

CT-2011-003

**THE COMPETITION TRIBUNAL**

**IN THE MATTER OF** the *Competition Act*, R.S.C. 1985, c. C-34, as amended;  
**IN THE MATTER OF** an application by the Commissioner of Competition pursuant to section 79 of the *Competition Act*; and  
**AND IN THE MATTER OF** certain rules, policies and agreements relating to the residential multiple listing service of the Toronto Real Estate Board.

**BETWEEN:**

COMPETITION TRIBUNAL TRIBUNAL DE LA CONCURRENCE  <b>FILED / PRODUIT</b> CT-2011-003 September 11, 2015  Jos LaRose for / pour REGISTRAR / REGISTRAIRE	
OTTAWA, ONT	# 331

**THE COMMISSIONER OF COMPETITION**

**Applicant**

- AND -

**THE TORONTO REAL ESTATE BOARD**

**Respondent**

- AND -

**THE CANADIAN REAL ESTATE ASSOCIATION AND REALTY SELLERS  
REAL ESTATE INC.**

**Intervenors**

**UPDATED EXPERT REPORT OF FREDRICK FLYER**

June 2, 2015

**I. OVERVIEW AND SUMMARY OF CONCLUSIONS**

**A. Qualifications**

1. I am an economist and Executive Vice President at Compass Lexecon. Prior to joining Compass Lexecon in 1999, I was on the economics faculty at New York University's Stern School of Business, and served as a visiting professor in economics at Northwestern University and a lecturer at the University of Chicago. I earned a Ph.D. in economics from the University of Chicago and an M.S. in labor

and industrial relations from the University of Illinois. I am the recipient of numerous fellowships, grants, and honors, and have published papers on microeconomic theory, applied econometrics, industrial organization, and antitrust analysis in leading scholarly journals. I also have presented my work at universities and research organizations around the world and acted as a referee for numerous academic journals.

2. In addition, I have been retained to offer economic analysis of the competitive and antitrust implications of various business arrangements by corporations including Pfizer, Philip Morris, Johnson & Johnson, Microsoft, Verizon, EBay, PepsiCo, Reuters PLC, Whirlpool, Monsanto, Reynolds, Walgreens, and the Tribune Corporation. Further, I have been retained as a competition expert by the U.S. Federal Trade Commission on several occasions to assess and testify on the competitive implications of specific transactions. I also have provided economic analyses to the U.S. Department of Justice (“DOJ”) as well as regulatory agencies in other countries. Additionally, I was retained by the National Association of REALTORS® (“NAR”) as an economic expert in their litigation with the DOJ and studied the role of Virtual Office Websites (“VOWs”) in the US market extensively for that matter. A copy of my curriculum vitae, which details my professional experience, including a list of all publications I have authored within the last ten years and all of the cases in which I have testified within the last four years, is included as Appendix 1.

**B. Outline of Task**

3. I have been asked by counsel for The Canadian Real Estate Association

(“CREA”) to update my report dated August 13, 2012 to the extent necessary in light of any developments that have occurred since then. I have also been asked to evaluate the updated report of Dr. Vistnes, dated February 6, 2015 (“Vistnes 2015 Report”), and assess whether any of my original conclusions are affected by his updated report.

4. For the prior report, I had been asked by counsel for CREA to: (a) evaluate the economic incentives and the potential impact on CREA, CREA’s members and CREA’s trademarks of the remedy requested by the Commissioner of Competition to be imposed on the Toronto Real Estate Board (“TREB”) (the remedy being, in effect, requiring TREB’s VOW data feed to include a complete inventory of property information available on TREB’s MLS® System, including historical sales data and all properties currently listed for sale), and (b) to evaluate and/or respond to the economic evidence and arguments put forth in the Expert Report of Gregory S. Vistnes, Ph.D. dated June 22, 2012 (“Vistnes June 2012 Report”) to the extent that it relates to the analysis identified in (a).

5. In undertaking my work, I and my staff under my direct supervision have reviewed various materials associated with this matter, including business documents, market analyses by third-party providers, various real estate –related websites, public press, and the materials provided by the parties and CREA in this matter (including the Vistnes 2015 Report and updated witness statements by business representatives of companies providing real estate services in the Toronto area). A list of the materials I relied upon for this report is attached as Appendix 2.

### C. Summary of Main Conclusions

6. The updated materials do not change any of my prior conclusions or the economic framework I delineated to evaluate the economic effects on CREA of the remedy the Commissioner requests be imposed on TREB.<sup>1</sup> This economic framework involves understanding how the remedy likely will change or affect competition in brokerage services and, in turn, how those changes will ultimately impact consumers. Specifically, policies that benefit consumers by making a board's MLS® System and the associated brokerage services more efficient also benefits CREA, as consumers' perception of the value of an MLS® System and the quality of services provided by REALTORS® using that MLS® System would be enhanced (thus protecting and enhancing the value of CREA's REALTORS® and MLS® trademarks). Therefore, an important aspect in assessing the impact on CREA of the remedy requested by the Commissioner is to assess how the remedy might affect competition and consumers. Evaluating the competitive impact of the requested remedy involves balancing the potential consumer benefits against potential consumer harm. Based on this approach I previously concluded that:

- a. The economic evidence and arguments put forth in the Vistnes 2012 Report do not provide a reliable basis from which to evaluate the likely competitive effects associated with the remedy requested by the Commissioner for any area which is relevant to CREA.
  - Dr. Vistnes acknowledges that a central economic question in this matter is the incremental value of delivering the disputed fields via a VOW website (versus some alternative delivery mechanism). However, he confuses this question when identifying the appropriate analysis. Dr. Vistnes' analysis does not estimate the

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<sup>1</sup> For the remainder of the report, when I refer to the effects of the requested remedy on CREA, I am including the effects on both CREA members and CREA trademarks.

incremental value of delivering this select information via a VOW versus the other available methods. Instead, Dr. Vistnes argues that the current rules impose strong restrictions on the way in which brokers who use VOWs can compete for consumers, without providing a reliable basis for why the current rules impose such large restrictions.

