Report for submission to ICANN

Assessment of ICANN Preliminary Reports on Competition and Pricing

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April 17, 2009

Ref: 11495-145

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1 Introduction

As part of its recent initiative to introduce new generic top-level domains (gTLDs), ICANN commissioned an independent third-party report and retained Dennis Carlton, a Professor of Economics at the University of Chicago, to consider the introduction of new gTLDs in terms of consumer benefit as well as pricing issues. Professor Carlton wrote two reports, which were released on March 4, 2009. The two reports written by Professor Carlton are entitled "Preliminary Report of Dennis Carlton Regarding Impact of New gTLDs on Consumer Welfare," ("Consumer Welfare Report") and "Preliminary Analysis of Dennis Carlton Regarding Price Caps for New gTLD Internet Registries," ("Price Cap Report").

In the Consumer Welfare Report, Professor Carlton was asked to analyze the introduction of the new gTLDs from an economic perspective, and to "identify and address the benefits and costs associated with ICANN's proposal."[1] Professor Carlton concludes that the new gTLD framework "is likely to improve consumer welfare by facilitating entry and creating new competition to the major gTLDs…"[2] In the Price Cap Report, Professor Carlton was asked to "address whether price caps that limit future increases in prices charged to registrars of these new gTLDs would be necessary to insure the potential competitive benefits of the new gTLDs."[3] Professor Carlton concludes that "price caps or ceilings on prices charged by operators of new gTLD registries are unnecessary to insure competitive benefits [of the new gTLDs]."[4]

AT&T has asked me to review and critique the reports written by Professor Carlton. I am an economist by training, with a Ph.D. from MIT. After MIT, I spent five years as an Assistant Professor of Economics at INSEAD, a business school near Paris, before joining the Federal Communications Commission (FCC). At the FCC, I worked on a wide range of policy analyses and regulatory decisions concerning Internet issues, market opening, and mergers. At Analysys Mason, I am currently the Head of the Regulation Sector, as well as responsible for running our US office in Washington DC. I have conducted a number of market reviews in Information and Communications Technology (ICT) industry sectors over the past 15 years, which have been presented to agencies including the FCC and the European Commission, and have also conducted such reviews on behalf of a number of regulators including the Info-communications Development Authority (IDA) in Singapore.

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1 Consumer Welfare Report, para. 4.

2 *Id.,* para. 5.

3 Price Cap Report, para. 4.

4 *Id.*, para. 5.

In this document, I will respond to each report individually below, showing that Professor Carlton has made some specific assumptions in each report that enable him to reach his conclusions. This document discusses why these assumptions are not valid, and the impact that this has on Professor Carlton's conclusions. In addition, I will focus on a critical piece of economic analysis that Professor Carlton has explicitly avoided, and how this could affect the analysis of the impact of the new gTLDs. This review also contains a preliminary view of both primary and secondary data that are needed to answer the questions raised by ICANN; in terms of primary data, MarkMonitor, a company specializing in Internet brand protection, has generously provided data and insight based on their specialized expertise.[5] In addition, Marilyn S. Cade, CEO of ICT Strategies, an expert in ICANN and Internet Governance matters, provided helpful insights and background information to support the Report.

As the Department of Justice (DoJ) and Department of Commerce noted in response to the ICANN proposal,[6] in 2006 the ICANN Board directed the President to investigate the competitiveness of domain registration. Specifically, the President was directed as follows:[7]

> …to commission an independent study by a reputable economic consulting firm or organization to deliver findings on economic questions relating to the domain registration market, such as:
>
> – whether the domain registration market is one market or whether each TLD functions as a separate market,
>
> – whether registrations in different TLDs are substitutable,
>
> – what are the effects on consumer and pricing behavior of the switching costs involved in moving from one TLD to another,
>
> – what is the effect of the market structure and pricing on new TLD entrants, and
>
> – whether there are other markets with similar issues, and if so how are these issues addressed and by who?

Professor Carlton noted that this study could be "of economic interest, … [but] not necessary for the evaluation of ICANN's proposal."[8] However, I consider that the results of such a study would necessarily have impacted Professor Carlton's conclusions. As such, I will outline this economic study below, after focusing on the two Carlton reports.

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5 http://www.markmonitor.com.

6 US Department of Justice and Department of Commerce Letter to ICANN regarding ICANN's efforts to introduce gTLDs, p. 1. http://www.ntia.doc.gov/comments/2008/ICANN_081218.pdf.

7 ICANN, Special Meeting of the Board Minutes (October 18, 2006), http://www.icann.org/en/minutes/minutes-18oct06.htm.

8 Consumer Welfare Report, para. 51.

2 Consumer Welfare Report

Overall, Professor Carlton bases his conclusion that the new gTLD framework will improve consumer welfare "on the fundamental principles that competition promotes consumer welfare and restrictions on entry impede competition."[9] Professor Carlton provides a number of general and specific examples. In general, he notes the Department of Justice (DoJ) and Federal Trade Commission Horizontal Merger Guidelines,[10] which state that "entry has the potential to 'counteract the competitive effects of concern,'" and cites his own economic textbook on the impact of entry.[11] He also cites more specific examples in the economic literature, including papers on the benefits of the introduction of cellular telephone services and the introduction of the minivan.[12] He does not relate these examples to the relevant domain registration market, however, to ensure that the general theory fits the specific case.

Indeed, the theoretical impacts of entry must be subject to a detailed review. For instance, Professor Carlton has not cited the full context of the quote he selected from the Horizontal Merger Guidelines – in particular, the Guidelines do not merely assume that entry will counteract any competitive effects, but rather specify the conditions under which entry will be effective. The full context of the selected quote is that a merger is not of competitive concern "if entry into the market is so easy that market participants, after the merger, either collectively or unilaterally could not profitably maintain a price increase above premerger levels." Further, "[e]ntry is that easy if entry would be timely, likely, and sufficient in its magnitude, character and scope to deter or *counteract the competitive effects of concern*."[13] Thus, the full context highlights two important questions in the present inquiry – whether there is market power in the domain registration market, and whether there is evidence that entry would be sufficient to counteract such market power. Professor Carlton has chosen to ignore both questions in favor of a general statement about the benefits of entry.

