet.” The introduction of the SiTE top-level domain will allow Internet users to extend their reach under an easily identifiable Internet extension.⁵⁶

.SITE is a perfect fit among today's top TLDs and is a viable alternative to current generic TLDs. .SITE has meaning to the entire online population, and Interlink believes that it will be a natural selection for new domain holders as they venture out to secure an online identity. Additionally, SiTE will be a popular choice among many consumers looking to secure names that more closely match what they stand for.⁵⁷

The .Site registry will be a new direct and formidable competitor to the current group of global generic TLDs.⁵⁸

And as to .WEBSITE:

⁵³ New gTLD Application submitted to ICANN by Namecheap Inc.

<https://gtldresult.icann.org/applicationstatus/applicationdetails/45>

⁵⁴ New gTLD Application submitted to ICANN by Dot Online LLC

<https://gtldresult.icann.org/applicationstatus/applicationdetails/1801>

⁵⁵ New gTLD Application submitted to ICANN by DotOnline Inc.

<https://gtldresult.icann.org/applicationstatus/applicationdetails/1485>

⁵⁶ New gTLD Application submitted to ICANN by Neustar

<https://gtldresult.icann.org/applicationstatus/applicationdetails/1778>

⁵⁷ New gTLD Application submitted to ICANN by Neustar

<https://gtldresult.icann.org/applicationstatus/applicationdetails/1778>

⁵⁸ New gTLD Application submitted to ICANN by Radix

<https://gtldresult.icann.org/applicationstatus/applicationdetails/1507>

The .Website registry will be a new direct and formidable competitor to the current group of global generic TLDs.⁵⁹

The mission of the .Website TLD is to serve as a home on the Internet for users across the world. .Website aims to be a generic TLD with no preconception of meaning whatsoever, no theme, no categorizations, no restrictions of use. .Website does not restrict its scope to businesses (.Biz), commercial websites (.Com), or organizations (.Org). Unlike country TLDs (ccTLDs), it is not associated with any country or region, .Website is a truly global TLD.⁶⁰

.Website will provide registrants the option to register more desirable and shorter names as opposed to names they would have otherwise registered in existing gTLDs due to the high saturation of the existing namespaces.⁶¹

37. While .ONLINE, .SITE and .WEBSITE are among the new gTLDs with the most registered domain names, they collectively account for just 2.5 million registrations. In contrast, .COM has 141.5 million domain name registrations,⁶² and its share of registrations has continued to grow despite the presence of these and other gTLDs.⁶³ Moreover, the registration prices for these three gTLDs are higher than what .COM charges registrars.⁶⁴ Therefore, the evidence shows that these gTLDs have not had a major competitive impact on .COM.

38. Moreover, some other new gTLDs have unique advantages that .WEB and .COM do not have. For example:

[R]esearch reveals an appetite amongst consumers for [.online] beyond being a mere alternative to .com or .net. Currently, approximately 900,000 domain names contain the word “online” immediately preceding various TLDs (e.g. www.shoesonline.com), and the .online gTLD will shorten the string length for these existing domains (e.g. www.shoes.online). Transitioning to a shorter second level domain, with a “.online” gTLD

⁵⁹ New gTLD Application submitted to ICANN by Radix
<https://gtldresult.icann.org/applicationstatus/applicationdetails/1505>

⁶⁰ New gTLD Application submitted to ICANN by Radix
<https://gtldresult.icann.org/applicationstatus/applicationdetails/1505>

⁶¹ New gTLD Application submitted to ICANN by Radix
<https://gtldresult.icann.org/applicationstatus/applicationdetails/1505>

⁶² <https://research.domaintools.com/statistics/tld-counts/>, last accessed 4/29/2019

⁶³ In December 2016, .COM accounted for 38.5% of all registered domains and 68.0% of all domains excluding ccTLDs. By December 2018, .COM's share had increased to 39.9% of all registered domains and 71.5% of all domains excluding ccTLDs. See Verisign Domain Name Industry Briefs, 2016 Q4 and 2018 Q4.

