satellite radio subscribership is far below thirty percent of the radio market,[38] the 1992 Cable Act framework places broadcast radio and satellite radio in the same market. The "effective competition" designation gains further endorsement from the FCC policy preceding the 1992 Cable Act, which viewed over-the-air television stations as direct competitors to cable TV systems.[39]

In response, Prof. Sidak attacks my discussion of the issue as irrelevant:

> Once again, Professor Hazlett is conflating regulatory standards with antitrust standards... The fact that a satellite provider could be classified as 'non-dominant' under an outmoded and likely arbitrary standard for rate regulation in a different industry does not inform the relevant question here.[40]

Having introduced the regulatory standard as guidance for market definition in Sidak I, Sidak III now assails a proper interpretation of the evidence as a confusion. In fact, Sidak I was correct about the relevance. The manner in which "effective competition" between cable TV and broadcast TV has been defined by regulators informs both the Federal Communications Commission and the Department of Justice in its review of the current satellite radio merger.

In yet another take on the market definition question, Sidak II opines that, "SDARS subscribers consider terrestrial radio to be a complement, not a substitute, for SDARS."[41] This conclusion is attributed to survey evidence that

> SDARS subscribers listen to 33 hours of radio per week, compared to 19 hours per week for (non-SDARS) radio subscribers. The study breaks down the 33 hours for SDARS subscribers into 14 hours of terrestrial radio, 11 hours of SDARS, and 8 hours of Internet radio. Thus, radio listeners who subscribe to SDARS do not appear to reduce their consumption of terrestrial radio by a significant amount (14 hours of terrestrial radio for an SDARS subscriber versus 19 hours of terrestrial radio for a non-SDARS subscriber).[42]

This analysis reveals a fundamental economic error. The issue of product competition is not whether SDARS subscribers listen to more or less terrestrial radio than non-subscribers, but whether they substitute between the services at the margin. The data presented indicate that subscribers are relatively intense radio listeners, 'consuming' 74% more hours per week than non-subscribers. Nonetheless, subscribers listen to 26% fewer

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[38] While Sidak I attempted to use "channels" to calculate radio market shares, the White Paper established that the logic was wholly uncompelling. This conclusion is buttressed by Sidak I's suggestion that the 1992 Cable Act offers guidance on market definition. Cable TV's share of the market was defined not in terms of channels, but as a percent of households subscribing to cable TV service.
[39] See discussion in the White Paper, pp. 25-27.
[40] Sidak III, par. 26 (footnotes omitted).
[41] Sidak II, par. 19.
[42] Ibid.

hours of terrestrial broadcasting. It is substitution away from (or into) terrestrial broadcasting and into satellite radio programming (and Internet radio) in response to changes in quality-adjusted SDARS prices that sheds light on whether products compete. Further, as Salop et al 2007 notes, the idea that listening to broadcast radio would rise when the price of satellite radio falls – the test for complementarity – simply makes no sense.

Nor does Prof. Sidak fare any better with his assertion that satellite and terrestrial radio (or iPods and other media) are complements because subscribers own multiple radios to receive the separate services.[43] A family may have both a Ford and a Toyota in their garage, but this does not mean that the rival automobiles are complements rather than substitutes.

Finally, Prof. Sidak repeatedly defines satellite and broadcast radio as occupying separate product markets by noting that the services differentiate their products. He argues that SDARS operators offer adult programming disallowed on broadcast radio, and cites survey data that "suggest that satellite subscribers value SDARS for qualities that are unavailable on terrestrial radio."[44] But product differentiation *is* competition. Radio station listeners would cite "qualities that are unavailable" on the stations they don't listen to if asked to explain their choice of audio entertainment and even cite many of the stations they refuse to listen to as featuring offensive programming. Subscribers to XM, similarly, could cite the programming they prefer to that available on Sirius, and vice versa. According to Prof. Sidak's approach, differentiated radio stations then occupy distinct product markets. XM and Sirius are then, likewise, classified as serving separate markets. Once again, the market definition framework offered by Prof. Sidak defines markets too narrowly.

