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January 28, 2008

VIA HAND DELIVERY

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
Office of the Secretary
236 Massachusetts Avenue, NE, Suite 110
Washington, D.C. 20002

Re: MB Docket No. 07-57
REDACTED – FOR PUBLIC INSPECTION

Dear Ms. Dortch:

The Consumer Coalition for Competition in Satellite Radio ("C3SR"), by its counsel, hereby submits, in the above-referenced proceeding, two redacted copies of the "Fourth Supplemental Declaration of J. Gregory Sidak" (the "Sidak Declaration"). C3SR, pursuant to the terms of the Second Protective Order,[1] is separately filing one unredacted copy with the Secretary's Office, and two unredacted copies with Jamila Bess Johnson of the Media Bureau. A redacted copy is also being filed in the public record for this proceeding via ECFS.

C3SR shall make the unredacted version of the Sidak Declaration available for inspection at the offices of Williams Mullen, 1666 K Street NW, Suite 1200, Washington, D.C. 20006. Individuals that have executed the appropriate Acknowledgment of Confidentiality should contact Benjamin D. Arden at 202.293.8135 to coordinate access.

Please contact the undersigned with any questions.

Respectfully submitted,

Julian L. Shepard
Counsel to C3SR

Enclosures

[1] *Applications of Sirius Satellite Radio Inc. and XM Satellite Radio Holdings Inc. for Approval to Transfer Control, Protective Order*, DA 07-4666 (rel. Nov. 16, 2007).

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
XM Satellite Radio Holdings Inc.,	)	
Transferor	)	MB Dkt. No. 07-57
	)	
	)	
and	)	
	)	
Sirius Satellite Radio Inc.,	)	
Transferee	)	
	)	
Consolidated Application for Authority to	)	
Transfer Control of XM Radio Inc. and Sirius	)	
Satellite Radio Inc.	)	

FOURTH SUPPLEMENTAL DECLARATION
OF J. GREGORY SIDAK

Introduction

I. The Two New Pieces of Economic Evidence
  A. CRA's Supplemental Regression Analysis
  B. CRA's Model of Commercial Increase by an SDARS Provider

II. The Attempted Resuscitation of Dynamic Demand

III. The Three Erroneous Claims by XM and Sirius
  A. Claim 1: I Misquoted Professor Hazlett
  B. Claim 2: My Critical Elasticity Framework Proves That XM Constitutes a Market to Itself
  C. Claim 3: I Desire to Eliminate the Role of Supply-Side Evidence in Market Definition

IV. The Discrepancy in Survey Data

Conclusion

INTRODUCTION

1. This declaration responds to the Joint Ex Parte Submission of Sirius Satellite Radio Inc. and XM Satellite Radio Holdings Inc. filed in support of the proposed merger on November 13, 2007 ("Joint Ex Parte"). The Joint Ex Parte erroneously claims, among other numerous logical fallacies, that (1) I have a "penchant for misquoting or misrepresenting Professor Hazlett's determinations;"[1] (2) my approach to market definition "reveals that each company is its own market;"[2] and (3) I "desire to limit the relevant evidence of the proper market definition to information about consumer perceptions" only.[3]

2. In support of these and other unsubstantiated claims, the Joint Ex Parte included two new economic reports, one by CRA ("CRA Supplemental Report") and another by Professor Thomas Hazlett ("Hazlett Supplemental Report"). The two economic reports attempt to criticize, among other submissions, my third supplemental declaration in the merger proceeding.[4] In my opinion, the only new economic information contained in those economic reports is (1) an updated regression analysis by CRA; and (2) a theoretical model of increases in commercial advertisements by a hypothetical monopoly provider of satellite digital audio radio services (SDARS). In contrast, the Hazlett Supplemental Report does not offer *any* new data in support of the proposed merger. Professor Hazlett continues to elevate the opinions of securities analysts and the motivations of merger opponents over traditional antitrust analysis.

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1. Joint Ex Parte Submission of Sirius Satellite Radio Inc. and XM Satellite Radio Holdings Inc., Nov. 13, 2007, at 5 [hereinafter *Joint Ex Parte*].
2. *Id.* n.18.
3. *Id.* at 6.
4. Third Supplemental Declaration of J. Gregory Sidak Concerning the Competitive Consequences of the Proposed Merger of Sirius Satellite Radio, Inc. and XM Satellite Radio, Inc., Oct. 9, 2007, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1018495 [hereinafter *Sidak Third Supplemental Declaration*].

3. This declaration provides: (1) a succinct reply to the three major claims specifically made by XM and Sirius; (2) a high-level analysis of the two new pieces of information that CRA has produced; and (3) a response to CRA's attempt to resuscitate its dynamic-demand arguments. CRA's regression model, even if it were correctly specified, does not inform the relevant elasticity of demand (with respect to a change in relative prices) as contemplated by the *Merger Guidelines*. The method by which CRA counted the number of terrestrial radio signals in a given geographic area—the key explanatory variable in CRA's model—is unorthodox, counterintuitive, and distorts the significance of the key explanatory variable.