- Put simply, Dr. Vistnes ignores the fact that the requested remedy addresses only the delivery method of the disputed fields and not access to this information in general or access to real estate listings via the Internet. Therefore, to draw reliable inferences on competitive effects from the remedy, one must analyze the relative benefits (and costs) of a different delivery mechanism (versus the value of the information in general).
  - By not properly framing the economic question, Dr. Vistnes' analysis is misguided, as he ignores the possibility that the Commissioner's requested remedy may not provide any benefits to buyers and sellers of real estate and even harm competition (i.e., lower consumer welfare), if the economic incentives of brokers and consumers to use an MLS® System is reduced. Thus Dr. Vistnes' flawed analysis provides no basis for his dismissal of potential harm and expectation of large potential consumer benefits from the Commissioner's proposed remedy.
  - Dr. Vistnes' analysis on dynamic competition is flawed. He outlines some of the innovations and competitive transformation occurring in the realty industry and attributes the benefits of these innovations to VOWs without rigorously establishing a causal link. Changes resulting from the Internet and digital technology are not unique to this industry and VOWs are one of many innovations that use the Internet to distribute information. The important economic question is not whether the Internet is transforming realty services, as there are many changes that are making the collection and delivery of information more effective. Rather, the key economic question is what restrictions may be placed on the specific form of digital discovery of certain information contained in an MLS® System.
- b. The likely competitive effects that would result from the remedy requested by the Commissioner will depend on the specific

characteristics of the relevant market. These characteristics include the availability of substitutes to VOWs, consumers' usage and preferences for these alternatives, the current prevalence of brokers who use VOWs, the level of broker competition, and the financial and technological resources available to the boards and associations who operate the MLS® Systems. Due to the fact that these underlying characteristics vary across board jurisdictions and their associated MLS® Systems, the competitive implications associated with the implementation of the requested remedy may also vary across these areas.

7. Dr. Vistnes' new evidence does not change any of these prior conclusions, as he does not develop any new analyses that empirically measure or even acknowledge the correct economic question.
  - a. The key economic question to evaluate the competitive effects of the requested remedy is how allowing brokers to make the disputed fields available to consumers via a VOW versus other means will affect competition. TREB's VOW policy does not prohibit consumers from acquiring the information in the disputed fields, only that the information be obtained through means other than a VOW, such as by phone, email, or an in-person meeting with a broker. Therefore, a key question is how are consumers harmed if these alternative modes of information delivery, such as email or phone, are indeed close substitutes for broker clients; one which Dr. Vistnes does not address in his new report.
  - b. Specifically, the incremental effect of the requested remedy on consumer welfare depends on whether allowing the disputed fields to be shown through a VOW would materially change the quality of brokerage services from the consumer's perspective. In other words, the competitive effects resulting from the requested remedy depend on how the remedy impacts consumers. Dr. Vistnes confuses the benefits of digital technology in general (i.e. not restricted to VOWs) with the benefits from providing the disputed fields through a VOW and thus does not address this key economic question.
  - c. Encouraging participation by clients in MLS® Systems through use of the services of REALTORS®, and maintaining the quality and reliability of MLS® Systems are central interests of CREA. Nothing in the evidence put forth by Dr. Vistnes provides an analysis that assesses and balances the potential effects on these interests of listing the disputed fields on a VOW.

- Instead of analyzing the impact, Dr. Vistnes makes broad statements about the market power of an MLS® System and claims that the service is essential to all market participants.
- Central to his claim is that there is no good substitute for information delivery of the disputed fields via a VOW, and secondly that there is no threat to consumers' opinion of an MLS® System from displaying the disputed fields.
- However, the evidence he cites suggest potential threats. For example, any increases in off- MLS® sales and any emergence of secondary brokerage services, such as described by ViewPoint Realty, that bypass usage of an MLS® System (e.g., brokerage sales that occur prior to listing through broker private information networks) represent potential threats of MLS® System bypass.<sup>2</sup> Promoting off- MLS® sales and growing websites that attract viewers who are not current buyers or sellers of real estate are inconsistent with CREA's interests. The emergence of digital technology can promote these activities.
- The emergence of these alternative services both impact the value of receiving the disputed fields via a VOW, and also presents potential risks to an MLS® System and REALTORS®, which are supported by CREA. No reliable empirical analyses of these relative costs and benefits are undertaken by Dr. Vistnes.

9. In the remainder of this report, I expand on the basis for the above conclusions. My work is ongoing, and therefore I may update my conclusions as new evidence becomes available.

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<sup>2</sup> Second Witness Statement of William McMullin, ¶42.

**II. DR. VISTNES' 2015 REPORT DOES NOT PROVIDE A BASIS FROM WHICH TO DRAW RELIABLE INFERENCES ON THE COMPETITIVE EFFECTS OF THE COMMISSIONER'S REQUESTED REMEDY**

10. Dr. Vistnes' 2015 Report does not change my conclusions about the proposed remedy. He still fails to address the key economic question and fails to assess reliably any potential competitive harm (or balance it against potential consumer benefits). The key economic question to evaluate the competitive effects of the requested remedy is how allowing brokers to make the disputed fields available to consumers via a VOW (versus other means) will affect competition.

11. Dr. Vistnes appears to agree that this is the key economic question; however he does not design any empirical measures to evaluate this key question.<sup>3</sup> Nowhere in his 2012 or 2015 Reports does he explain why acquiring the disputed fields via a VOW is so important to consumers of realty services. While past sales information may be very important to consumers who are considering making offers on properties or listing their house, as Dr. Vistnes claims, the delivery of this information via a VOW is not obviously so valuable to consumers of brokerage services.<sup>4</sup> Many, if not most consumers who use a realtor to buy property may actually visit the property with their broker before making an offer. Similarly, those selling properties with the assistance of a broker may also personally interact with the broker office prior to setting the price.<sup>5</sup> Therefore, why is it so important

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<sup>3</sup> Vistnes 2015 Report, (p.8 at bottom of page, p. 10 in upper header), Vistnes Reply report, August 23, 2012, ¶ 15.

<sup>4</sup> NAR Generational Trends Report 2014, reports in Exhibit 4-1 that 88% of overall home purchases were done through a real estate agent or broker, with 91% reported for buyers 33 and younger. Thus for the vast majority of home purchases, real estate agents or brokers are used, and thus consumers have access to information in the disputed fields prior to purchasing the home.

<sup>5</sup> The 2014 NAR Profile of Home Buyers and Sellers reports that 88% of home sellers used agents. Exhibit



to be able to get this information from your broker via the broker's VOW versus through the other means of communication that are likely taking place? And the answer to that central question is not found anywhere in Dr. Vistnes' Reports.

*Dr. Vistnes Analysis Confuses Benefits of Digital Technology in General with Benefits of Display of Individual Property-Level Disputed Fields on a VOW*

12. To reliably demonstrate procompetitive benefits of the requested remedy on brokerage services, one must provide evidence that the available services to consumers would be either higher in quality or lower in cost as a result of the remedy. Instead of evaluating how inclusion of the disputed fields on a VOW would affect competition in the market, Dr. Vistnes focuses on the benefits of digital technology in general in providing realty services.

13. He points to benefits of summarizing and displaying information in useful ways for consumers,<sup>6</sup> and also cites statistics about use of Internet searches.<sup>7</sup> However, this evidence explains benefits from developments in digital technology in general, which have been applied to numerous areas of commerce, including real estate. VOWs are just one type of business innovation driven by digital technology.

14. Dr. Vistnes, in extolling the benefits of VOWs, does not separate out the independent effect of digital technology developments (as here applied by VOWs)

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8-1, p.110.

<sup>6</sup> Vistnes 2015 Report, (p.3 at bottom of page, p. 5 in upper header).