⁶⁴ .ONLINE, .SITE and .WEBSITE charge \$25.00, \$20.00 and \$15.00 respectively to registrars for renewal registrations while .COM charges \$7.85. <https://www.domaincostclub.com/pricing.dhtml>, last accessed 4/29/2019.

is a natural and intuitive transition for these existing registrants, as well as the massive market of potential registrants seeking an ‘online’ portal for whatever they wish to share with the world.⁶⁵

39. Afilias’s own new gTLD application for .ONLINE (which Afilias did not ultimately obtain) stated that:

The TLD .online stands for the global trend of being online, reachable, always on and always connected. Online stands as synonym for the Internet as the predominant technology today, which influences societies, businesses and individuals.⁶⁶

The string will clearly differentiate itself from many existing and new gTLDs [...] because the string is in the vocabulary of many people and eas[ily] recognizable.⁶⁷

According to statistics, “online” is the most frequently used word in domain names. This applies also to domain names on the secondary market. Registrants associate the Internet with “Online” and like to register domain names which contain this string. A new TLD .online could shorten domain names and supplies an intuitive namespace, eliminating the string “online” at the second-level.⁶⁸

40. It is true that industry participants and analysts expect .WEB to have potential, but they also expected several other new gTLDs to have this same potential.⁶⁹ Yet, Professor Zittrain and Dr. Sadowsky ignore that these other TLDs have apparently not had the impact that was predicted. And Professor Zittrain and Dr. Sadowsky provide no evidence to explain why these other TLDs with potential have failed to “[show] the degree of popularity needed to compete with .com or .net in a meaningful way,” and yet .WEB will.⁷⁰

⁶⁵ New gTLD Application submitted to ICANN by Dot Online LLC
<https://gtldresult.icann.org/applicationstatus/applicationdetails/1801>

⁶⁶ New gTLD Application submitted to ICANN by Afilias
<https://gtldresult.icann.org/applicationstatus/applicationdetails/1604>

⁶⁷ New gTLD Application submitted to ICANN by Afilias
<https://gtldresult.icann.org/applicationstatus/applicationdetails/1604>

⁶⁸ New gTLD Application submitted to ICANN by Afilias
<https://gtldresult.icann.org/applicationstatus/applicationdetails/1604>

⁶⁹ Dr. Zittrain also claims that .WEB is unique because “[i]n 2012, .WEB again attracted the most applications ...” (Zittrain Report, ¶ 49). This is inconsistent with my review of the data. I find that there were seven applications for .WEB, which is tied for the 12th most. The TLDs that attracted the most applications were .APP (with 13 applications), .HOME (with 11 applications), .INC (with 11 applications) and .ART (with 10 applications). https://icannwiki.org/All_New_gTLD_Applications

⁷⁰ Sadowsky Report, ¶ 17.

41. Additionally, Dr. Sadowsky, in supporting his claim that .WEB is unique, quotes an article which states that there are “a few points that may indicate .web is poised to gain traction relative to other recently introduced TLDs.”⁷¹ But Dr. Sadowsky ignores that the same article also suggests that .WEB is unlikely to impose a meaningful competitive constraint on .COM.

“There’s such a huge array of new domains available to buyers now making it very difficult for them to really understand the selection on offer. Likewise, I’ve yet to see any registrar (ourselves included) deliver a domain search tool that really nails domain discovery,” [Stuart Melling, co-founder of UK domain name firm 34SP.com] says. “It boils down to marketing might at this point. The registries that will win are most likely going to be those that have the heftiest budgets to market and promote their domains. I personally see .com being the de facto domain for any new website for some time to come. Right now, the new TLDs seem to represent a fallback, a secondary area to secure a relevant domain if the .com space isn’t viable. I’d imagine it would take years to unseat this kind of approach; but then this is the web, and making predictions is really a fools game.”⁷²

“Everyone still wants a .com. We’ve done user testing on people searching for domains, where users speak their thoughts during the test, and almost all of them say ‘Where’s the .com?’ With that said, I can’t foresee .web becoming the new .com, but I think it will be one of the more popular new TLDs that could overtake .net in a few years,” [Mark Medina, Director of Product, Domain Names with Dreamhost] says. “The .net TLD has been losing its popularity, and I think TLDs like a .web or a .xyz could become more popular than .net in a few years time. .Com will remain number 1 but number 2 is up for the taking.”⁷³

B. Dr. Sadowsky Misinterprets the Results of the .WEB Auction

42. Dr. Sadowsky relies on the auction price of .WEB to support his claim that .WEB is competitively unique.⁷⁴ Dr. Sadowsky further claims that the .WEB auction price reveals “[t]he magnitude of the winning bid for .web provides strong evidence that Verisign regarded it as a

⁷¹ Sadowsky Report, ¶ 44, quoting TheHostingFinders, “Inside the High Stakes Auction for .Web” (July 25, 2016), available at <http://www.thehostingfinders.com/inside-the-high-stakes-auction-for-web/>.