Further, the section of Professor Carlton's textbook that he cited in favor of the benefits of entry actually focuses predominantly on barriers to entry, rather than the role that entry plays in maintaining

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9 *Id*., para. 5.

10 1992 Horizontal Merger Guidelines (with April 8, 1997 Revisions to Section 4 on Efficiencies, Department of Justice and Federal Trade Commission. See http://www.ftc.gov/bc/docs/horizmer.htm.

11 Consumer Welfare Report, para. 21 and n. 18.

12 *Id.,* para. 42.

13 Horizontal Merger Guidelines, Section 3.0. Emphasis added to indicate the quote chosen by Professor Carlton.

competitive markets.[14] The book lists three categories of entry barriers, of which one is product differentiation, defined as "related products that have varying characteristics so that consumers do not view them as perfect substitutes."[15] As an example of the impact of product differentiation, the textbook describes a *first-mover advantage*, whereby "the first firm to enter incurs lower marketing costs because it faces no rivals," such that if the later firms to enter have higher marketing costs, then "the first firm has a permanent advantage – a long-run barrier to entry – and can maintain high prices."[16] As an example, Professor Carlton writes that this may arise when, "because the product of the first firm in the market is familiar to customers, they may be reluctant to switch to a new brand."[17] Nowhere in the present papers does Professor Carlton test whether such an advantage has accrued to the first gTLD, the .com domain, at the expense of more recently introduced gTLDs, or the implications of such a first-mover advantage.

One means of answering whether new entry would be sufficient to counteract any market power would be to study whether the original gTLD, .com, has a first-mover advantage, by studying the impact of the recent entry of gTLDs. There have been two waves of entry in gTLDs, along with the creation of sponsored TLDs, as shown in Figure 1 below.

14 In the Consumer Welfare Report, Professor Carlton notes that "entry is recognized to play a central role in maintaining competitive markets" and in n. 18, cites his textbook, *Modern Industrial Organization, 4th ed.,* pp. 77-82. The header that precedes the cited pages starts on page 76, and is entitled "Definition of Barriers to Entry", with paragraph headers beginning on page 77 entitled "Entry Barriers", "Exit Barriers", and "General Evidence on Entry and Exit" on the following page. On page 79 there is another header, "Identifying Barriers to Entry," followed by another on page 80 entitled "The Size of Entry Barriers by Industry" that runs to page 82, where a new section on Externalities begins. Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industrial Organization*, Fourth Edition, 2005.

15 *Id.* at p. 79.

16 *Id.* at p. 80.

17 *Id.*

Year of creation	*Generic TLD*	*Sponsored TLD*
Original (1984)[18]	.com	
	.org	
	.net	
2000	.biz	.aero
	.info	.coop
	.name	.museum
	.pro	
2004		.asia
		.cat
		.jobs
		.mobi
		.tel
		.travel

Figure 1: List of generic Top-Level Domains (gTLDs) [Source: ICANN]

Professor Carlton has effectively dismissed for review the most relevant set of data for determining whether his overall thesis is correct in this market. Specifically, he states that it is not necessary to complete the economic study of whether existing markets are competitive or not because "it is likely that consumers would nonetheless realize significant benefits from new gTLDs..."[19] However, he concedes that the new gTLDs such as .info and .biz have achieved "only limited success in attracting registrants and Internet activity"[20] and later he acknowledges that an analysis of the impact of the entry of the recently introduced gTLDs such as .info and .biz would be interesting and "…contribute to our understanding of the effects of entry on consumer welfare", but states that the "data necessary to perform such a study are not maintained by ICANN."[21] Not having determined that the recently introduced gTLDs are providing benefits, Professor Carlton has little, if any, basis for concluding that introducing new ones would be even more beneficial.

Figure 2 below shows a sustained increased growth in .com during the past decade, with some growth remaining in the other original gTLDs, .net and .org,[22] and relatively low growth in two recently

18 It has been noted that there were seven original TLDs – the others are .gov, .mil, .edu, and .int. These are not included here because they are meant for specific types of organizations, and thus are not available as substitutes for private users of the generic and sponsored TLDs listed in the table.

19 Consumer Welfare Report, para. 8.

20 *Id*., para. 9.

21 *Id*., para. 23.

22 Although .org is commonly recognized as used by non-commercial entities, there are no registration requirements such as for .gov or .edu, and thus has been included it because it can be used by companies as well as individuals in substitution for another gTLD.

introduced gTLDs, .info and .biz. This data is available to ICANN, and indeed cited by ICANN on its website, and provides a preliminary view that .com may have been able to maintain its first-mover advantage in the years since its introduction.