<sup>7</sup> For example, see Vistnes 2015 Report, (p.16-18 at bottom of page, p.18-20 in upper header). Also p.68 in upper header, referencing Updated Exhibit A (p.150 in upper header) showing increased use of the Internet by U.S. consumers in finding the home they purchased. This exhibit is based in part on NAR Generational Trends Report 2014, which, as noted previously, reports in Exhibit 4-1 that 88% of overall home purchases were done through a real estate agent or broker, with 91% reported for buyers 33 and younger, the group also using the internet relatively more than other age groups.

from the value of the display on a VOW of the disputed fields. For example, Dr. Vistnes states that principal-agent problems with steering could be mitigated by providing consumers with more information.<sup>8</sup> However, consumers currently are not deprived of the information in the disputed fields, as those who want the information in the disputed fields have various other means to obtain it. That is, Dr. Vistnes provides no basis for his assertion that receiving past sales information via a VOW versus the many other ways that this information is currently being conveyed (email, phone call, etc.) will help solve problems of broker bad behavior. His assertion is especially puzzling in light of the fact that such information is currently widely available and disseminated. In other words, Dr. Vistnes' claim that consumers would be better off (with display of the disputed fields on VOWs) is essentially arguing *how this information is delivered to consumers* is what is important in disciplining broker behavior. This argument is distinct from claiming that consumer access to the information itself (which already exists in the marketplace) is important.

15. Dr. Vistnes describes how VOWs can organize and summarize information in ways that are helpful to consumers.<sup>9</sup> However, he ignores the fact that these services may be provided without the disputed fields being displayed. For example, Dr. Vistnes claims the importance of display of the individual sold listing or days on market (“DOM”) information on VOWs. He states, “Thus, absent the type of information that would be available from sold listings data, consumers cannot easily learn about current DOM information for neighborhoods

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<sup>8</sup> Vistnes 2015 Report, (p. 23 at bottom of page, p. 25 in upper header).

<sup>9</sup> Vistnes 2015 Report, (p.3 at bottom of page, p. 5 in upper header).

in which they're interested.”<sup>10</sup> While he cites John Pasalis, founder of Realosophy.com for evidence on the importance of an MLS® System VOW feed, he does not acknowledge that Realosophy.com displays much of this information currently. For example, Realosophy.com shows by neighborhood, for the Greater Toronto Area (“GTA”) the average sales price in the month, DOM average, and percent sold over asking.<sup>11</sup> I understand such display of detailed summary statistics is in keeping with TREB VOW Rules and Regulations.

16. In addition, digital technology affects realty services outside of VOWs, including other delivery options for the disputed fields, such as texts, emails, and automated responses. Therefore, the question is not whether digital technologies assist in the delivery of brokerage services, but rather whether limiting the means by which the disputed fields can be conveyed on one vehicle (i.e. on VOWs) to interested parties prior to them making a home bid or listing their property for sale is a cause of competitive harm.

17. In assessing the potential harm from limiting the information displayed on VOWs, one would want to consider the availability of alternative sources of this information for buyers and sellers of real estate. I understand that much of the information regarding the disputed fields is available digitally outside an MLS® System, such as past sales prices for homes. Dr. Vistnes acknowledges the fact that this information is available from other sources, although he states that the information may be delayed by days or weeks.<sup>12</sup> In any case, as stated above, the

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<sup>10</sup> Vistnes 2015 Report, (p. 27 at bottom of page, p. 29 in upper header).

<sup>11</sup> See, for example, <http://www.realosophy.com/Neighbourhood/Profile/Toronto/Thornccliffe%20Park>. Visited May 22, 2015.

<sup>12</sup> The fact that past sales price information on a particular house, which an individual is buying or selling, would be delayed by a month (or even two) appears not to be important. Consider a seller of a house.

consumer harm would depend on the incremental consumer costs associated with acquiring this information from sources other than through a VOW feed, and so if close substitutes for client-broker communication exists, then this harm would be limited.

*Dr. Vistnes' Claims of Harm to Dynamic Competition are Based on Flawed Reasoning*

18. In addition, Dr. Vistnes claims that dynamic competition and innovation would be harmed by TREB's VOW rules are based on flawed economic reasoning. First, placing restrictions on terms of usage occurs all the time and does not as an economic principle harm consumers. For example, patents prevent innovative drugs from being copied, which in turn create more incentives to innovate (as the innovators rights are protected). Simple restriction on usage as an economic principle does not reduce innovation or dynamic competition, and in many instances can promote innovation (such as patents and copyrights).

19. Second, he provides no empirical basis from which to gauge how innovation or competition generally would be diminished as result of the restriction on showing the disputed fields on a VOW. He does not show that VOWs showing disputed fields innovate more than VOWs not displaying disputed fields, or that the ability to show the disputed fields raises incentives to innovate or invest. In fact, he provides recent evidence that indicates that VOWs have grown without being able to display the disputed fields. Specifically, he references significant

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They likely know the sales price of the house they currently own, if a sale actually took place in the past month or two. Similarly, a house which is for sale would be highly unlikely to have been sold in the past month and listed for sale again. Given these facts, Dr. Vistnes does not explain why a delay is important to actual buyers and sellers of real estate.

increases in TheRedPin's business since 2013 (Gidamy 2015 Statement at ¶ 5) despite TheRedPin's VOW not displaying the disputed fields. He also cites John Pasalis, who states that his business has grown since 2012 because his GTA-area VOW (which does not display the disputed fields) was generating additional business. (Second Witness Statement of John Pasalis, February 2, 2015 at ¶ 3)."<sup>13</sup>

20. Also, Dr. Vistnes presents recent evidence that some VOWs which include the disputed fields have reduced the value of their competitive offerings to customers after initially entering with low fees.<sup>14</sup> For example, Mr. McMullin of ViewPoint, who runs a VOW that displays the disputed fields in the Nova Scotia area, reports that "Full Service Listing is now more expensive on a percentage commission basis than in 2012. There are a number of reasons, including the addition of experienced agents who have a reputation for providing traditional listing services, that the majority of sellers prefer to pay higher fees contingent on sale rather than a lower flat fee up front..."<sup>15</sup> Mr. McMullin also reports that "For buyer clients, we could not see a clear competitive advantage in offering rebates... We therefore decided not to continue offering rebates to buyers."<sup>16</sup> In short, Dr. Vistnes provides no sound evidence that the provision of the disputed fields results in better consumer outcomes with VOWs specifically, let alone for overall brokerage services generally.

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<sup>13</sup> Vistnes 2015 Report, fn 13.

<sup>14</sup> Second Witness Statement of William McMullin (ViewPoint), ¶ 44-45.

<sup>15</sup> Second Witness Statement of William McMullin (ViewPoint), ¶ 44.

<sup>16</sup> Second Witness Statement of William McMullin (ViewPoint), ¶ 45.