⁷² TheHostingFinders, “Inside the High Stakes Auction for .Web” (July 25, 2016), available at <http://www.thehostingfinders.com/inside-the-high-stakes-auction-for-web/>.

⁷³ TheHostingFinders, “Inside the High Stakes Auction for .Web” (July 25, 2016), available at <http://www.thehostingfinders.com/inside-the-high-stakes-auction-for-web/>.

⁷⁴ Sadowsky Report, ¶ 42.

significant competitive threat if were controlled by another registry operator.”⁷⁵ Both uses of the auction price are incorrect.

43. The \$135 million paid for .WEB is the highest price paid in a public new gTLD auction, but there have been other transactions in which TLDs sold for large amounts. For example, Neustar purchased the .CO registry for \$109 million in 2014, which at the time had only 1.6 million registered domain names.⁷⁶ Likewise, Afilias purchased .IO’s registry service provider for \$70 million in 2017, which at the time was reported to have only 270,000 registered domain names.⁷⁷ If one is to use dollar value as an indicator of competitive importance, then the higher combined value of .CO and .IO would imply that they are collectively more competitively important than .WEB despite accounting for less than 1% of all registered domain names.

44. The .WEB bid price is also lower than the cumulative purchase price of other new gTLDs. As described in Section II, ICANN reported that new gTLD applicants spent a total of \$294.6 million in new gTLD application fees and paid another \$240.6 million for winning public auctions (including the .WEB auction).⁷⁸ Many more millions were spent in privately-resolved contention sets with one publicly traded registry operator alone receiving over \$50 million from

⁷⁵ Sadowsky Report, ¶ 46.

⁷⁶ <https://www.bizjournals.com/washington/blog/techflash/2014/03/neustar-to-buy-co-domain-for-109.html>.

⁷⁷ It has been reported that Afilias purchased Internet Computer Bureau Ltd (“ICB”) for \$70 million in April 2017. Although ICB was just the registry service provider (i.e., the backend provider) for .IO and two small ccTLDs, not the full-fledged registry operator, market observers speculate that “ICB held a long-term contract to operate the .io registry” and that “Afilias effectively purchased these ccTLDs.” Accordingly, I treat the \$70 million as an indicator of the value of .IO and the two small ccTLDs. These two ccTLDs are extremely small relative to the size of .IO, and so I ignore their value in the discussion in the text. <https://tweb.domains/2018/11/19/io-sold-to-afiliast/>. See also <http://domainincite.com/23650-afiliast-bought-io-for-70-million>, <http://www.icb.co.uk/> and <https://research.domaintools.com/statistics/tld-counts/>, last accessed 4/29/2019.

⁷⁸ See ICANN financial statements for the years ending June 2013 – June 2017. Over those five years, ICANN recognized new gTLD application fees of \$294.6, excluding deferred revenues received by ICANN but not yet recognized in ICANN’s financial statements. I understand that the recognized fees reflect refunds for withdrawn applications and reduced application fees for certain gTLD applicants based on financial need.

losing private auctions.⁷⁹ The cumulative purchase price of other new gTLDs is thus much larger than the individual price paid for .WEB. Hence, if auction money and fees paid are indicators of competitive constraint as Dr. Sadowsky seems to suggest, then .WEB is a much less important competitive constraint than all of the other gTLDs combined.