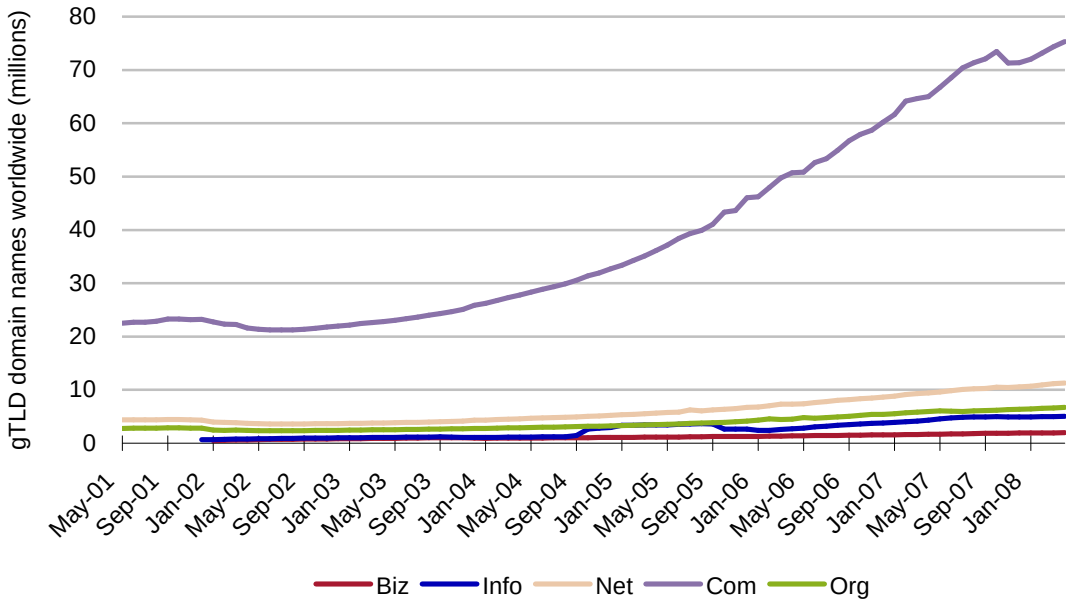

Figure 2: Major gTLD domain names count [Source: Zooknic]

In addition, Professor Carlton overlooks other potential evidence about the impact of competition from the recently introduced gTLDs – for instance, he argues that competition "has the potential for inducing registries of regulated TLDs to reduce prices below these caps",[23] but does not check whether this has occurred already for the regulated gTLDs, notably .com. A hard price cap has existed for .com with a current price of $6.86. The VeriSign registry for .com is allowed to raise the price cap by up to 7% at least four out of six years in their current contract, and has raised it, with no evidence that prices have fallen below the caps. As ICANN sets the price caps for .com and the other regulated TLDs, it is well within their knowledge whether the actual prices are below the price caps or not.[24]

Further, he argues that the proposed gTLDs will increase innovation, but does not cite any new innovations at the registry level to date, which would be publicly available (and presumably would be trumpeted by ICANN).[25] Indeed, innovation in gTLDs may be superseded by users' own initiatives,

23 *Id.*, para. 24.

24 See the registry agreements under http://www.icann.org/en/registries/agreements.htm for price cap information.

25 *Id.*, paras. 25 and 26.

as in the following example. Given the challenges of presenting web pages on mobile devices with smaller screens, a new sponsored gTLD, .mobi, was awarded to a consortium of stakeholders as a means of providing differentiated domain names that refer exclusively to mobile content. However, many websites are introducing their own sub-domains with the m. prefix to denote mobile web pages. (e.g. m.analysysmason.com vs. www.analysysmason.mobi). Using the m. prefix has the advantage of not requiring users to remember a new top-level domain (but rather putting m. in front of the main domain name), and does not require a new registration in .mobi.[26] According to hosterstats, .mobi had 840,581 distinct domains by April 2009, but this still pales in comparison to the over 80 million domains in .com.[27] This shows that new gTLDs are not always necessary for innovation, and the advantages of having one domain name with an established Web presence may trump any other advantage that .mobi could bring.

The competitiveness of existing markets is important, because if demand is largely for .com then there is little evidence that there will be much demand for other gTLDs. On the flip side, however, there may be markets for specific categories of domain names, such as sponsored TLDs (sTLDs) or country-code TLDs (ccTLDs). In this inquiry, we categorize two types of registrations, defined as follows:

- *Core registrations.* These are registrations that are used for a company's main website, or to complement the main website in some way – either highlighting different brands or in a different language, for instance. Such registrations may take advantage of different TLDs, such as for example a website in .mobi that is targeted at mobile devices
- *Defensive registrations.* These registrations are not unique, in that they do not resolve, or they redirect traffic back to a core registration, or do not contain unique content – for instance registrations that contain typos of a trademarked name. These are registered to prevent a cybersquatter from registering them instead, or are recovered from cybersquatters who registered them first.

Section 4 contains an outline of how the original economic study called for by the Board could be conducted, which would determine the extent of competition for existing gTLDs and how to identify where expansion would provide economic benefits in the form of choice for Internet users interested in registering a new core domain name. Demand for core and defensive registrations will provide guidance as to which new TLDs may attract more defensive or core registrations – for example, significant unique usage of certain ccTLDs may indicate demand for other ways to meet international needs, such as using Internationalized Domain Names (as opposed to the current ASCII domain

26 See http://mtld.mobi

27 See http://www.hosterstats.com/DomainNameCounts2009.php.

names). In any case, Professor Carlton has not provided any specific evidence of benefits from the recently added gTLDs, or of adding new ASCII gTLDs under the proposed framework.

In addition to not having established that new ASCII gTLDs would provide any benefits, Professor Carlton dismisses arguments that they can have any costs. He argues that the fact that the new gTLDs have not achieved many registrations (e.g. .info has 5 million, .biz has 2 million) shows that there is not a need for a large number of defensive registrations, because there are far more registrations in .com which have evidently not all been duplicated.[28] However, this analysis misses two points:

- First, many of the defensive registrations are actually in .com itself, reflecting the primacy of this domain. As discussed below, defensive registration is not simply a matter of registering the company name in other domains, but protecting many related names as well, including the companies brand and even model names, as well as typographical misspellings of the name and potentially negative variations as well.

- Second, the question is not just how many registrations are in gTLDs other than .com, but how many of them are unique versus how many of them are defensive registrations. A unique registration would be when a company uses a domain as its main registration, or a company uses different domains for different purposes. It is my understanding that a detailed analysis of the root zone file, coupled with a sophisticated analysis of sampled domain registration portfolios from different categories of users (including multinational corporations, small businesses, organizations, and individuals), could be used to differentiate unique versus defensive registrations.