*Dr. Vistnes' Analysis Confuses Benefits of Digital Technology in General with Benefits of Display of Individual Property-Level Disputed Fields on a VOW*

21. Dr. Vistnes also suggests that brokers' provision of services using the Internet is uniquely tied to VOWs, even though many Internet services are used by brokers and consumers outside of VOWs. For example, on the REALTOR® side of the marketplace, website design services exist that provide REALTOR® customers with the ability to have customized websites. These allow all brokers to provide access to property information over the Internet, including the listing content offered through IDX feeds and CREA's Data Distribution Facility or "DDF®", information on neighborhoods, maps, average home values, listings, demographics and the like.<sup>17</sup> Additionally, substantial information about property listings is found on REALTOR.ca and popular non-VOW websites like Trulia and Zillow.<sup>18</sup>

22. Consumers interested in buying or selling real estate have numerous avenues for obtaining information relevant to their decisions. The contention that restrictions on the display of the disputed fields on a VOW would harm dynamic competition in the context of rapidly developing digital technology and the many non-VOW innovations that provide property information over the Internet is unsupported by the facts. In short, Dr. Vistnes overstates the competitive significance of VOWs, and therefore he overstates the implied consequences of restricting the way VOWs display information.

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<sup>17</sup> For example, one such service, Placeseter, states "A strong online presence is essential for every real estate agent, regardless of budget. We strive to make websites accessible and affordable, and believe in offering top-tier features at a sustainable price for the average agent."  
<https://placester.com/websites-for-realtor-benefits-program/faq/>

<sup>18</sup> For example, Trulia, Zillow, realtor.com have far more page views and unique visitors than Redfin.  
<http://www.realtor.org/sites/default/files/reports/2015/nar-website-traffic-stats-february2015.pdf> ,

*Dr. Vistnes' Analysis Ignores the Possibility of Potential Harm*

23. Dr. Vistnes claims that there is no possibility for harm, however his analysis ignores marketplace facts that indicate some harm is possible. For example, Dr. Vistnes ignores that most users of VOWs do not purchase properties and therefore privacy concerns extend to all the eyeballs viewing the website.<sup>19</sup> Also, many users of VOWs only browse property listings and do not actually become purchasers. That is, these websites can use brokers' listings to generate viewing traffic and then monetize this traffic with corresponding revenues (such as generating clients for an affiliated mortgage business), without giving explicit value back to the listing brokers for the Internet traffic that is not made up of buyers or sellers.<sup>20</sup>

24. Scott Nagel of Redfin states that [REDACTED] of unique website visitors registered for Redfin's VOW over 2013- 2014.<sup>21</sup> [REDACTED]

[REDACTED] Tarik Gidamy of TheRedPin states that the conversion rate for his site is about [REDACTED] of registered VOW users hire TheRedPin and use them on a successful close.<sup>22</sup> [REDACTED]

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May 23, 2015.

<sup>19</sup> Human eyeballs are one source of views, while automated internet search technologies and website scrapers which save information is another potential concern.

<sup>20</sup> See, for example: <http://res.theredpin.com/mortgages> and <http://www.viewpoint.ca/advertising> , which lists website traffic statistics and fees for various types of ads. Visited June 1, 2015.

<sup>21</sup> Second Witness Statement of Scott Nagel (Redfin), p.7.

<sup>22</sup> Second Witness Statement of Tarik Gidamy (TheRedPin), ¶19.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

25. Allowing consumer home sales price information to be easily viewed by all Internet traffic (as opposed to only serious buyers and sellers) may potentially exacerbate privacy concerns for consumers who have such concerns, and in turn harm CREA's interest of promoting successful consumer-REALTOR® experiences. Similarly, increasing incentives for brokers and customers of realty services to avoid participation in an MLS® System also harms CREA's interests, even if dissatisfaction with an MLS® System ultimately does not lead to a breakup of an MLS® System. Activities such as sales by owner and presales negotiated by brokers prior to MLS® System listing can diminish the value of an MLS® System, and these activities do occur.<sup>24</sup> Moreover, a competitive threat need not fully manifest to elicit strong concern and competitive responses by market participants. Consequently, the mere fact that no MLS® System has broken up in Canada, and that few sales happen outside an MLS® System does not remove the possibility of threats or eliminate concerns.

*Dr. Vistnes' Analysis Ignores Many Available Substitutes for the Disputed Fields*

26. Dr. Vistnes new report further shows the narrow and unsubstantiated basis for claimed consumer harm. He claims that there are no good substitutes for

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<sup>23</sup> [REDACTED]



the disputed field information because the sold price of a home is provided more timely through an MLS® System feed. However, any claim of significant consumer harm seems unlikely when one considers the process of making any offer on a home. Presumably most buyers would see a house before deciding to make an offer. Setting up a visit usually involves interaction with a broker, so getting sales history via a VOW is unlikely a unique way of getting the sales history for a house prior to making an offer.

27. Therefore, Dr. Vistnes' discussion about the weeks delay in getting sales prices from public sources; because the data vendor Teranet/GeoWarehouse has restrictions on replication or reproduction of data, misses the point that website delivery of this information is not likely important. Serious buyers/sellers likely would have had multiple interactions with a broker regarding a particular house they were about to make an offer on or about the listing price for their house, and therefore would in no way be dependent on a VOW for this information. In short, Dr. Vistnes analysis does not articulate a clear harm to consumers from not showing the disputed fields on VOWs.

### **III. RESPONSE TO DR. VISTNES CLAIM REGARDING MY TESTIMONY ON MARKET DEFINITION**

28. Dr. Vistnes defines a relevant product market as buy-side real estate services, and a separate real estate market for sell-side services providing MLS® access. He then states that there are insignificant differences with his market definition and my testimony regarding the relevant product market, which I say is

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<sup>24</sup> See Second Witness Statement of William McMullin (ViewPoint) on Private Sale listings, ¶42.

likely broader (as to include both buy-side and sell-side brokerage services).<sup>25</sup>

Whether this distinction reflects a significant difference of opinion with Dr. Vistnes (or not) is less important than understanding that many relevant markets may be impacted by the Commissioner's requested remedy. For example, realty websites may try to attract "eyeballs" to their site for reasons then just providing brokerage services. Alternative businesses, such as mortgage provision or home improvement, can be promoted on a site. In these cases, greater traffic would allow more monetization opportunities. Display of restricted information (such as the disputed fields) may help attract "eyeballs" and thus advantage the website in monetization opportunities not related to the provision of brokerage services. Even if actual consumers of brokerage services don't gain much by having the restricted information on websites that include VOWs (because of their active interaction with brokers and agents who pass on such information regularly), other consumers, such as curious Internet browsers could be worse off. Therefore, from an analytical perspective, it is important to identify the relevant product market(s), and to assess harm within the context of that market, since competitive implications will vary across markets. The incentives for an Internet site that earns revenues through attracting "eyeballs" will be different than an Internet site that's operated largely to assist brokers in providing services to real estate selling or buying clients. Hence, one must assess the effect on incentives to innovate and compete separately across these different markets.

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<sup>25</sup> Vistnes 2015 Report, fn 25.