45. Dr. Sadowsky further claims that the magnitude of the .WEB auction price provides evidence that Verisign wanted to prevent .WEB from falling into the hands of a competitor. This argument is incorrect. The magnitude of the .WEB auction price reflects the amount that Afilias (the second-highest bidder) was willing to pay to operate .WEB,⁸⁰ presumably because it expected to sell registrations. The fact that Verisign was willing to pay \$135 million to assist Nu Dot Co in prevailing in the .WEB auction indicates that Verisign valued operating the .WEB TLD more highly than did other applicants, but Verisign's valuation, just like Afilias's, may have been based on its desire to sell registrations, not necessarily to prevent competition.⁸¹

C. Recent Entry of Other New gTLDs Suggests That .WEB's Incremental Competitive Effect May Be Small

46. The number of TLDs competing to provide domain names has increased rapidly since the first new gTLDs were authorized in October 2013. More than 1,200 new gTLDs have been authorized to date⁸² and, collectively, these TLDs have almost 24 million registered

⁷⁹ In 2014 alone, MMX received \$37.5 million dollars from gTLD auctions. See <http://domainincite.com/23818-how-new-gtld-auctions-could-kill-gaming-for-good> and MMX's annual reports, e.g., <https://mmx.co/wp-content/uploads/2016/04/2015-Audited-Financial-Statements.pdf>.

⁸⁰ The .WEB auction employed a second-price-auction format in which the winning bidder paid the second-highest bid. In a second-price auction, bidders have an incentive to bid up to their valuations' (barring any constraint) and then to quit. Hence, the auction price reflects Afilias's valuation. See, for example, Osborne, J. Martin. *An Introduction to Game Theory*, 2004.

⁸¹ I note that the Amended IRP suggests that Afilias may also have been willing to pay more than \$135 million to operate .WEB, but that Afilias had to stop bidding because of a financing constraint. "Under the terms of its bank financing agreements, Afilias was able to bid up to USD 135 million for .WEB..." Amended IRP, ¶ 35.

⁸² <https://newgtlds.icann.org/en/program-status/statistics>.

domains.⁸³ As already discussed, many of these gTLDs have names that would seem to have universal appeal and a connection to the Internet, such as .ONLINE, .SITE and .WEBSITE. There has also been continued growth in ccTLDs such as .FR, .JP and .US, which are administered by country-code managers recognized by ICANN.⁸⁴ This includes a rise in so-called “open ccTLDs” that can be registered by any registrant regardless of which country the registrant resides in, such as .CO, .IO, .TK and .TV.⁸⁵ All together, there are over 300 ccTLDs⁸⁶ and, collectively, they have over 154 million registered domains.⁸⁷ Moreover, several legacy TLDs, such as .ORG and .INFO, have millions of registered domains.

47. Market observers have recognized this recent proliferation in registry options and its effect on competition. For example, the U.S. National Telecommunications and Information Administration stated that, since the launch of the New gTLD Program, “ccTLDs, new gTLDs, and the use of social media have created a more dynamic DNS marketplace.”⁸⁸ Yet Professor Zittrain and Dr. Sadowsky fail to consider the large and growing number of alternatives for .COM and whether .WEB adds incrementally to this competition. In particular, neither Professor Zittrain nor Dr. Sadowsky address how an Afilias-operated .WEB would meaningfully add to the constraints collectively imposed on .COM by these many alternative TLDs, as neither’s analyses demonstrate that .WEB is competitively important in comparison to all these other TLDs.

⁸³ Verisign Domain Name Industry Brief, 2018 Q4.

⁸⁴ <https://www.icann.org/resources/pages/cctlds-21-2012-02-25-en>

⁸⁵ https://icannwiki.org/Country_code_top-level_domain#Open_ccTLDs.

⁸⁶ Internet Assigned Numbers Authority Database, <https://www.iana.org/domains/root/db>, last accessed 4/29/2019.

⁸⁷ Verisign Domain Name Industry Brief, 2018 Q4.

⁸⁸ “NTIA Statement on Amendment 35 to the Cooperative Agreement with Verisign,” <https://www.ntia.doc.gov/press-release/2018/ntia-statement-amendment-35-cooperative-agreement-verisign>.

D. Professor Zittrain and Dr. Sadowsky Fail to Establish That Registrants Consider .WEB a Good Substitute for .COM and Therefore Fail to Demonstrate That Competition from .WEB Would Impose a Meaningful Constraint on .COM

48. An Afilias-operated .WEB would be able to impose a meaningful constraint on the price that Verisign charges for .COM only if there were many registrants who consider .WEB a good substitute for .COM.⁸⁹ If instead most registrants would be willing to pay a significantly higher price to register a .COM domain name than a .WEB domain name, then .WEB would not be a good substitute for .COM and would not impose a meaningful competitive constraint on .COM. Professor Zittrain and Dr. Sadowsky fail to consider the substitutability to registrants between .COM and .WEB. I present evidence below that existing registrants likely would not consider .WEB a good substitute for .COM and new registrants might not either.