4. CRA's theoretical model of an increase in commercials by an SDARS provider is equally unpersuasive. After failing to dispute my supposition that commercial time would increase as a result of the proposed merger, CRA offers a theoretical model that purports to show that lower subscription prices would compensate SDARS subscribers for more commercials. [redacted][5] and it bears emphasis that the merger parties have *not* offered to *reduce* prices only for the same package of channels. Instead, XM and Sirius have offered only to reduce price for a less-inclusive, smaller package of channels. It is not clear whether CRA's testimony should be read as an offer by XM and Sirius to reduce prices to compensate customers for an inferior product. In any event, CRA's theoretical model finds that consumer welfare would increase only by considering the welfare of *marginal* SDARS subscribers, who presumably are less sensitive to increases in commercials but are

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5. [redacted]

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more sensitive to price increases. The net welfare benefit, if any, for *existing* SDARS subscribers from this unsolicited offer of more commercials and lower prices is unclear. Moreover, there are no assurances to the Commission that the merged firm's new subscription price after it has increased the amount of commercials will be less than the (current) competitive price for SDARS. CRA's model only shows that the new subscription price after the merged firm increases commercials would be less than the price that a hypothetical monopolist would charge for SDARS.

5. In general, XM and Sirius have failed to satisfy their burden to prove that consumers perceive other forms of audio entertainment to be close substitutes for SDARS. Indeed, a review of Sirius's confidential documents produced in this case reveals that Sirius and XM uniquely constrain each other's prices and commercial minutes. [redacted][6] [redacted][7] [redacted][8]

6. After carefully reviewing the two economic reports, I still am not persuaded that the proposed merger of XM and Sirius would benefit the public interest. The Commission should therefore deny the transfer application. Consumers would be unequivocally better off under the current market structure of two SDARS providers. Prices, channel lineups, and

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6. [redacted]

7. [redacted]

8. [redacted]

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commercial minutes would be determined by competitive factors rather than regulatory fiat.

I. THE TWO NEW PIECES OF ECONOMIC EVIDENCE

7. CRA introduced two new pieces of evidence in this filing: a revised regression model and a model of increased commercial advertising by a hypothetical SDARS provider. I review both models here. Although Professor Hazlett did not provide any new economic evidence, I address some of his new claims in a later section.

A. CRA's Supplemental Regression Analysis

8. In its supplemental report, CRA presents alternative specifications of its original regression model in an effort to demonstrate that its key finding—namely, that variation in satellite radio penetration across geographic areas can be explained in part by the number of terrestrial radio signals in an area— is robust to changes in the functional form of the regression model or to inclusion of additional explanatory variables (age, education, and percent of people who commute more than 45 minutes).[9]

9. CRA's methodology for counting terrestrial radio stations—the key explanatory variable in the regression model—is unorthodox and is prone to distortion and manipulation. The conventional unit of observation for analysis of the radio listener behavior is the 299 Arbitron radio markets across the United States. [redacted]

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9. Further Economics Analysis of the Sirius-XM Merger, Nov. 9, 2007, Appendix A [hereafter *CRA Supplemental Report*].

[redacted][10] [redacted]

10. Of course, CRA could have simply started with the number of terrestrial radio signals at the Arbitron radio market level, but that would have reduced the number of observations in their regression from [redacted] observations to 299. Because statistical significance is largely a matter of sample size (a regression with 30,000 observations will produce statistical significance unless the plot of data is essentially a cloud), it is important to determine whether CRA's key finding—that satellite radio penetration and terrestrial signal count are negatively related—still holds and is statistically significant when the sample size is reduced. Based on my preliminary analysis, CRA's key finding is not maintained when the analysis is performed at the Arbitron market level.

B. CRA's Model of Commercial Increase by an SDARS Provider

11. Before accepting the notion that the merged SDARS provider would increase commercial time, CRA provides an unpersuasive interpretation of Mr. Karmazin's pledge to more-than double the per-subscriber contribution of advertising revenue to total revenue—an interpretation that conveniently does not depend on an anticompetitive increase in commercial

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10. The ZCTA is a geographic construction developed by the census to facilitate matching of census data to zip code data. *See* http://www.census.gov/geo/ZCTA/zcta.html.