The table below quantifies defensive registrations for five multinational corporations, from a variety of sectors: e-commerce, entertainment, information and communications technology, travel, and finance. The data in this table was collected and analyzed by MarkMonitor.[29] For purposes of this table, and in line with the definitions above, core registrations are defined as those names whose purpose is to drive traffic or Internet commerce and are promoted widely. Defensive registrations are maintained to stop infringement and prevent consumer confusion, and are not primary website traffic drivers. Examples of defensive registrations include variations, misspellings, and formerly typo-squatted and cybersquatted names, including those recovered through negotiation, litigation or arbitration.

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28 Consumer Welfare Report at paras. 44 and 45.

29 The client data supplied were provided anonymously with the permission of the MarkMonitor clients represented.

	Company A	*Company B*	*Company C*	*Company D*	*Company E*	*Average*
Total Registrations	3,960	8,654	4,330	1,892	4,989	4,765
.com	21%	36%	43%	25%	7%	28%
Other gTLDs	20%	36%	18%	27%	54%	33%
ccTLDs	56%	27%	36%	46%	39%	38%
sTLDs	3%	1%	2%	1%	0%	2%
Core Registrations	475	4	45	7	247	156
gTLD	181	4	10	6	105	61
ccTLD	295	0	35	1	142	95
Defensive Registrations	88.01%	99.95%	98.96%	99.63%	95.05%	96.73%
Core Registrations	11.99%	0.05%	1.04%	0.37%	4.95%	3.27%

Figure 3: Representative Registrations [Source: MarkMonitor]

The data provides significant evidence of the magnitude of defensive registrations for this sample of multinational corporations. First, the companies in this sample register an average of almost 5,000 names, of which only an average of 156 are actually used for commercial purposes, and only 61 of these on average are in gTLDs. As a result, almost 97% of the names are defensively registered, representing a significant minimum cost simply for maintaining the registrations, setting aside the costs that may have been incurred in recovering any of these names and of managing the portfolio itself. Company B, for example, is noteworthy in having 8,654 registrations of which only 4 are core registrations. It is noteworthy that a significant amount of the defensive registrations are in .com; indeed, setting aside the ccTLD registrations, which we argue below may not be substitutes for the gTLD registrations, 44% of all defensive gTLD registrations are in .com.

Professor Carlton also argues that there are established mechanisms for resolving domain name disputes and other procedures that should lower the cost of defensive registrations.[30] However, Professor Carlton ignores the actual costs of protecting the trademarks, as well as issues such as protecting misspelled variants of brand names. For instance, he is not clear as to why the introduction of a new gTLD such as .cars would increase the costs of protecting GM trademarks[31] by having largely

30 Consumer Welfare Report., para. 36.

31 *Id.* , para. 47.

dismissed the need for defensive registrations. There are a number of levels of trademark protection that Professor Carlton seems to not have considered, each of which has its own cost.

Defensive registrations of trademarked names are used to prevent the general phenomenon of *cybersquatting*, whereby someone will register a trademarked name in order to profit from that name, either by selling the name back to the owner or creating a website that exploits the name. This has been exacerbated by the practice of domain name tasting, in which a registrant can register a name without cost and test if it attracts any browsers, in order to sell advertising, for instance. A variation of this is *typosquatting*, whereby variations of the trademark will be registered in order to create traffic to corresponding websites, which companies will also protect against. It is worth noting that companies will not just defensitively register their own name, but also for each of their brands. Thus, GM may not just protect the GM name, but also each of their brands (e.g. Chevrolet) and potentially each of their models (e.g. Corvette). According to MarkMonitor, as shown above almost 97% of a company's current domain portfolio may be made up of defensive registrations.

Procedures that are in place to protect companies still have costs. For instance, a "sunrise registration period" is offered in new TLDs, during which trademark holders are given an early opportunity to register domain names identical to their trademarks, providing that their trademarks have been registered prior to a particular date. The cost of the sunrise registration is higher than for the standard registration – for one TLD (.mobi), the former was $200 versus the standard fee of $12 per name – reflecting the premium attributed to securing a name in a new TLD. A sunrise registration period is then followed by a "sunrise challenge period", which allows third parties to challenge sunrise registrations. Using .info as an example, Afilias, which manages the .info TLD, received 15,172 challenges on sunrise registrations.[32] A significant proportion of the challenges involved domain names that used generic or geographical words. Out of the challenges, more than 93% of the challenges were decided in favor of the challenger, suggesting that there may have been a wide variety of abusive registrations. Challengers were required to pay a fee of $295, of which $75 was non-refundable.[33] This suggests that even those procedures that aim to protect trademark holders rights may increase their costs for each additional TLD, even if they have no intention of using those TLDs for core registrations.

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32 According to WIPO: "the Center received 15,172 challenges. This caseload was comprised of 1,579 challenges filed by third parties during the Sunrise Challenge Period ("Regular Sunrise challenges") (equivalent to an average filing rate of 12.3 challenges per calendar day) and of 13,593 Challenges of Last Resort filed by the Registry [Afilias] between January 11, 2002 and April 8, 2002 (equivalent to an average filing rate of 154.5 challenges per calendar day)." Of the regular sunrise challenges, 75.7% were decided in favor of the challenger (with 20.8% dismissed due to lack of payment of the challenge fee), while 95.8% of the challenges brought by Afilias were decided in its favor. See http://www.wipo.int/amc/en/domains/reports/info-sunrise/report/index.html.

33 WIPO notes that "separate fee arrangements were made with Afilias to reflect its role as the Registry in the application of the .info Policy and Rules, as well as its role as a mass filer of Challenges of Last Resort." I understand that Afilias was able to negotiate a bulk discount for these challenges. See http://www.wipo.int/amc/en/domains/reports/info-sunrise/report/index.html.