B. COMPETITIVE EFFECTS

One of the most important set of facts contributing to the satellite radio merger analysis is derived from the fierce opposition of terrestrial broadcasters. Yet, Sidak II alleges that this is wholly uninformative. Prof. Sidak condemns the evidence, and the implication that it suggests the combination will increase competitive forces, as "incorrect as a matter of logic, erroneous as a matter of economic analysis, and irrelevant as a matter of antitrust law."[45]

Yet, the logic of assessing the self-interested policy positions of rival firms is so powerful that it is widely incorporated into merger analyses by economists, lawyers, and judges. A 2004 treatise states the case thusly:

> **The Effect of Efficiency Gains on Outsiders' Profits** [U]nlike the case where there are no efficiency gains, outsiders will lose from the merger,

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[43] Sidak specifically notes that, because many households own both an MP3 player and a satellite radio subscription, the products do not compete with each other. Sidak II, par. 27.

[44] Ibid, par. 26.

[45] Ibid, par. 50.

> and thus oppose it, when the merger allows insiders [merging parties] to cut their costs; intuitively, this is because the merger changes the competitive position of firms in the industry to the detriment of outsiders...[46]
>
> The result that welfare increases and outsiders' profits decrease when efficiency gains are large should also have another important implication on the reliance anti-trust authorities place on the information they receive from interested parties. Clearly, claims from rival firms that the merger will be anti-competitive should be received with great skepticism from the authorities: The fact that rivals complain about the merger probably signals that there might be significant efficiency gains. If anything, then, their complaint might be taken as a first indication that the merger will improve welfare![47]

This is widely understood. In an important treatment, economists William J. Baumol and Janusz Ordover explained that competitor opposition to mergers is highly informative for public policy makers. Speaking of horizontal combinations (including mergers and joint ventures) that are opposed, on antitrust grounds, by competitors, they wrote:

> [I]f the joint venture really is likely to introduce economies or improve product quality, it is sure to make life harder for the domestic rivals of the participants who will then have to run correspondingly faster in order to stand still. Paradoxically, then and only then, when the venture is really beneficial, can those rivals be relied on to denounce the undertaking as "anticompetitive."[48]

The logic is often utilized by antitrust policy makers. Economist Greg Werden of the U.S. Department of Justice Antitrust Division goes further, arguing that firms competing with merging parties should be barred from filing complaints seeking to block competitors' mergers.[49] Because standing to bring a suit is premised on damages incurred by the party filing such a claim, horizontal rivals are excluded from complaining:

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[46] Massimo Motta, Competition Policy: Theory and Practice (2004), p. 239 (emphasis in original).

[47] Ibid., p. 240. A footnote at the end of the passage reads: "Of course, this is not necessarily always the case. Suppose that there is a vertical merger that is likely to lead to foreclosure of rival firms. In this case, the latter will complain, but the merger might also reduce consumer surplus and welfare. In Chapter 6, however, I will argue that foreclosure is a relatively rare event and that a number of conditions must be fulfilled in order for a vertical merger to be detrimental." It is clear that the satellite radio merger is easily excluded; it is horizontal, not vertical, and it does not foreclose rivals from inputs.

[48] Baumol & Ordover (1985). The specific joint venture Baumol & Ordover are commenting on was that formed by General Motors and Toyota, opposed by Chrysler and Ford.

[49] Gregory J. Werden, *Challenges to Horizontal Mergers By Competitors Under Section 7 of the Clayton Act*, U.S. Dept. of Justice Antitrust Division, Economic Policy Office Discussion Paper No. 85-16 (Dec. 6, 1985).