time or an anticompetitive increase in the price of advertising.[11] According to CRA, what Mr. Karmazin meant in his now-infamous boast to analysts was that the price per commercial would increase, allegedly because advertisers are willing to pay more per commercial given greater "reach" that the merger would allow.[12] Setting aside the minor problem that a single SDARS provider has the potential to reach the *same* audience as two SDARS providers (all U.S. households), the *only* citation that CRA provides in support of this central efficiency claim is to the original CRA report in this proceeding.[13] But when one tracks that citation back to the relevant paragraph (number 131) in CRA's original report, there is nothing more than CRA's own conjecture that higher reach would "increase the efficiency of advertising spots to advertisers, which typically raises the per listener (or per subscriber) price in the market for the sale of advertising spots."[14] My examination of the record indicates that XM and Sirius offer no independent economic evidence supporting CRA's conjecture. CRA's casual disregard for evidentiary standards on an issue so vital to the efficiency defense of the merger is a recurring theme in this proceeding. Despite CRA's reputation for antitrust analysis, it is not sufficient for CRA to claim that efficiencies from greater reach in satellite radio are significant simply because CRA says so. Even if CRA had provided persuasive evidence of these alleged advertising economies in the satellite radio industry, it is hard to believe that those efficiencies alone would achieve Mr. Karmazin's ambitious goal to more than double the contribution that advertising revenues make to total revenues.

12. After offering this unsubstantiated efficiency defense of the advertising revenue

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11. *CRA Supplement Report* at B60 ¶ 134.
12. *Id.*
13. *Id.* n.205 (citing *CRA Original Report* at ¶ 131).
14. *CRA Original Report* at ¶ 131.

increase, CRA presents a technical analysis of an advertising model for satellite radio. With that theoretical model, CRA purports to show (1) that an increase in the number of commercials would lead an SDARS provider to reduce its subscription prices, and (2) that such a reduction in price would compensate SDARS subscribers for lost welfare due to additional commercials.[15] CRA begins it technical appendix by criticizing my advertising model for relying on two "unreasonable assumptions."[16] The first allegedly unrealistic assumption is that I assumed that the merged firm would lead to a "*quintupling* of the number of commercials."[17] A few pages later in its report, CRA admits that this quintupling (from one to five minutes per hour) represents the high-end of a *range* of commercial increases used in my model.[18] It is disingenuous for CRA to argue that the high-end of my range of plausible increases in commercial time represents my best point estimate, and that my assumption is unrealistic.

13. Next, CRA asserts that my assumption that the commercial-free nature of SDARS accounted for between 10 and 50 percent of the value of the service was unrealistic.[19] [redacted][20] [redacted][21] This internal Sirius finding is corroborated by survey evidence produced during this proceeding.

15. *CRA Supplemental Report* at Appendix B.
16. *Id.* at B1.
17. *Id.* (emphasis in original).
18. *Id.* at B3 ("He assumes that terrestrial radio listeners must 'endure' 9.42 minutes of commercials per hour of listening (i.e., T = 9.42) and considers three different scenarios with respect to the amount of advertising that satellite radio listeners would have to 4 endure post-merger (i.e., t = 1, t = 3, and t = 5).").
19. *Id.* at B1.
20. [redacted]
21. [redacted]

Given how this critical assumption is mischaracterized by CRA, one wonders whether Sirius shared these confidential documents with its own consultants.

14. CRA also asserts that my assumption regarding the post-merger monthly subscription fee is also unreasonable.[22] In particular, CRA maintains that I was incorrect to assume that the monthly subscription fee would remain constant in the face of more commercials. Instead, CRA argues that "adding commercials would give a profit-maximizing firm the incentive to reduce its subscription price."[23] It is not clear whether, through CRA's Supplemental Report, XM and Sirius are now offering a price concession beyond their a-la-carte offering.

15. To prove that a merged SDARS provider would necessarily lower prices while increasing commercial time, CRA models a hypothetical SDARS provider in a two-sided market.[24] CRA's theoretical model, while intellectually interesting, does not inform the marginal effect of the proposed merger on XM's and Sirius's subscription pricing conditional on an increase in commercial time. Instead, CRA models the marginal effect of an increase in commercial time for a hypothetical monopoly provider of SDARS. Although it may be true in some theoretical model that a hypothetical monopoly provider of SDARS might decrease its subscription price *relative to the monopoly price for SDARS* in response to an increase in commercial time, CRA's theoretical model does provide any assurance that the merger would induce the combined firm to decrease its subscription price *relative to the competitive price for SDARS* in response to an increase in commercials.