Where a company is not able to reserve a relevant domain name, the Uniform Domain Name Resolution Policy (UDRP) process enables trademark owners to take back their trademarks. This also has costs, which are approximately $5,000 or more per filing. Finally, where this is not successful, a company may buy a name off a domain name holder, which can rise into the millions of dollars for certain domains, such as the $3.85 million paid for YP.com (Yellow Pages).[34] There is also a significant cost simply in identifying and monitoring infringing registrations in order to initiate such actions, which increase by the number of TLDs that must be monitored.

Overall, the costs of trademark protection cover a wide range of actions. For instance, a study based on MarkMonitor corporate clients revealed that companies spend on average $42,000 per year to maintain their domain portfolios, of which an average of $38,000 was spent on defensive registrations.[35] Professor Carlton did not address why these costs would not increase when new gTLDs were introduced.

In conclusion, there is no evidence of the type of beneficial competition that Professor Carlton argues that the proposed gTLD framework will introduce. In addition, there are far more defensive registrations than Professor Carlton seems to have assumed. In effectively dismissing the cost of defensive registrations, the Consumer Welfare Report has failed to analyze the present status and satisfaction of trademark holders with the current safeguards, such as the UDRP. I have presented evidence that costs to existing brand holders are already significant, such that the proposed introduction of new gTLDs could bring significant additional costs and resource burdens with little offsetting benefit.

34 *See* http://www.techcrunch.com/2008/12/30/atts-yellowpages-paid-385-million-in-cash-for-ypcom/.

35 MarkMonitor analysis of the impacts on rights holders of defensive registrations.

3 Price Cap Report

The basic argument in this report is that, in most markets, price caps are unnecessary for entrants, even if customers are "sticky" due to switching costs, because the entrants must compete on price.[36] However, again Professor Carlton either does not consider or dismisses the specific characteristics of this market.

In particular, Professor Carlton dismisses the entire issue of "consumer confusion or intellectual property,"[37] which has a critical impact on the arguments that follow. It is true that his basic economic argument is correct in that without the "intellectual property" issue, a price cap would not be needed in these markets, even with switching costs, because the new registries would have to compete on price and value added services to get any market share from the existing and other new registries.[38] This assumes that, for companies seeking to register a new domain, price is a key consideration in choosing a new gTLD over established gTLDs, such as .com, even if later there are switching costs in moving away from the new registry. However this ignores evidence that .com may have a first-mover advantage in terms of the preferences of the registrants and the familiarity of .com to consumers.

However, the critical issue is that defensive registrations are much less price sensitive than basic new registrations. This can be seen first in the willingness of trademark holders to pay more for domain name in a new TLD during a "sunrise period" in which such names can be reserved, as discussed previously. Depending on how each registry handles the sunrise registration period, costs of acquiring a specific name may have been high. The .asia sunrise period featured collision auctions, where if multiple parties wanted the same name, it went immediately to auction. This occurred about 200 times with an average price of roughly $1,500, with the highest price paid being $112,111 for discover.asia.[39] In addition, the costs of recovering a trademarked domain that has already been registered by another company, as described above, far outweigh the costs of defensive registration. As a result, there are a number of reasons why defensive registrations would be less price sensitive than applications for unique registrations, which may be more price sensitive. Thus, without a price cap, the new registries could choose to keep prices relatively high to profit from the defensive registrations, at the expense of competing over new unique registrations. By ignoring the intellectual property issues, Professor Carlton effectively dismisses its impact on prices.

Secondly, Professor Carlton ignores the implications for the legacy gTLDs if price caps are not present in new gTLDs. It is my understanding that, as a result of an "equitable treatment" clause, the

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36 Price Cap Report, para. 12.

37 Id., para. 4.

38 Id., section B.

39 See http://www.registry.asia

legacy gTLD registries should be given the same terms and conditions extended to the new gTLDs; this could result in the legacy registries of .com, .net, and .org as well as .info and .biz having their price caps removed.[40] Since the vast majority of gTLD registrations, including defensive registrations, are in .com, for instance, this could raise costs of registrations significantly. Professor Carlton provides a relevant example of this phenomenon in his textbook. He summarizes a study that shows that, when drug patents expire and generics are introduced, the price of the brand name (original) drug often rises. The issue is that the generics compete on price. Rather than getting into a price war, the original developer will let the price sensitive customers move to the generics, and focus on brand-loyal customers who are less price sensitive and will accept a price increase.[41] Removing the price cap from .com could lead to a significant price increase aimed at users with any form of brand loyalty to .com (caused or augmented by switching costs), leaving only price-sensitive users to choose competing gTLDs.

In addition, Professor Carlton's argument that sponsored TLDs do not exploit the fact that they have no price caps[42] ignores the fact that the sponsor of the TLD is responsible for denying applications that are not validated as belonging in that sponsored space, thus eliminating the need for defensive registrations and thereby forcing the sponsor to compete on price, identity and services. For instance, the registry for the sponsored .travel TLD, Tralliance, includes in its terms and conditions that "[e]ligibility is the central requirement to hold a .travel domain name… Eligibility is based primarily upon active participation in one of the 20 industry segments identified by the Registry. Eligibility for requested domain names is based primarily upon a relationship of the names to the business or entity engaged in the identified industry segment. The chosen names are for the direct use in the business or entity registering the names."[43] In other words, travel companies can rest assured that others will not be able to cybersquat relevant domain names, and thus can choose to register, or not, for business purposes only. As evidence, it can be noted in Figure 3 that only roughly two percent of defensive registrations are in sponsored TLDs. In the unsponsored gTLDs however, defensive registrations are needed, and therefore price caps would prevent this need from being exploited.

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40 For instance, the equitable treatment clause in the .com registry agreement states that "ICANN shall not apply standards, policies, procedures or practices arbitrarily, unjustifiably, or inequitably and shall not single out Registry Operator for disparate treatment unless justified by substantial and reasonable cause." See http://www.icann.org/en/tlds/agreements/verisign/registry-agmt-com-01mar06.htm, Section 3.2 (b).