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Dr. Fredrick Flyer

**Appendix 1:**

**FREDRICK A. FLYER**

**May 2015**

Executive Vice President  
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**AREAS OF SPECIALIZATION**

Applied Microeconomics and Econometrics - My analyses have addressed market competition, labor discrimination, valuation, intellectual property and consumer demand. These economic analyses have been conducted for litigation, federal commission filings, corporate and governmental entities, and for publication in scholarly journals.

**EDUCATION**

Ph.D., University of Chicago, Economics, August 1993.

M.S., University of Illinois at Urbana-Champaign, Labor and Industrial Relations, May 1988.

B.S., University of Wisconsin-Madison, Economics, December 1985.

**HONORS AND FELLOWSHIPS**

Stern Faculty Research Stipend, Stern School of Business, 1995-1998

Research Fellowship, New York University, 1994-1996, 1998

Research Grant, Russell Sage Foundation, 1994

Research Fellowship, National Opinion Research Center 1990-1993

Center for the Study of the Economy and the State Doctoral Fellowship, University of Chicago, 1989-91

Bradley Fellowship, Bradley Foundation 1991-92

UU/Phoenix Fellowship, University of Chicago, 1989-92

McNatt Award in Labor Economics, University of Illinois, 1988

**PROFESSIONAL EXPERIENCE**

Compass Lexecon, Chicago, Illinois (1999 - present): Current Position: Executive Vice President

New York University, New York, New York; (1993 - 1997 and 1998 - 1999): Assistant Professor in Economics at the Stern School of Business, with a research emphasis in industrial organization, labor, and applied microeconomic analysis. Courses Taught – Masters and Ph.D. Level: Microeconomic Theory and Application, Econometric Theory and Application

Northwestern University, Evanston, Illinois (1997 – 1998): Visiting Professor in the Department of Economics, with a research emphasis in industrial organization, labor, and applied microeconomic analysis. Courses Taught - Advanced and Introductory Level: Microeconomic Theory and Application, Labor Economics Theory and Application

University of Chicago, Chicago, Illinois (1990 – 1993): Lecturer in the Department of Economics. Courses Taught - Undergraduate Microeconomic Theory and Application

## ARTICLES

The New Economics of Teachers and Education, co-authored with Sherwin Rosen, *National Bureau of Economics Research*, Paper No. W4828, August 1994.

Reprinted in: *The National Opinion Research Center*, ERC-Paper Series, 94-1.

Summarized by Lindley H. Clark Jr. in: *The Wall Street Journal*, "Speaking of Business: The High Cost of High (and Lower) Schools", Pg. A18, October 4, 1994.

Some Economics of Precollege Teaching, co-authored with Sherwin Rosen, in *Assessing Educational Practices: The Contribution of Economics*, edited by William Baumol and William Becker, MIT Press: 1995.

Technical Standards Coalitions for Network Goods, co-authored with Nicholas Economides, *The Study of Financial Markets and Institutions*, Salomon Center Press: November 1995.

The Economics of Education, co-authored with Sherwin Rosen, *Journal of Labor Economics*, January 1997.

The Influence of Higher Moments of Earning Distributions On Career Decisions, *Journal of Labor Economics*, October 1997.

Agglomeration Economies, Heterogeneity, and Firm Location Choice, co-authored with Myles Shaver, December 1997, Paper IB-97-10, *Stern School of Business*, New York University

Compatibility and Market Structure for Network Goods, co-authored with Nicholas Economides, February 1998, Paper EC-98-02, *Stern School of Business*, New York University.

Equilibrium Coalition Structures in Markets for Network Goods, co-authored with Nicholas Economides, *Annales d'Economie et de Statistique*, July 1998.

Parental Optimizing Behavior and the Measurement of School Quality, joint with Paul Wachtel, Working Paper, August 2000.

Agglomeration Economies, Firm heterogeneity, and Foreign Direct Investment in the United States, co-authored with Myles Shaver, *Strategic Management Journal*, December 2000.

Location Choices Under Agglomeration Externalities and Strategic Interaction, co-authored with Myles Shaver, *Advances in Strategic Management*, Vol. 20, August 2003.

Spillovers from Local Market Human Capital and the Spatial Distribution of Productivity in Malaysia, co-authored with Timothy Conley and Grace Tsiang, *Advances in Economic Analysis and Policy*, Vol. 3, December 2003.

Compatibility and Market Structure for High-Technology Goods, co-authored with Nicholas Economides, currently under second-round review at the *Journal of Industrial Economics*.

An Assessment of Causal Inferences in Smoking Initiation Research and a Framework for Future Research, co-authored with James Heckman and Colleen Loughlin, *Economic Inquiry*, Vol. 46, January 2008.

Agglomeration Economies, Firm heterogeneity, and Foreign Direct Investment, co-authored with Myles Shaver, *Multinational Enterprise Theory*, Vol. 1, edited by Jeffrey A. Krug and John D. Daniels, SAGE Publications: 2008.

Some of the Economics Behind the Proposed Horizontal Merger Guidelines, *Antitrust Update*, Weil Gotshal, Spring/Summer 2010.

Economic Analysis at the Outset of Merger Review: Using Diversion Ratios to Evaluate Unilateral Effects, *The Threshold*, Volume XI, Number 1, Fall 2010.

## **EXPERT RETENTION, REPORTS AND TESTIMONY**

In Re: *Mylan et. al. vs. Warner Chilcott Public :Limited Company, et al*; US District Court for the Eastern District of Pennsylvania. Provided expert testimony on behalf of Warner Chilcott assessing the econometric reliability of Plaintiffs experts' class damage models. Expert reports filed October 2013 and December 2013, deposition testimony given in January of 2014.

In Re: *Canadian Competition Bureau vs. The Toronto Real Estate Board* ; Canadian Competition Tribunal Proceeding. Provided expert testimony on behalf of the Canadian Real Estate Association regarding the antitrust implications of the Toronto's Real Estate Board's policy of withholding information for real estate Internet listings. Trial testimony given in October of 2012.

In Re: *First Quality Tissue SE, LLC vs. Metso Paper USA Inc.and Clearwater Paper Corp*; US District Court of South Carolina, Anderson Division. Expert Reports provided in January and

February 2012 on behalf of First Quality. Evaluated competitive implication of exclusivity restrictions in a contract between First Quality and Metso. Deposition in April of 2012. Trial testimony given in May 2012.

In Re: *Maher Terminals, LLC vs. The Port Authority of New York and New Jersey*; Before The Federal Maritime Commission. Expert Report provided in June 2011 on behalf of the Port Authority. Evaluated competitive implication of the thirty-year terminal lease Maher signed with the Port Authority. Deposition in August of 2011.

In Re: *Federal Trade Commission vs. Laboratory Corporation of America*; Before The US Federal Trade Commission, Docket No. 9345. Expert Report provided in March 2011 on behalf of the Federal Trade Commission. Evaluated antitrust implications of the acquisition of Westcliff Medical Laboratories by Laboratory Corporation of America.