16. Assuming generously that CRA's advertising model is even relevant to merger

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22. *CRA Supplement Report* at B1.
23. *Id.* at B5.
24. *Id.* at B9, tbl. B1.

analysis, CRA's theoretical model produces some counterintuitive results. In one iteration, where the hypothetical SDARS monopolist increases commercial time by five minutes per hour, CRA's theoretical model suggests that the hypothetical SDARS monopolist would reduce the monthly subscription rate between $1.30 and $7.20 to compensate SDARS subscribers for an inferior product.[25] Given this theoretical price reduction relative to the hypothetical-monopoly price, CRA estimates that consumer welfare across both existing and marginal SDARS subscribers increases between $60 million and $564 million—despite the fact that SDARS subscribers would be subjected to additional commercial advertisements.[26] It bears emphasis that CRA's model *does not imply* that existing SDARS subscribers would be willing to endure five extra minutes of commercials per hour so long as subscription prices were reduced between $1.30 and $7.20 per month. (As a representative of satellite radio customers, I can confidently decline CRA's offer.) To achieve that counterintuitive result, CRA relied on the welfare gains of potential (that is, marginal) SDARS customers, who by definition are more sensitive to prices. Although it may be possible to show that consumer welfare across both existing (inframarginal) and potential SDARS customers might increase in a theoretical model, the tradeoff of more commercials for lower prices is not what existing SDARS subscribers bargained for.

II. THE ATTEMPTED RESUSCITATION OF DYNAMIC DEMAND

17. In its supplemental report, CRA strives to resuscitate its dynamic demand arguments in twenty-two single-spaced pages of turgid text.[27] Despite this exhaustion of valuable resources, CRA is not able to identify a *single* instance in which dynamic demand

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25. *Id.* at B5-B6.
26. *Id.* at B11, tbl. B3.
27. *Id.* at 38-59.

considerations has been recognized by an antitrust court or agency during a merger review. The closest that CRA comes to satisfying this burden are citations to the "economics literature and the marketing literature."[28] Although several abstract theories have been developed by economists over the years, none of them serves as a basis for deviating so radically from the *Merger Guidelines*.

18. In particular, the academic article that CRA considers seminal on this question was published *forty* years ago. The most recent citation that CRA offers is seventeen years old. If the idea in those writings has not been become part of the mainstream of antitrust law by now, it is frivolous for CRA to argue that it is essential for the Commission to alter merger analysis to accommodate that theoretical argument now. Indeed, if dynamic demand is so critical to the proper analysis of this proposed merger, then why did XM and Sirius not mention the concept at all in their filings to the Commission *until the last day of the reply phase of the pleading cycle?* Why hide the ball?

19. Put simply, the relevant question for the Commission is whether it is ready to depart from traditional antitrust analysis in light of a novel theory that could have some bearing on merger analysis but has not yet been recognized by any antitrust authority. In an effort to build precedence for such a radical approach, CRA cites language from the *Merger Guidelines*, *Merger Commentary*, and the Antitrust Modernization Commission (AMC) report,[29] each of which admittedly tolerates some "flexibility" in merger analysis.[30] Indeed, the very quote

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28. *Id.* at 39 n. 136 (citing EVERETT M. ROGERS, DIFFUSION OF INNOVATIONS (1983); Frank M. Bass, *A New Product Growth Model for Consumer Durables*, 15 MGMT. SCI. 1825 (1967); JEAN TIROLE, THE THEORY OF INDUSTRIAL ORGANIZATION 71 (MIT Press 1990)).

29. *Id.*

30. *See, e.g.,* Antitrust Modernization Committee, Report and Recommendations (Apr. 2007), available at http://www.amc.gov/report_recommendation/toc.htm (last visited Nov. 5, 2007) at 32

provided by CRA in paragraph 86 of its report admits exactly where the AMC is willing to entertain new economic theories:

> In industries in which innovation, intellectual property, and technological change are central features, just as in other industries, antitrust enforcers should carefully consider market dynamics in *assessing competitive effects* and should ensure proper attention to economic and other characteristics of particular industries that may, depending on the facts at issue, have an important bearing on a valid antitrust analysis.[31]

The term "competitive effects" has a precise meaning in merger analysis, and it would be naïve to assume that the AMC was not aware of that meaning when drafting its report. According to the *Merger Guidelines*, the "competitive effects" analysis *follows* market definition and precedes entry and efficiency analyses:

20. The Guidelines describe the analytical process that the Agency will employ in determining whether to challenge a horizontal merger. First, the Agency assesses whether the merger would significantly increase concentration and result in a concentrated market, properly defined and measured. Second, the Agency assesses whether the merger, in light of market concentration and other factors that characterize the market, raises concern about potential adverse competitive effects.[32]

21. Thus, CRA's attempt to revise the *market definition* analysis[33] by incorporating dynamic demand considerations does not seek mere "flexibility" in merger analysis, as contemplated by the AMC. Instead, it requires a radical redesign of the fundamental concept of

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("Antitrust analysis, as refined to incorporate new economic learning, is sufficiently flexible to provide a sound competitive assessment in such industries.").

31. *Id.*

32. *Merger Guidelines* § 0.2.