41 Carlton and Perloff, *Modern Industrial Organization*, Example 9.6 on p. 308.

42 Price Cap Report, para. 21.

43 *See* http://www.travel.travel/index.php/authenticate-register/terms-and-conditions/. There have been some recent changes in the sponsorship policies, as the result of a change in ownership.

4 Outline of the economic study

An economic study along the lines of the ICANN Board directive is essential to determining the answer to the question that the Consumer Welfare Report set out to study, namely whether the new gTLD framework "is likely to improve consumer welfare by facilitating entry and creating new competition to the major gTLDs such as .com, .net, and .org."[44] If the answer is that the new framework will not likely improve welfare in general, then such an economic study can also identify whether any specific subset of the new gTLD framework would do so.

The purpose of a market review is to determine whether one or more companies are able to exercise market power. As defined in the Horizontal Merger Guidelines, "[m]arket power to a seller is the ability profitably to maintain prices above competitive levels for a significant period of time."[45] It is important to note that any company can restrict supply or raise price, however, it is only market power if such actions are *profitable*. In particular, in competitive markets, if a company raises prices above the competitive level, it will lose customers to its competitors offering substitute goods and services, thus making the price increase unprofitable. Thus, one of the most significant factors mitigating against the exercise of market power is the presence of such competitors – conversely, one factor facilitating market power is barriers to the entry or expansion of competitors, as described above.

The economic questions asked by the ICANN Board in its Board Resolution of 2006 are those typically asked in a market review, focusing on questions of market definition (*whether the domain registration market is one market or whether each TLD functions as a separate market)*, substitutability between existing services that could constrain market power (*whether registrations in different TLDs are substitutable)*, market features that could enhance market power (*what are the effects on consumer and pricing behaviour of the switching costs involved in moving from one TLD to another)* and finally entry that could act to constrain market power (*what is the effect of the market structure and pricing on new TLD entrants).*

One immediate measure of whether or not market power is being exerted, therefore, is to examine whether or not prices are above a competitive level. This is difficult, however, where there are regulated price caps, as is the case for the gTLDs where ICANN has imposed price restrictions on registries, such as VeriSign, controlling the gTLDs, such as .com. In light of this difficulty, it is common to start a review with a market definition, which enables market shares to be calculated as a starting point for a market review. For instance, Professor Carlton in his textbook notes that where price information is difficult to estimate, in order "to reach some workable solution to the problem of determining market power, analysts and the courts often define a market and then construct a measure

44 Consumer Welfare Report, para. 21

45 Horizontal Merger Guidelines, Section 0.1.

of market share."[46] A market definition also answers the first question posed by the Board for the economic study.

Market definition itself relates directly to substitutability between goods and services. Roughly speaking, if demand for one service responds noticeably to the price of another, they are in the same market. More specifically, the Horizontal Merger Guidelines state:[47]

> A market is defined as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a "small but significant and nontransitory" increase in price, assuming the terms of sale of all other products are held constant. A relevant market is a group of products and a geographic area that is no bigger than necessary to satisfy this test.

The analysis of demand-side substitution will therefore initially consider a narrowly-defined product or service that is representative of the relevant market, and subsequently extend the market boundaries by assessing whether or not a hypothetical monopolist supplier of those services would be able to profitably introduce a small but significant non-transitory increase in price. The Guidelines state that the size of the price increase used depends on the industry, but "in most contexts, [the Agency] will use a price increase of five percent lasting for the foreseeable future."[48] To the extent that the price increase is not profitable, it is because consumers switch to buying alternative services in response to the price increase, and thus alternative services should be considered substitutes for the original service (or group of services) and the market definition should be broadened to include them.

The adoption of the hypothetical monopolist test to determine the boundaries of a market (that is, the relevant services to be considered) is an iterative exercise, meaning that the test should be carried out with reference to the expanded group of services, including the initially narrowly-defined service and the demand-side substitutes which have been identified when applying the price increase test. This process will continue until all possible demand-side substitutes have been identified and included in the market definition. When the price increase is profitable, that is because there are no more substitutes that consumers would purchase in response to the price increase, and thus the hypothetical monopolist can raise price profitably. The relevant service market will therefore include the smallest group of services for which a hypothetical monopolist could profitably impose a small but significant and non-transitory price increase. A similar exercise is used to determine the boundaries of the

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46 Carlton and Perloff, *Modern Industrial Organization*, p. 644.

47 1992 Horizontal Merger Guidelines, Section 1.0.

48 *Id*., Section 1.11.

geographic market definition as being the region in which the hypothetical monopolist controlling the relevant product could profitably impose a small price increase.[49]

In considering the demand-side substitutes, the Guidelines account for looking at the following evidence of buyers' reactions to price increases:[50]

(1) evidence that buyers have shifted or have considered shifting purchases between products in response to relative changes in price or other competitive variables;

(2) evidence that sellers base business decisions on the prospect of buyer substitution between products in response to relative changes in price or other competitive variables;

(3) the influence of downstream competition faced by buyers in their output markets; and

(4) the timing and costs of switching products.

Thus, for instance, one could begin with the most narrowly-defined market in the gTLD space, which could be .com by virtue of a first-mover advantage and market lead in registrations. The question then would be, what happens if there is a small price increase for .com into the foreseeable future? A key question here is what starting price to use – the Guidelines argue to use "prevailing prices of the products," but notes that one could use future prices "when changes in the prevailing prices can be predicted with reasonable reliability" such as for example "changes in regulation which affect price either directly or indirectly by affecting costs or demand."[51] The current price cap for .com imposed by ICANN on VeriSign is $6.86, and unless the new Guidelines result in the elimination of that price cap, there is no foreseen increase in price other than allowable 7% price increases.