In Re: *Federal Trade Commission vs. Laboratory Corporation of America*; US District Court for the Central District of California Southern Division. Declarations filed in December 2010 on behalf of the Federal Trade Commission. Evaluated antitrust implications of the acquisition of Westcliff Medical Laboratories by Laboratory Corporation of America. Deposition in January of 2011.

In Re: *Emigra Group, LLC v. Fragomen, Del Rey, Bernsen & Loewy, LLP, et al*; US District Court for the Southern District of New York. Expert Report filed in June 2008 on behalf of Emigra Group. Evaluated Plaintiff's claims of anti-competitive harm due to Fragomen's business practices.

In Re: *United States of America v. National Association of Realtors*; US District Court for the Northern District of Illinois Eastern Division. Expert Reports filed in August 2007 and in February of 2008 on behalf of National Association of Realtors. Evaluated claims of anti-competitive harm due to rules and policies promulgated by National Association of Realtors. Depositions in October of 2007 and in April of 2008.

In Re: *Copper Tubing Litigation (Class Action)*; U.S. District Court for the Western District of Tennessee, Expert Report filed in November 2006 on behalf of defendants (Mueller Industries, Inc. and other copper tubing manufacturers). Provided an economic evaluation of the evidence regarding alleged collusive pricing by the defendants. Also, evaluated the implications for the U.S. marketplace of the EU's Decision on conspiratorial pricing for European copper plumbing tubing sales by these manufacturers.

In Re: *P.J. Carroll & Co. and other tobacco companies v. The Minister For Health And Children, The Attorney General And The Office Of Tobacco Control of Ireland*; The High Court - Commercial, Dublin, Ireland. Testimony provided in November 2006 on behalf of British American Tobacco. Evaluated the impact of the government's proposed bans on tobacco company promotional activities on market competition, industry profitability and aggregate sales of cigarettes.

In Re: *Spartanburg Regional Healthcare Systems and the other class members. v. Hillenbrand Industries Inc, Hill-Rom Inc., and Hill-Rom Co. Inc.*; U.S. District Court for the District of South Carolina, Declaration filed in October 2005 on behalf of Plaintiff. Conducted various statistical analyses on Hill-Rom economic data.

In Re: *Great Lakes Chemical Corp. v. Arkansas Oil and Gas Commission*; Circuit Court Of Union County, Arkansas, Expert Report filed in July 2005 on behalf of Great Lakes Chemical Corp. Deposition in August 2005. Analyzed the economic efficiency of Final Order No. 2-2003-01 of the Arkansas Oil and Gas Commission.

In Re: *Regulatory Inquiry of Penn National Gaming, Inc.'s Acquisition of Argosy Gaming Co.*; Illinois Gaming Board ("IGB"), Expert Report filed in May 2005 on behalf of Penn National. Analyzed the effects that the acquisition would have on gaming competition in Illinois in response to Section 3000.232 of the IGB Regulations.

In Re: *Teva Pharmaceuticals v. Pfizer Inc*; U.S. District Court for the District of Columbia , Affidavit filed in October 2004 on behalf of Teva Pharmaceuticals. Analyzed the effects that Pfizer's introduction of a generic version of Neurontin during the 180-exclusivity period would have on competitive entry in Gabapentin market.

In Re: *Generic Drug Manufactures v. Lester M. Crawford (Acting Commissioner of the U.S. Food and Drug Administration), the U.S. Food and Drug Administration ("FDA"), and Tommy G. Thompson (Secretary of Health and Human Services)*; U.S. District Court for the District of Columbia, Affidavit filed in October 2004 on behalf of Teva Pharmaceuticals. Analyzed how the FDA's denial of a Citizens Petition to limit entry of branded-generics after successful Paragraph IV filings would affect competition in current and future markets for generic drugs.

In Re: *Tribune Co. v. Internal Revenue Service*; U.S. Tax Court, Expert Report filed July 2004 and Rebuttal Report filed August 2004, both on behalf of the Tribune Co. Testified in trial December 2004. Analyzed the economics of the Matthew Bender transaction between Times Mirror and Reed Elsevier.

In Re: *Teva Pharmaceuticals v. Pfizer Inc.*; U.S. District Court of New Jersey; Affidavit filed in June 2004 on behalf of Teva Pharmaceuticals. Analyzed how Pfizer's marketing of a branded-generic version of Accupril affects competition in the market for generic quinapril during the 180-exclusivity period (granted to successful Abbreviated New Drug Applications with Paragraph IV certifications).

In Re: *AT&T Broadband v. CSG Systems, Inc.*, American Arbitration Association, Denver Colorado; Report filed January 2003, Declaration filed March 2003, Rebuttal Report filed March 2003 all on behalf of CSG Systems, Inc., Deposition in March 2003. Conducted an analysis to evaluate the allegation of a MFN violation.

In Re: *Relafen Antitrust Litigation*, U. S. District Court of Massachusetts; Retained in January 2003 by Teva Pharmaceuticals. Evaluated damages from the delay in the launch of generic Nabumetone associated with GlaxoSmithKline PLC's invalid patent claim.

In Re: *Elizabeth Sadati vs. Ameritech Inc. et. al.*, Circuit Court of Cook County, Illinois, Expert Findings filed June 2002 on behalf of Ameritech. Conducted an analysis to determine level of damages.



In Re: *David E. Crooke vs. Value City Furniture*, U.S. District Court for the Northern District of Illinois, Eastern Division; Expert Report filed February 2002 on behalf Plaintiff, Deposition in May 2002. Conducted an analysis to determine level of damages.

In Re: *Linda Cichowski vs. Evanston Northwestern Healthcare*, Circuit Court of the Nineteenth Judicial Circuit of Illinois, Expert Findings filed October 2001 on behalf of Evanston Northwestern Healthcare. Conducted an analysis to determine level of damages.

In Re: *Carletta L. Martinsen vs. Lockheed-Martin*, U.S. District Court for the Eastern District of Wisconsin, Expert Report filed November 2000 on behalf of Lockheed-Martin. Conducted a statistical analysis on company data to determine whether there was evidence of age discrimination.

In Re: *Nine West Shoes Antitrust Litigation (Class Action)*, U.S. District Court for the Southern District of New York. Prepared affidavit in July 2000 on behalf of Nine West Shoes. My analysis addressed whether there was any statistical evidence of a pricing conspiracy between Nine West Shoes and other major retailers regarding certain lines of women shoes.

### *Merger Analyses During Government Regulatory Reviews*

*Reynolds American Inc. Acquisition of Lorillard Inc., 2015.* On behalf of Reynolds, conducted empirical analyses of market competition and discussed the findings with the FTC during the merger review process.

*Signet Jewelers Acquisition of Zale Corp., 2014.* On behalf of Signet Jewelers, conducted an economic analysis of the antitrust implications of the proposed transaction to provide the FTC during the merger review.