33. *CRA Supplemental Report* at 40 ("This understanding of the implications of dynamic demand on pricing and investment is central to analyzing the competitive effects of the merger. *It is also central to constructing a hypothetical monopolist test for market definition* that fits the facts and circumstances of this merger and therefore will define the relevant market a way that informs rather than obscures an understanding of the competitive effects of the merger.") (emphasis added).

market definition. Stated differently, the concept of dynamic demand may have a place in a competitive effects analysis (assuming conservatively the concept is not so generic that it could be applied to every industry), but it should not inform market definition.

22. At a more fundamental level, I am concerned that CRA has failed to explain why dynamic demand considerations apply *uniquely* to satellite radio. In its supplemental report, CRA argues that dynamic demand models are appropriate here because (1) "satellite radio is still early in its life cycle and demand is not close to saturation";[34] (2) "satellite radio depends heavily on word-of-mouth information diffusion and recommendations from satisfied subscribers to help drive its demand growth";[35] (3) "demand spillovers have significant effects on the pricing incentives of the individual firms in the pre-merger world as well as the hypothetical monopolist of the ssnip test for market definition";[36] (4) "this process of information diffusion and recommendations involves two distinct types of dynamic demand spillovers—'internal' and 'external' spillovers";[37] and (5) "these external demand spillovers have a differential effect on the pricing incentives of the hypothetical monopolist (and the merged firm) versus those of the individual firms in the pre-merger world."[38]

23. I find these arguments unconvincing. Arguments (3), (4), and (5) are purely theoretical; they do not explain why dynamic demand models apply naturally to satellite radio. Regarding the first argument, it is not clear that satellite radio is still "early" in its life cycle. Satellite radio and broadband Internet were both introduced in the late 1990s, but one would be hard-pressed to find an analyst or a regulator describing broadband Internet as a nascent

34. *CRA Supplemental Report* at 40.
35. *Id.* at 41.
36. *Id.*
37. *Id.*
38. *Id.* at 41-42.

technology. Moreover, it is highly unlikely that an antitrust authority would permit the merger of the only two broadband access providers in a given local market in deference to dynamic-demand considerations. The notion that SDARS is "not close to saturation" is equally unpersuasive, as it implies that antitrust authorities should toll their analysis of any mergers until the product in question reaches some ill-defined, maximum-potential penetration level. Extending the analogy to broadband Internet, several U.S. household still subscribe to dial-up Internet access, and with some cajoling, might switch to broadband. But that should not prevent an antitrust authority from seriously scrutinizing a two-to-one merger of broadband providers in the same geographic market.

24. Regarding CRA's argument relating to "word-of-mouth" referrals, it is hard to identify a single product or service in the U.S. economy that does *not* benefit from word-of-mouth advertising. Indeed, the next few lines provided by CRA could be used to describe *any* product or service in the United States:

> Potential subscribers rely on the information and recommendations of existing subscribers before subscribing themselves. Demand is also driven by the market buzz generated by consumer excitement and retailer investments. Retailer investments in turn also are driven by the expectation of growth.[39]

It is as if CRA cut and pasted this language from a previous report unrelated to SDARS. The same words could be used to describe the market for men's undergarments, such as Under Armour. Potential consumers of, say, Cold Gear Leggings, rely on the information and recommendations of friends who have exercised with the product before purchasing Under Armour gear themselves. Demand is also driven by the "market buzz" generated by consumer excitement and retailer investments by stores like REI and Dick's Sporting Goods. To prove

39. *Id.* at 41.

that "word-of-mouth" recommendations are critical and unique to satellite radio, CRA cites two analysts (Credit Suisse First Boston and Bear Sterns) that explain the importance of "worth-of-mouth" referrals to satellite radio providers.[40] But I suspect a search for the phrase "word of mouth" in a library of analyst reports would produce thousands of hits, uniformly spread across U.S. industries.

25. New economic ideas should play a vital role in regulatory proceedings. For example, the literature on two-sided markets is being applied to many communications industries to reveal insights that were not possible with the traditional tools of economic analysis. The question for the Commission is where and how to apply a new economic tool in a particular proceeding. In contrast to the concept of two-sided markets, which by definition cannot be applied in any one-sided industry, the concept of dynamic demand appears to lend itself to any industry and therefore provides no valuable insights. At most, the concept could have some role in the competitive effects analysis of a merger. But the notion of bending the traditional framework of market definition is too radical a departure from Commission precedent, CRA's pleas to the contrary notwithstanding.

III. THE THREE ERRONEOUS CLAIMS BY XM AND SIRIUS

26. In their Joint Ex Parte, XM and Sirius make three erroneous claims about my analysis, each of which is allegedly supported by Professor Hazlett's Supplemental Report. In this section, I briefly review the economic support that XM and Sirius offer for those three claims.