There is little evidence of any widespread or sustained shift in the past away from .com based on relative price changes or differences – neither when VeriSign has raised its price cap, nor when other gTLDs have lower price caps, or even promotions such as .info waiving its fees in 2004 and 2005.[52] As shown above in Figure 2, there is no evidence that pricing has slowed the growth of .com.

Further, there is significant evidence of consumer familiarity with .com, and switching costs for companies moving away from .com. In general, companies invest significantly in marketing their web identity, including their domain name, which can appear in advertising, business cards, and web links.

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49 *Id*. at Section 1.2.

50 *Id*. at section 1.1.

51 *Id.* at Section 1.12.

52 In an effort to spur interest in the .info domain, the .info registry offered free registrations in 2004 and 2005 and has repeatedly offered promotional prices to this day. While this appears to have led to a spike in registrations in late 2004, as shown in Figure 2, the spike does not appear to have come at the expense of .com. A more detailed economic analysis could take such information into account.

Consumers in turn develop a familiarity with a company's domain name, which they may also embed into their browser favorites and contact lists. The prevalence of .com is not difficult to document – for instance, the browser on the iPhone has a default ".com" button that users can press in order to automatically fill in a .com name – there is no similar button for any other domain. Thus, in answer to the first Board question, there may indeed be separate markets, with .com in a market on its own.

Even under a more expansive market definition, however, .com could be construed to have significant market power. For instance, if a rigorous market study showed that the gTLDs together constituted a market, .com would still have a significant amount of market power. As a first check, one can consider the market share. This can be done using registration revenues or number of registrations. According to the Horizontal Merger Guidelines, "[m]arket shares will be calculated using the best indicator of firms' future competitive significance. Dollar sales or shipments generally will be used if firms are distinguished primarily by differentiation of their products. Unit sales generally will be used if firms are distinguished primarily on the basis of their relative advantages in serving different buyers or groups of buyers."[53] Below we present the .com market share since 2000 based on registrations (i.e. unit sales).[54] This shows that .com has a market share above 70% of the gTLDs, and that this has been sustained in spite of the entry of new gTLDs since 2000.

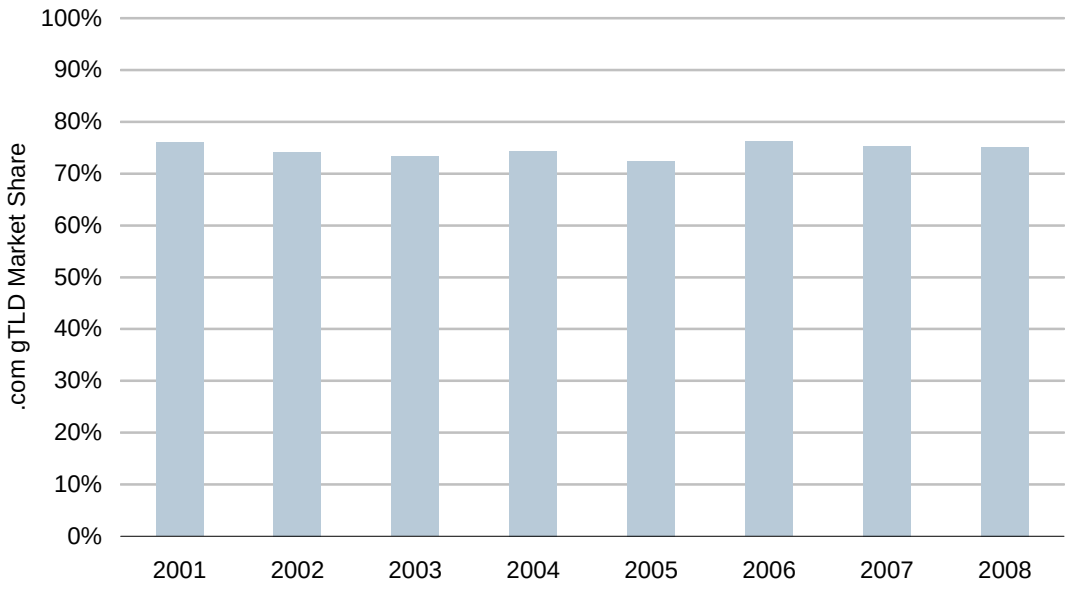

Figure 4: .com market share based on registrations [Source: Zooknic]

53 Horizontal Merger Guidelines, Section 1.41.

54 The denominator includes the following gTLDs .biz, .com, .info, .net, and .org.

Arguably, the approach discussed in the Horizontal Merger Guidelines would suggest that registration numbers are the correct measure of market share as, unlike automobiles for instance (where cars can differ intrinsically by type and features), there is relatively little intrinsic differentiation in domains that would warrant using revenues. Having said that that, there is evidence that .com prices higher than the other gTLDs such as .info, and thus .com may have a higher market share based on revenues than the one presented above based on registrations.

A rigorous economic study should then consider whether the sponsored TLDs are in the same market as the gTLDs, or, whether each is in its own market corresponding to the target interest group of the sponsor. The same question could also be asked about the country-code TLDs (ccTLDs); in particular, whether these are substitute for the gTLDs or act as complements. The questions such a study would ask are whether there is evidence of companies having unique registrations in a sponsored TLD or a ccTLD, or similarly whether they use these latter TLDs for different purposes than they use domains registered in a gTLD. For instance, do multinational companies register a ccTLD in each country where they have a presence and use each differently, such as in a different language and/or with different country-specific information? The evidence presented above in Figure 3 suggests that ccTLDs are used for different purposes, as on average the companies have a significant number of core registrations in ccTLDs (more than in gTLDs on average). From the consumer perspective, the question would be whether users recognize widespread conventions: do they expect a certain TLD for different types of businesses (such as .travel) or for different devices (such as .mobi) or in different countries (such as .co.uk)?