49. Consider first existing registrants. Existing registrants likely face costs when switching registries because the TLD is a component of the domain name which, by definition, cannot be ported across registries. For example, if the registrant that operates the website CARS.COM wants to switch to .WEB, then it must register CARS.WEB (if available) or adopt another .WEB domain name. An existing registrant that switches TLDs might incur “switching costs,” such as having to spend money to inform and remind consumers that its domain name has changed, and the registrant may lose consumers who are unaware of the change. If these switching costs are large, then .WEB could not be a good substitute for .COM from the perspective of existing .COM registrants as existing registrants will prefer to renew with .COM rather than switch to .WEB, even if the .COM price is higher. On the other hand, if switching

⁸⁹ In assessing the potential competitive constraints that .WEB could impose on .COM, I focus on the decision of registrants, even though I understand registrants do not purchase directly from the .COM registry and will not purchase directly from the .WEB registry. This is appropriate because the prices charged by these registries to registrars likely affect the prices charged by registrars to registrants for domain name registrations in these registries. In particular, the wholesale pricing of a registry, such as .COM, to registrars will affect the costs of registrars selling .COM domain names and that in turn will affect the prices that registrars charge for .COM domain names.

costs are low, then it is possible that existing registrants could consider .WEB a good substitute for .COM, which could affect .COM's market power over existing registrants.

50. Both Professor Zittrain and Dr. Sadowsky fail to consider whether high switching costs for existing .COM registrants may mute the importance of competition from .WEB, even though Dr. Sadowsky explicitly recognizes that switching costs are generally high: "Registrants therefore overwhelmingly prefer to renew their domain names, even possibly at a significantly higher price than registering their names in a new domain. Accordingly, for renewals, all registries enjoy some degree of market power."⁹⁰

51. The DOJ recognized these same switching costs for existing registrants and in 2008 concluded that "new gTLDs, while providing a desired choice for some registrants, are unlikely to restrain the exercise of market power by the .com registry operator."⁹¹ If, as these materials suggest, there are many existing registrants for whom switching costs are high, then .WEB would not provide a significant competitive constraint on .COM as to existing registrants.

52. Now consider new registrants. New registrants do not incur switching costs, so it is possible that some new registrants would consider .WEB to be a good substitute for .COM. If there are enough such new registrants, then it is possible that .WEB could exert unique competitive influence on .COM as to new registrants. However, it is also possible that many new registrants view .COM as superior to all other TLDs, including .WEB, and so .COM's market power over new registrants will not be eroded by .WEB.

53. Neither Professor Zittrain nor Dr. Sadowsky provides any empirical evidence that new registrants view .WEB as a good substitute for .COM. They ignore that registrants might still find it beneficial to register their domains on .COM because of the desirability of having a .COM domain name even if .WEB is available. Moreover, they fail to provide any empirical

⁹⁰ Sadowsky Report, ¶ 30.

⁹¹ See the December 2008 letter from Deborah A. Garza at the DOJ to Meredith A. Baker at the NTIA.

evidence that new registrants would view .WEB as a superior substitute to .COM compared to other gTLDs such as .ONLINE, .SITE or .WEBSITE.

54. To illustrate how both Professor Zittrain and Dr. Sadowsky ignore the competitive interaction between different TLDs, I note that neither recognizes that TLDs may be complements as opposed to substitutes. Registrants may benefit from using several TLDs at the same time, and therefore, .WEB may be a complement for .COM rather than a substitute. In 2008, the DOJ explicitly recognized this possibility of complementarity: “[W]e found that VeriSign possesses significant market power as the operator of the .com registry because many registrants do not perceive .com and other gTLDs (such as .biz and .info) and country code TLDs (“ccTLDs,” such as .uk and .de) to be substitutes. Instead, registrants frequently purchase domains in TLDs other than .com as complements to .com domains, not as substitutes for them.” Thus, if these considerations apply to .WEB, then .WEB could attract many new registrants without being a close substitute for .COM. In such a case, there would be no effect from .WEB on .COM’s market power over existing or new registrants.