A. Claim 1: I Misquoted Professor Hazlett

27. Professor Hazlett appears to have taken offense at my assertion that he elevated

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40. *Id.* at 51-52.

the opinions of Wall Street analysts over the opinions of antitrust authorities.[41] In particular, he accuses me of misquoting his original report as to *why* the opinions of Wall Street analysts should matter in a merger proceeding. To clear the record, in his original report, Professor Hazlett quotes analysts' $3-to-$7-billion-cost-savings figure on eight separate occasions in defense of the merger.[42] On only one of those occasions, he also claims that the investment community "does not anticipate gains from price increases post-merger."[43] It is the *combination* of the two beliefs allegedly held by the investment community—not the belief relating to only cost savings—that allows Professor Hazlett to embrace the wisdom of Wall Street analysts here. According to Professor Hazlett, my original analysis on this point ignored that critical second belief.[44]

28. To support the claim that the investment community (not merely a single analyst) believes that the merger would generate no adverse price effects, Professor Hazlett cites an XM news release entitled *Sirius and XM to Combine in $13 Billion Merger of Equals*, dated February 19, 2007.[45] Clearly, this citation is in error. It is more likely the case that the imaginary analyst that Professor Hazlett has in mind predicted how the proposed merger would affect share prices holding retail prices constant for simplicity, which is very different from concluding that the merger would not generate price effects. (On this conjecture, one cannot be sure until Professor Hazlett provides the proper citation to a living, breathing analyst.)

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41. The Economics of the Satellite Radio Merger, Part II, at 5-6 [hereinafter *Hazlett Supplemental Report*].
42. Thomas Hazlett, The Economics of the Satellite Radio Merger, at 3, 7, 14, 21, 31, 40, 41, 44 [hereinafter *Hazlett Original Report*].
43. *Id.* at 21.
44. *Hazlett Supplemental Report* at 5 ("Prof. Sidak omits from my analysis its essential component, and then pounces on 'my views' as flawed due to the omission.").
45. *Hazlett Original Report* at 21 n.52.

29. Assuming generously that the same analyst who predicted a $3-to-$7-billion cost savings also predicted no price effects, and assuming that *every* analyst following the proposed XM-Sirius merger holds that identical belief, it is still important to discount their collective opinions in a merger review for the reasons that I originally pointed out—namely, that analysts care about shareholder interests, not the interests of satellite radio consumers. The purpose of merger review is to protect consumers, not shareholders. Moreover, securities analysts are not technically equipped to measure the price effects of mergers. When antitrust authorities begin to rely on Wall Street (rather than antitrust economists) to model price effects of mergers, antitrust analysis will be in a sorry state.

B. Claim 2: My Critical Elasticity Framework Proves That XM Constitutes a Market to Itself

30. Professor Hazlett appears to remain unsatisfied by my explanation of the relevance of XM's price increase in April 2005.[46] As I previously explained, the apparent lack of demand sensitivity in response to XM's price increase does not constitute a precise, quantitative estimate of the own-price elasticity of demand for XM (or an estimate of the industry elasticity of demand for SDARS) that can be compared against the critical elasticity.[47] But Professor Hazlett is determined to perform that very exercise: "Yet, the economic implication of Prof. Sidak's own interpretation was not that post-merger (or 'satellite radio')

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46. *Hazlett Supplemental Report* at 19.

47. Hazlett continues to argue that computation of a critical elasticity, which is then compared to an estimated elasticity of demand, is not relevant for this merger. *See id.* at 10 ("In applying his 'critical elasticity' to conduct a SSNIP test, Prof. Sidak is no more successful. The analysis uses gross margins to measure market power. The embedded assumption is that price equals marginal cost in competitive equilibrium. In an industry where it is efficient to use a significant degree of fixed, upfront investment, then, the gross margin metric over-estimates market power. . . . In such circumstances, the mechanistic application of a SSNIP test, inferring substitution among products entirely as a function of the gross margins of current suppliers, is inappropriate."). Professor Hazlett does not explain how he would deviate from the "mechanistic application" of the SSNIP test that I proposed here.

demand was inelastic, but that *XM's demand was inelastic.* Thus, Prof. Sidak placed XM and Sirius in distinct product markets."[48] It is not clear, based on the available data, how Professor Hazlett concludes that "XM's demand was inelastic"—that is, that XM's own-price elasticity of demand was less than 1 in absolute terms. To calculate such a value, one would need transaction-level data from XM containing quantities and prices that varied across purchasers plus a variable (such as unit costs) that could be used as instruments for the prices to control for simultaneity bias. But such data do not exist. Moreover, from basic economic theory, one can infer that XM would *never* price its service in such a way that the elasticity of demand was less than 1 in absolute terms; if that were the case, then XM could increase its profits by raising prices.[49] XM would price up the demand curve to the point of unitary elasticity.