*Honeywell Inc. Acquisition of Intermec Inc., 2013.* On behalf of Honeywell, conducted economic analyses of the antitrust implications of the proposed transaction and presented these analyses to the FTC during the merger review.

*Sherwin-Williams Co. Acquisition of the Comex Group, 2013.* On behalf of Sherwin-Williams, conducted economic analyses of the antitrust implications of the proposed transaction and presented these analyses to the FTC during the merger review.

*3M Co. Attempted Acquisition of Avery Dennison Corp., 2012.* On behalf of 3M, conducted economic analyses of the antitrust implications of the proposed transaction and presented these analyses to the DOJ during the merger review.

*H&R Block Inc. Attempted Acquisition of 2<sup>nd</sup> Story Software, 2011.* On behalf of H&R Block, conducted economic analyses of the antitrust implications of the proposed transaction and presented these analyses to the DOJ during the merger review.

*Avaya Inc. Acquisition of Nortel Networks Corp, 2009.* On behalf of Avaya, conducted economic analyses of the antitrust implications of the transaction and presented these analyses to the DOJ during the merger review.

*Walgreens Co. Acquisition of Duane Reade Holdings, Inc., 2009.* On behalf of Walgreens, conducted an economic analysis of the antitrust implications of the proposed transaction and presented this analysis to the FTC and the New York Attorney General's office.

*Microsoft Corp. Search Outsourcing Agreement with Yahoo Inc., 2009.* On behalf of Microsoft, conducted economic analyses of the antitrust implications of the proposed transaction during the DOJ's antitrust review process.

*Google, Inc. Attempted Search Outsourcing Agreement with Yahoo Inc., 2008.* On behalf of Microsoft, conducted various economic analyses of the antitrust implications of the proposed transaction, and presented these analyses to the Competition, Competition Bureau and the DOJ during the antitrust review process.

*Walgreens Co. Proposed Acquisition of Longs Drug Stores Corp., 2008.* On behalf of Walgreens, conducted an economic analysis of the antitrust implications of the proposed transaction and presented this analysis to the FTC.

*CCS Corporation Attempted Acquisition of Newpark Environmental Services, 2008.* On behalf of the FTC, conducted various econometric analyses of the antitrust implications of the transaction during the FTC's merger review.

*Microsoft Corp. Attempted Acquisition of Yahoo Inc., 2008.* On behalf of Microsoft, conducted various economic analyses of the antitrust implications of the transaction during the DOJ's merger review.

*Thomson Corp. Merger with Reuters Group, PLC, 2008.* On behalf of the companies, conducted various economic analyses of the antitrust implications of the transaction during the DOJ's merger review process.

*Houghton Mifflin Co. Acquisition of Harcourt Publishing Co, 2007.* On behalf of Houghton Mifflin, conducted various economic analyses of the antitrust implications of the transaction during the DOJ's merger review process.

*Staples Inc. Acquisition of Corporate Express, 2007.* On behalf of Staples, conducted various econometric analyses of the antitrust implications of the transaction during the FTC's merger review process.

*Monsanto Company Acquisition of Delta & Pine Land Co., 2007.* On behalf of Monsanto, conducted economic analyses of prospective efficiencies of the transaction during the DOJ's merger review.

*Sherwin-Williams Co. Acquisition of MAB Paints, 2007.* On behalf of Sherwin-Williams, conducted economic analyses of the antitrust implications for various local markets during the FTC's merger review.

*Getty Images Acquisition of MediaVast (WireImages), 2007.* On behalf of Getty Images, conducted economic analyses of the antitrust implications of the transaction during the DOJ's review of the merger.

*Hoover Co. Acquisition by Techtronic Industries Co.Ltd. (TTI), 2007.* On behalf of Whirlpool (Hoover), conducted economic analyses of the antitrust implications of the transaction during the DOJ's and State of Ohio's merger review process.

*EnergySolutions Acquisition of Duratek, 2006.* On behalf of EnergySolutions (Envirocare of Utah), conducted economic analyses of the antitrust implications of the transaction during the DOJ's merger review process.

*Whirlpool Corp. Acquisition of Maytag Corp., 2006.* On behalf of Whirlpool, conducted economic analyses of the antitrust implications of the transaction during the DOJ's merger review process.

*The Home Depot Acquisition of Hughes Supply, 2006.* On behalf of both parties, conducted economic analyses of the antitrust implications of the transaction during the DOJ's merger review process.

*SemGroup Proposed Acquisition of TransMontaigne, 2006.* On behalf of SemGroup, conducted economic analyses of the antitrust implications of the transaction during the FTC's merger review process.

*Teva Pharmaceuticals Acquisition of Ivax Corp., 2005.* On behalf of the merging parties, conducted economic analyses of the antitrust implications relating to the acquisition during the FTC's merger review process.

*GameStop Corp. Acquisition of Electronics Boutique Holdings Corp ("EB"), 2005.* On behalf of EB, conducted an economic analysis of the antitrust implications relating to the acquisition during the FTC merger investigation.

*Kodak Polychrome Graphics ("KPG") Acquisition of Creo Inc., 2005.* On behalf of KPG, conducted an economic analysis of the antitrust implications relating to the acquisition during the U. S. Department of Justice ("DOJ") and European Union ("EU") merger investigation.

*Crompton Corp. Acquisition of Great Lake Chemical's Corp, 2005.* On behalf of Crompton, conducted an economic analysis of the antitrust implications relating to the acquisition during the FTC and EU merger investigation.

*Reuters Group PLC. Acquisition of Moneyline Telerate, 2005.* On behalf of Reuters, conducted an economic analysis of the antitrust implications relating to the acquisition during the

DOJ and EU merger investigation.

*Sherwin-Williams Co. Acquisition of Duron Inc., 2004.* On behalf of both companies, conducted an economic analysis of the antitrust implications relating to Sherwin-Williams' proposed acquisition of Duron's paint distribution business during the FTC investigation.

*FTC investigation of Itron Inc. acquisition of SEM;* Retained in January 2004 by the U.S. Federal Trade Commission ("FTC") to provide an analysis and testimony regarding the antitrust implications of the proposed acquisition.

*Vestas Wind Systems A/S Acquisition of NEG Micon A/S, 2004.* On behalf of both companies, conducted and presented an economic analysis of the antitrust implications relating to Vestas' proposed acquisition of NEG Micon's wind turbine business during the DOJ and EU investigation.

*Kluwer Academic Publisher's Acquisition of Bertelsmann AG's academic publishing division, 2003.* On behalf of Kluwer, conducted and presented an economic analysis of the business rationale and antitrust implications relating to Kluwer's proposed acquisition of Bertelsmann's academic journal publishing division during the DOJ investigation.

*Pfizer Inc. Acquisition of Pharmacia Corp., 2002.* On behalf of Pfizer, conducted an economic analysis on the antitrust implications associated with the merger and various licensing agreements during the FTC investigation.