VI. DR. SADOWSKY’S CLAIM REGARDING THE PROMOTION OF .WEB IS UNSUPPORTED

55. Dr. Sadowsky claims that “Verisign would have only a limited incentive to promote” .WEB because Verisign would risk cannibalizing its own registrations in .COM.⁹² This is equivalent to claiming that Verisign would charge a higher (quality-adjusted) price for .WEB than would Afilias. I agree that this is theoretically possible if one assumes that .WEB poses a significant competitive constraint on .COM. But even if that assumption were true, the validity of Dr. Sadowsky’s prediction would ultimately depend on economic factors that Dr. Sadowsky does not consider, such as the companies’ relative costs. For example, if Verisign’s relative costs in offering .WEB domain names are lower than Afilias’s because it is more efficient (as a

⁹² Sadowsky Report, ¶ 48.

consequence of its leading position and experience operating .COM), that could translate into lower prices for .WEB domain names. Such efficiencies, which might not be achieved with an Afilias-operated .WEB, could more than offset any potential anticompetitive harms and lead Verisign to set lower prices for .WEB than would Afilias.

56. Neither I nor Dr. Sadowsky are able to compare or evaluate the costs of Verisign and Afilias because that information is not available to us. However, if Verisign has lower costs than Afilias in the operation of .WEB, then it is quite possible that Verisign would set a lower price for .WEB than would Afilias, despite any potential risk of cannibalization.

57. Moreover, Dr. Sadowsky ignores evidence which indicates that Verisign might be *more* effective at expanding .WEB's domain registrations than Afilias would be. For example, Verisign claims to be uniquely-well positioned to promote .WEB:

As the most experienced and reliable registry operator, Verisign is well-positioned to widely distribute .web. Our expertise, infrastructure, and partner relationships will enable us to quickly grow .web and establish it as an additional option for registrants worldwide in the growing TLD marketplace. Our track record of over 19 years of uninterrupted availability means that businesses and individuals using .web as their online identity can be confident of being reliably found online. And these users, along with our global distribution partners, will benefit from the many new domain name choices that .web will offer.⁹³

Moreover, an article cited by Dr. Sadowsky agrees that Verisign is uniquely positioned to drive .WEB growth:

If [Verisign] did indeed acquire .WEB, the company now owns a new growth engine and they are uniquely positioned to drive it. Some suggest they would bury it to protect .COM. That is not in the best interest of shareholders. .COM is still king, will be for some time and .WEB can immediately contribute healthy operating profits out of the gate. If well executed, .WEB can add significant shareholder value.⁹⁴

⁹³ Verisign, *VeriSign Statement Regarding .Web Auction Results*, <https://www.businesswire.com/news/home/20160801005586/en/Verisign-Statement-.Web-Auction-Results>.

⁹⁴ Authentic Web, “.WEB Acquired for \$135 Million. Too much? How does it compare?”, available at <https://authenticweb.com/brand-tlds-digital-strategies/dot-web-acquired-for-135-million/>. The Sadowsky Report, ¶ 44 quotes the same article.

VII. THE DEPARTMENT OF JUSTICE'S DECISION TO NOT CHALLENGE VERISIGN'S POSSIBLE OPERATION OF .WEB SUGGESTS THAT VERISIGN'S OPERATION OF .WEB DOES NOT RAISE SIGNIFICANT COMPETITIVE ISSUES

58. “The mission of the Antitrust Division [of the U.S. Department of Justice] is to promote economic competition through enforcing and providing guidance on antitrust laws and principles.”⁹⁵ A primary function of the Antitrust Division is the “enforcement of the Federal antitrust laws and other laws relating to the protection of competition and the prohibition of restraints of trade and monopolization, including investigation of possible violations of antitrust laws, conduct of grand jury proceedings, issuance and enforcement of civil investigative demands, and prosecution of all litigation that arises out of such civil and criminal investigations.”⁹⁶ The Antitrust Division has the authority to investigate and challenge mergers, acquisitions and other types of transactions and conduct that significantly harm competition.