31. As I have explained previously, my discussion of the apparent lack of a demand response to XM's price increase was simply meant to illustrate, in qualitative terms, the general insensitivity of satellite radio listeners to an increase in price, presumably due to the lack of close substitutes. This datum constitutes "direct evidence" of the elasticity of demand, not because it can be used to provide a pinpoint estimate of the elasticity of demand (as Professor Hazlett insists), but because one can directly measure how satellite customers react to a price increase—the very essence of market definition. In response to this explanation, Professor Hazlett offers this false dichotomy: "It is difficult to decipher which way this sentence runs. If the asserted inelasticity is relevant evidence, then it shows how Sidak's model too-narrowly defines markets. If it is not, then Sidak's analysis has no 'direct evidence' to support its

48. *Id.* at 19 (emphasis in original).

49. *See, e.g.*, DENNIS CARLTON & JEFFERY PERLOFF, MODERN INDUSTRIAL ORGANIZATION 94 (Addison-Wesley 4th ed.).

conclusions."[50] Professor Hazlett appears to be confused. Although the asserted qualitative description of elasticity is relevant, it does not define XM as its own product market. Instead, the analysis simply implies that (1) because XM's own-price elasticity of demand is not large (in absolute terms), and (2) because the industry elasticity of demand for SDARS must by definition be smaller (in absolute terms) than the own-price elasticity of demand for XM, then (3) the industry elasticity of demand for SDARS is also not large. If this is the case, then a hypothetical monopoly provider of SDARS could likely increase price above competitive rates without incurring a loss.

C. Claim 3: I Desire to Eliminate the Role of Supply-Side Evidence in Market Definition

32. Professor Hazlett appears to believe that I would eliminate entirely the role of supply-side evidence when defining product markets for merger analysis.[51] I would do nothing of the sort. In an attempt to prove that all supply-side information is relevant to market definition, he cites to the recent *Whole Foods* decision, in which supply-side evidence was used to inform market definition.[52] He also cites to the same language that I cited from the *Merger Guidelines*, italicizing the line: "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." [53] If one incorrectly excludes the critical last clause of that sentence—namely, in response to relative changes in prices—then *all* conduct by participants in the alleged market could be included in the market definition analysis. But that puts the cart before the horse—a market must be defined before one looks at the conduct of the market participants.

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50. *Hazlett Supplemental Report* at 20.
51. *Id.* at 12.
52. *Id.* at 11.
53. *Id.* at 12 (citing *Merger Guidelines* §1.11).

33. To prevent this mistake from happening, the *Merger Guidelines* create a bright line for what kind of supply-side information may be considered as evidence for market definition. In particular, if firm conduct can be directly traced to likely buyer substitution to a change in relative prices, then such conduct informs market definition. If firm conduct cannot be traced to likely buyer substitution to a change in relative prices, then such conduct must be ignored.

34. But Professor Hazlett glosses over this critical distinction. Doing so allows the merger parties and their economists to cite literally everything under the sun, from Apple's introduction of the iPod to Verizon's introduction of V-Cast. Until the merger parties and their economists can document that those innovations and others occurred *in response to likely buyer substitution to changes in relative prices* between SDARS and the relevant offering, then that supply-side information should be excluded from the market definition analysis.

IV. THE DISCREPANCY IN SURVEY DATA

35. In my first supplemental declaration, I cited a survey conducted by Arbitron ("Arbitron survey"), showing that SDARS customers listened to significantly more radio of all forms (33 hours per week), including terrestrial radio, than non-SDARS customers (19 hours per week).[54] The key passage from the press release that accompanied the Arbitron Survey reads as follows:

> The analysis also showed that satellite listeners are heavy listeners to radio in general including AM/FM radio. Satellite listeners spent an average of 33 hours a week with radio compared with the typical listener who listened approximately 19 hours a week to radio. Also, people who listened to satellite spent more time with AM/FM radio (14

54. *First Supplemental Declaration* at 15 ¶19 (citing Phil Rosenthal, *Satellite Deal Foes Don't Hear Message*, CHI. TRIB., Feb. 28, 2007, at 3).

> hours) than they did with satellite radio (10 hours 45 minutes) or Internet (8 hours 15 minutes).[55]

I also cited a second survey, conducted jointly by Arbitron and Edison Media Research ("Edison Survey"), showing that "digital radio subscribers" listened to terrestrial radio three minutes longer per day than the average radio listener.[56]

36. CRA responded to this survey evidence by (1) critiquing the Edison Survey for having failed to distinguish SDARS subscribers from "digital radio subscribers"[57] and (2) ignoring the Arbitron Survey entirely. Instead of acknowledging the unhelpful implications of the Arbitron Survey—namely, that SDARS subscribers listen to *more* terrestrial radio than satellite radio (14 hours versus 10.75 hours) and roughly the same amount of terrestrial radio as all radio listeners (14 hours versus 19 hours less any time spent listening to Internet radio)—CRA presented new (commissioned) survey data, which purportedly show that SDARS subscribers significantly reduce their terrestrial radio listening after activating their SDARS subscriptions.[58] CRA's latest filing does not advance the state of knowledge on this point.[59] CRA has still failed to acknowledge the first Arbitron study, despite the fact that I cited to the Arbitron survey for a second time in my reply declaration.[60]

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55. Arbitron Press Release, Satellite Radio Channels Account For 3.4 Percent of All Radio Listening In Fall 2006 Arbitron Survey, available at http://www.onlinepressroom.net/arbitron/.