Defining a market, and determining a market share or concentration within that market, provides an initial insight into the competitiveness of the market. For instance, a low market share or concentration is evidence that the market is competitive, however, the converse may not be true – a high market share may only lead to a presumption of market power, while other factors should be considered. Professor Carlton notes that "[t]here is no agreement as to exactly what share (or change in share) is 'high' but many economists regard a share in the range of 30 to 50 percent as too low to indicate significant market power in an industry with a competitive fringe comprising the remainder of the market."[55] A company with a higher share, however, may not have market power if it can be constrained by entry, as discussed previously. Unlike in many industries, entry into the domain name space is not free in any sense, as evidenced in the current discussion over the new gTLD Guidelines – registries must apply for, and ICANN must approve, any new gTLD. However, as we have already mentioned, a good predictor of the impact of any future gTLD entrants is the results of entry to date.

The answers to the questions about demand for sponsored TLDs and ccTLDs have significant implications both for the conduct of the economic study, and also for the overall inquiry into the new gTLD framework. If it is considered that some or all sponsored TLDs and ccTLDs are used as

55 Carlton and Perloff, *Modern Industrial Organization*, p. 644.

substitutes for a registration in a gTLD, then they should be added to the market definition, and would then impact the review of the competitiveness of the broader market. On the other hand, if they are used as complements to the gTLDs, for specific purposes relating to a particular industry (e.g. .travel), a particular usage (.mobi), or a particular country (e.g. .uk), then this could provide insight into the types of new gTLDs that should be considered. For instance, a preliminary review suggests the following preliminary conclusions to an economic study:

- .com has a significant first-mover advantage that new gTLDs have not been able to overcome, as evidenced by the high market share that .com has maintained over the other gTLDs;
- the new gTLDs have created significant costs in terms of trademark protection with little benefit, based on the number of defensive registrations in these gTLDs and cost of maintaining such a portfolio;
- ccTLDs are used as complements to .com by multinational corporations, based on the relatively high number of ccTLD registrations in our data.

These results, which could be confirmed by undertaking the full economic study suggested by the Board in 2006 based in part on gathering the data listed in Appendix A, as well as analysis of broader trends in Internet growth and usage, may point towards a narrower focus for the new gTLDs, such as Internationalized Domain Names (IDNs) that would be used for core purposes, and provide value to consumers in the rapidly growing markets that would benefit from using different characters than the ASCII characters targeted to Latin-based languages such as English.

5 Conclusion

In conclusion, Professor Carlton has made a number of assumptions about both the benefits and costs of new gTLDs that are simply not supported by market facts. For instance, as this paper has shown, it is possible to undertake an analysis to determine, among other things, whether the recently created gTLDs currently provide consumer benefits, or whether any benefits are offset by costs to companies incurred in defending their core registrations. Professor Carlton did not consider such an analysis, yet nonetheless argued that the introduction of new gTLDs would be beneficial. Further, having dismissed the need to consider intellectual property issues, Professor Carlton argues that price caps would not be needed, ignoring the possibility that the registries might then set prices aimed not to lure price-sensitive customers away from established domains, but rather aimed at customers registering defensively, who may be less price-sensitive.

The economic study that the Board directed the staff to undertake in 2006, which sought findings to a range of economic questions relating to the domain name market, pointed the way to an appropriate and informed approach by ICANN, which would provide the answers to the questions that were addressed by Professor Carlton in his two preliminary studies. A basic analysis based on available data indicates that .com has a significant first-mover advantage that no new gTLD introduced to date has

been able to overcome. In addition, the data provided from the analysis undertaken by MarkMonitor shows that instead of creating valuable new domain space, recently established gTLDs have created significant costs in terms of trademark protection and have not operated to constrain prices below price caps set by ICANN. Finally, the economic study that ICANN should conduct would identify areas where there is demand for new core registrations, such as in the rapidly growing ccTLDs in non-English speaking countries. This could help to narrow down where new gTLDs may bring consumer benefits, by introducing TLDs where users seek to register new core domain names. The study could also identify means of implementing stronger safeguards and remedies to address abuses such as cybersquatting, which result in the need for large numbers of defensive registrations.

Appendix A: Required data for economic study

In order to perform an economic study of the current market(s) for domain names, and understand the potential impact of the introduction of new gTLDs, we have provided the following (partial) list of data that could be gathered from registries, companies, and other stakeholders.

Category	*Domain*
Identifying benefits of new gTLDs	Indicate main corporate domain and intended use (e.g. direct sales, marketing, consumer information)
	Indicate other registered domain names that are used for unique purposes (e.g. in a sponsored domain or ccTLD)
	Indicate any desired new gTLDs and any unique purpose (e.g. an International Domain Name)
Identifying costs of defensive registrations	Number of defensive registrations in .com
	Number in other gTLDs
	Number in sponsored TLDs
	Number in ccTLDs
Other costs of domain name management	Defensive registrations
	Sunrise registrations
	Monitoring infringing registrations
	Uniform Domain Name Resolution Policy processes
	Secondary market purchases of domain names
	Estimated cost of switching domains (if applicable)

Figure 5: Data to conduct economic study

Appendix B: About Analysys Mason

Analysys Mason is the world's premier adviser in telecoms, IT and media. Through our global presence, we deliver strategy advice, operations support and market intelligence to leading commercial and public-sector organisations in over 80 countries.

For more than 20 years, our intellectual rigour, operational experience and insight have helped our clients resolve issues ranging from development of operator strategy, evolution of national sector regulation and execution of major financial transactions, to the deployment of public and private network infrastructure. Analysys Mason consistently delivers significant and sustainable business benefits.

We are respected worldwide for the exceptional quality of our work, our independence and the flexibility of our teams in responding to client needs. We are passionate about what we do and are committed to delivering excellence to our clients. The company has over 300 staff worldwide, with headquarters in London and offices in Cambridge, Dubai, Dublin, Edinburgh, Madrid, Manchester, Milan, Paris, Singapore and Washington DC.