*Medtronic Inc. Acquisition of Spinal Dynamics Corp., 2002.* On behalf of Medtronics, conducted an economic analysis of the business rationale and antitrust implications of the acquisition regarding the companies' artificial cervical disc businesses during the FTC investigation.

*EBay Inc.'s Acquisition of PayPal Inc., 2002.* On behalf of EBay, conducted and presented an economic analysis of the business rationale and antitrust implications of EBay's acquisition of PayPal's electronic payment system during the DOJ investigation.

*Zebra Technology Corp.'s Proposed Acquisition of Fargo Electronics Inc., 2001.* On behalf of both companies, conducted and presented an economic analysis on the acquisition's antitrust implications for ID printers during the FTC and EU investigation.

*Bayer Aktiengesellschaft Acquisition of Lyondell Chemical Co.'s Polyether Polyols Division, 2000.* On behalf of the companies, conducted an economic analysis on the acquisition's antitrust implications for the polyol industry during the FTC and EU investigation.

### *Other Significant Engagements*

*In Re: United States Food and Drug Administration's Tobacco Products Scientific Advisory Committee (TPSAC) hearing, February 2011.* Conducted and presented an economic analysis on

behalf of Lorillard Tobacco Co. estimating the potential size of a black market in menthol cigarettes emanating from a federal ban on menthol cigarette sales.

In Re: *Maine Yankee Atomic Power Co. v. United States*, United States Court of Federal Claims; Conducted an economic analysis on behalf of the DOJ and U.S. Department of Energy to assess the efficiency and estimated pricing of Plaintiff's economics experts proposed waste disposal scheme.

In Re: *CSC Holdings, Inc. v. Yankees Entertainment and Sports, LLC.*, American Arbitration Association, New York NY; Arbitration Proceeding in March 2004. On behalf of Yankees Entertainment and Sports, help develop and evaluate survey of New York area cable viewers. Analyzed CSC's economic experts' reports and testimony.

*Relevant Antitrust Market for PepsiCo Products*, 2004. On behalf of the company conducted an econometric analysis to assess the relevant markets for some of its drink and food offerings.

*Relevant Antitrust Market for Purdue Pharma L.P Products*, 2001. On behalf of the company conducted an analysis to assess the relevant market for its drug offerings.

In Re: *Falise, et al. vs. American Tobacco Co., et al.*, U.S. District Court for the Eastern District of New York. Conducted a statistical analysis supporting Nobel Laureate James Heckman's expert report and testimony regarding the responsiveness of smoker's initiation and quit rates to information regarding the dangers of smoking. Report filed on behalf of the cigarette companies in June 2000.

In Re: *Blue Cross and Blue Shield of New Jersey vs. Philip Morris Inc. et al.*, U.S. District Court For the Eastern District of New York. Conducted a statistical analysis in support of Nobel Laureate James Heckman's expert report and testimony on behalf of the cigarette companies. Report filed October 1999.

## **RESEARCH PRESENTED AT THE FOLLOWING PROFESSIONAL SEMINARS**

### CONFERENCE PROCEEDINGS

*Atlantic Economics Society Conference*, Philadelphia, Pennsylvania, October 1993.

*Conference in Memory of Yoram Ben Porath*, Jerusalem, Israel, October 1993.

*Conference on the Interoperability and the Economics of Information Infrastructure*, Strasbourg, France, June 1996.

*Telecommunications Policy Research Conference*, Alexandria, Virginia, September 1997.

*Academy of International Business Annual Meetings*, Monterrey, Mexico, October 1997.

*Econometrica North American Summer Meetings*, Montreal, Canada, June 1998.

*Western Economic Association Summer Meetings, San Diego, California, July 2006. Chaired session on the empirical evidence linking cigarette advertising to youth smoking.*

*UNIVERSITY SEMINARS 1993-PRESENT*

Baruch College  
Columbia University  
Duke University  
Harvard University  
Michigan State University  
New York University  
Northwestern University  
Princeton University  
Stanford University  
State University of New York-Albany  
University of Alberta  
University of California-Berkley  
University of California-Irvine  
University of Chicago  
University of Miami  
University of Michigan-Ann Arbor  
University of Wisconsin-Madison  
Western Ontario University

*PRESENTATIONS AT OTHER RESEARCH INSTITUTIONS 1993-PRESENT*

U.S. Department of Labor - Bureau of Labor Statistics  
Rand Corporation  
American Medical Association  
U.S. Department of Justice  
U. S. Federal Trade Commission

**PROFESSIONAL MEMBERSHIP AND SERVICES**

**MEMBERSHIP IN PROFESSIONAL SOCIETIES**

American Economic Association

Atlantic Economic Society (1993-1994)

Society of Labor Economists (1996-1997)

**REFEREE FOR THE FOLLOWING PROFESSIONAL JOURNALS (1995-PRESENT):**

Atlantic Economic Journal

Journal of Political Economy

Journal of Labor Economics

International Journal of Industrial Organization

Quarterly Journal of Economics

Review of Economics and Statistics

Journal of Human Resources

Journal of Law and Economics

Journal of Industrial Economics

Japan and the World Economy

**Appendix 2:**  
**Additional Materials Relied Upon for 2015 Report**

**Expert Reports**

1. Expert Report of Fredrick A. Flyer, Ph.D. dated August 13, 2012 and reliance materials for that report.
2. Expert Report of Gregory S. Vistnes, Ph.D. dated June 22, 2012
3. Expert Report of Gregory S. Vistnes, Ph.D. dated August, 23, 2012.
4. Expert Report of Gregory S. Vistnes, Ph.D. dated February 6, 2015
5. Expert Report of Jeffrey Church, dated May 15, 2015

**Witness Statements**

6. Second Witness Statement of Donald Richardson
7. Second Witness Statement of Evan Sage
8. Second Witness Statement of Pamela Prescott
9. Second Witness Statement of Timoleon Syrianos
10. Second Witness Statement of Tug-Chee Chan
11. Second Witness Statement of William McMullin
12. Second Witness Statement of Scott Nagel
13. Second Witness Statement of John Pasalis
14. Second Witness Statement of Tarik Gidamay
15. Updated Witness Statement of Gary Simonsen
16. Third Witness Statement of Mark Enchin

**Data Sources**

17. NAR Generational Trends Report 2014



18. NAR Generational Trends Report 2013
19. 2014 NAR Profile of Home Buyers and Sellers
20. 2014 NAR Member Profile
21. The Digital House Hunt: Consumer and Market Trends in Real Estate, A Joint Study from The National Association of REALTORS® and Google, 2013.
22. Thorncliffe Park Profile, visited May 22, 2015: <http://www.realsophy.com/Neighbourhood/Profile/Toronto/Thorncliffe%20Park>
23. Placester, <https://placester.com/websites-for-realtor-benefits-program/faq/>
24. REALTOR.com Traffic February 2015, <http://www.realtor.org/sites/default/files/reports/2015/nar-website-traffic-stats-february2015.pdf>
25. <http://www.viewpoint.ca/advertising>
26. <http://res.theredpin.com/mortgages>