59. As mentioned earlier, I served as the Deputy Assistant Attorney General for Economic Analysis for the Antitrust Division. The Antitrust Division, which has a large staff of Ph.D. economists in addition to attorneys, is one of the world's leading venues for applying economics to real world questions of competition. The economic issues most often analyzed by the Antitrust Division include the competitive effect of mergers, acquisitions and various alleged restraints of trade.

60. In January 2017, the Antitrust Division launched an investigation of Verisign's proposed acquisition of Nu Dot Co's contractual rights to operate the .WEB TLD.⁹⁷ Although I obviously do not know the details of this non-public investigation, based on my experience, I

⁹⁵ <https://www.justice.gov/atr/mission>.

⁹⁶ Antitrust Division Manual, Fifth Edition, Ch. I, Section B, available at <https://www.justice.gov/atr/file/761126/download>.

⁹⁷ Verisign's 2017 10-K reports that: “On January 18, 2017, the Company received a Civil Investigative Demand from the Antitrust Division of the United States Department of Justice (“DOJ”) requesting certain material related to the Company becoming the registry operator for the .web gTLD. On January 9, 2018, the DOJ notified the Company that this investigation was closed.” <https://investor.verisign.com/node/19931/html>. See also <https://domainnamewire.com/2017/02/09/u-s-antitrust-division-investigating-verisign-running-web/>.

expect that the focus of the investigation was whether Verisign's operation of .WEB was likely to significantly harm competition through increased prices or reduced quality given Verisign's operation of .COM. If I am correct, then the Antitrust Division lawyers and economists would have had to evaluate the very concerns that Professor Zittrain and Dr. Sadowsky raise. Indeed, I expect that Afilias, and others, would have had the opportunity to raise their competitive concerns about a Verisign-operated .WEB with the Antitrust Division. Moreover, the Antitrust Division would have had to consider whether any possible efficiencies on the part of Verisign might offset any possible competitive harms and lead to a procompetitive outcome.

61. If the Antitrust Division's investigation had concluded that, on balance, Verisign's operation of .WEB significantly threatened harm to competition, my understanding is that the Antitrust Division could have taken steps or filed litigation to block Verisign from operating .WEB. Instead, in January 2018, the Antitrust Division closed its investigation of .WEB without taking any action to block Verisign from operating .WEB.⁹⁸ If the Antitrust Division did undertake the type of investigation that I have just described, then its decision to allow the transaction to proceed indicates to me that the Antitrust Division concluded—likely based on much more information than is available to me, Professor Zittrain or Dr. Sadowsky—that Verisign's operation of .WEB is not likely to harm competition.

VIII. CONCLUSION

62. Professor Zittrain and Dr. Sadowsky have produced reports that contain a great deal of interesting historical information. However, both appear to reach economic conclusions unsupported by actual evidence. Specifically, Professor Zittrain and Dr. Sadowsky's conclusion that competition from an Afilias-operated .WEB would increase the competitive pressure on .COM is relevant only to the extent that Verisign would set lower .COM prices relative to a world in which Verisign operates both TLDs. In reaching this conclusion, however, Professor Zittrain

⁹⁸ Ibid.

and Dr. Sadowsky ignore the pricing regulations that constrain .COM's prices as well as relative pricing for other TLDs.

63. Both Professor Zittrain and Dr. Sadowsky also claim that .WEB would exert special competitive constraints on .COM. In making this claim, they ignore the contrary evidence that indicates that there may be nothing special about the competitive significance of .WEB in light of the other new gTLDs with similar "special" features that have not turned out to be competitively significant in constraining .COM's pricing or reducing .COM's share of domain registrations. Finally, Dr. Sadowsky's claim that Verisign would promote .WEB less aggressively than would Afilias might be true, but might not, even given his unsupported assumption that .WEB will exert special competitive constraints on .COM. Efficiencies can offset the creation of market power and Dr. Sadowsky pays no attention to that.

64. Finally, I note that the Antitrust Division of the Department of Justice investigated Verisign's potential operation of .WEB and chose not to block it. Although I do not know the details of that investigation, I assume that the Antitrust Division was aware of the competitive concerns raised by Afilias's experts and would have evaluated them. It appears that the Antitrust Division determined that these concerns were not sufficient to warrant blocking Verisign's purchase of .WEB.

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May 30, 2019