56. *Id.* at 15 ¶20 (citing Alex Mindlin, *Digital Subscribers Like Free Radio, Too*, N.Y. TIMES, Apr. 23, 2007, at C4).

57. CRA, Economic Analysis of the Competitive Effects of the Sirius-XM Merger, at 41 n.157. I do not find this criticism to be persuasive.

58. *Id.* at 12-13.

59. *CRA Supplemental Report* at 29.

60. *Third Supplemental Declaration* at 20 n.30.

37. The [redacted]—which were generated for XM—are cited by CRA as evidence of substitution between XM and terrestrial radio, [redacted][61] Similarly, the [redacted]—which were generated for Sirius—are cited by CRA as evidence of substitution between Sirius and terrestrial radio, [redacted][62] Table 1 compares the distribution of time spent listening to terrestrial radio, satellite radio, and Internet radio by survey firm.

TABLE 1: DISTRIBUTION OF AVERAGE SATELLITE RADIO SUBSCRIBER'S TIME SPENT LISTENING TO TERRESTRIAL, SATELLITE, AND INTERNET RADIO
(HOURS PER WEEK)

Type of Radio	Arbitron[1]	[redacted][2]	[redacted][3][redacted]
Terrestrial Radio	14.00	[redacted]	[redacted]
Satellite Radio	10.75	[redacted]	[redacted]
Internet Radio	8.25	[redacted]	[redacted]
Total Hours Per Week	33.00	[redacted]	[redacted]

Source: (1) Arbitron Press Release, Satellite Radio Channels Account For 3.4 Percent of All Radio Listening In Fall 2006 Arbitron Survey, available at http://www.onlinepressroom.net/arbitron/. [redacted]

As Table 1 shows, relative to the Arbitron Survey, [redacted]

61. [redacted]

62. [redacted]

[redacted]

38. It is incumbent on XM and Sirius to explain why their commissioned surveys should receive greater weight than the Arbitron survey in the Commission's merger review. I have no reason to suspect that the results from the Arbitron Survey are biased in any way. Indeed, as recognized by the Commission, Arbitron is the foremost authority on listenership surveys for the radio industry.[63]

39. In contrast, the merger parties have a strong incentive to demonstrate that time spent listening to terrestrial radio declines significantly after a customer activates her satellite radio subscription. Indeed, the consumer surveys are the *first* piece of evidence that CRA offers to prove demand-side substitution between terrestrial and satellite radio. It bears emphasis that although the merger was not formally announced before the internal surveys were commissioned ([redacted]), XM and Sirius were well aware of the potential for a merger as early

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63. *See, e.g.*, FCC Media Ownership Study #5: Station Ownership and Programming in Radio, June 24, 2007 (relying on listenership data from Arbitron); Media Ownership Study Two Ownership Structure and Robustness of Media (relying on Arbitron all-day audience share).

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as [redacted][64] Until this significant discrepancy in the survey data is resolved, it would be a mistake for the Commission to give *any* consideration to the surveys commissioned by XM and Sirius.

CONCLUSION

40. A review of confidential documents produced in this case reveals that Sirius and XM constrain each other's prices and commercial minutes. This evidence by itself should persuade the Commission to deny the transfer application. Even if the merged firm agrees to freeze prices at current levels, so long as the regulated monopolist has an incentive to raise prices, it will look to other means to extract consumer surplus. Of course, the Commission could regulate every possible competitive instrument available to the merged firm, but the result would be a Frankenstein's monster. Consumers would be unequivocally better off under the current market structure of two SDARS providers, in which prices, channel lineups, and commercial minutes are determined by competitive factors.

41. XM and Sirius have failed to satisfy their burden to prove that consumers perceive other forms of audio entertainment to be close substitutes for SDARS. CRA's regression model, even if it were correctly specified, does not inform the relevant elasticity of demand (with respect to a change in relative prices) as contemplated by the *Merger Guidelines*. And CRA's theoretical model of an increase in commercials by an SDARS provider is equally

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64. [redacted]

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unpersuasive. There are no assurances to the Commission that the merged firm's new subscription price after it has increased the amount of commercials will be less than the (current) competitive price for SDARS. CRA's model only shows that the new subscription price after the merged firm increases commercials would be less than the price that a hypothetical monopolist would charge for SDARS.

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I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on January 23, 2008.

J. Gregory Sidak

J. Gregory Sidak