> [T]he predominant effect of any anticompetitive horizontal merger would be to raise prices as under the traditional theories. Since competitors benefit from collusive or dominant firm behavior, which raises prices, it is difficult to conceive how they ever could have standing to challenge a horizontal merger.[50]

The self-interested positions of economic agents, and their revealed positions vis-à-vis a proposed merger, supply useful information that regulators and judges rely on in assessing antitrust remedies. Perhaps the clearest statement of the basic case has been put forward by Judge Richard Posner:

> Hospital Corporation's most telling point is that the impetus for the Commission's complaint came from a competitor... The hospital that complained to the Commission must have thought that the acquisition would lead to lower rather than higher prices – which would benefit consumers, and hence, under contemporary principles of antitrust law, would support the view that the acquisitions were lawful.[51]

While Prof. Sidak argues that competitor opposition to a merger has no relevance "as a matter of logic," "economic analysis" or "antitrust law," economists, antitrust enforcement officials, and federal judges disagree.

C. Product Markets and Firm Values

Prof. Sidak objects to financial market data presented in my White Paper showing that satellite radio providers are not expected to ever generate positive returns. The information on profitability, and (in observed Enterprise Values) expected future profits, bears directly on the issue of market power and, hence, market definition. One important feature of monopoly, of course, is supra-normal returns. The finding that firms are unable to achieve abnormally high profits counters an assertion that monopoly power is being exercised.

The critique begins with Tobin's q which is the ratio between the market value of a firm and the replacement cost of tangible capital. Where the present value of expected future profits substantially exceeds the replacement cost of tangible capital ($q > 1$), market power may be in evidence.[52] This directly implicates the issue of market definition, revealing that rival products are not sufficiently close substitutes as to eliminate anticipated profits.

The same general logic holds in markets where substantial sunk investments take forms other than tangible capital. In satellite radio, tangible capital investments (in such

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[50] Ibid., p. 42.

[51] *Hospital Corporation of America v. Federal Trade Commission*, 807 F.2d 1381, pp. 1391-92.

[52] This leaves open the question as to how the profitable market position was obtained. Returns to entrepreneurial activity or competitive superiority do not necessarily imply monopolistic output restriction but could also imply dynamic efficiency gains.

things as satellites) have been made, but relatively large expenditures for marketing and customer acquisition have also been necessary. The very substantial negative gap between the present value of outlays and the present value of anticipated future cash flows indicates that neither XM nor Sirius have generated rents, achieved market power, or (individually or collectively) established a *market*. Investors expect that other products offer sufficient substitutes that above-competitive returns are not anticipated.

Prof. Sidak questions this point thusly:

> According to Professor Hazlett, a product market should not be defined in the traditional sense by whether a hypothetical monopoly provider of a service could profitably raise prices above competitive rates. Instead, a product market can exist only if the market value of all suppliers of the service exceeds the present value of the funds invested.[53]

Prof. Sidak's confusion is exhibited in his false dichotomy. A market "defined in the traditional sense" *is* evidenced when a supplier "could profitably raise prices above competitive rates" – and that implies the existence of supra-competitive profits. To argue that my approach to market definition is not based on "whether a hypothetical monopoly provider of a service could profitably raise prices about competitive rates," is plain wrong. That is *exactly* my approach.

XM and Sirius have invested about $7 billion more than the approximately $9 billion enterprise value now established by stock and bond traders for the firms.[54] Even with the positive abnormal share price returns associated with the Feb. 2007 merger announcement, or plausibly higher returns upon merger consummation, financial markets do not indicate that the satellite radio investments are expected to make supra-competitive returns.

Hence, Prof. Sidak's test for defining "a product market… in the traditional sense" fails to establish that satellite radio is a market, because "a hypothetical monopoly provider of a service could profitably raise prices above competitive rates." The "duopoly" he asserts to be in place today, no less than the "merger to monopoly" he forecasts post-merger, is unable attain the economic profits the traditional test calls for. Competition from rival media mitigates market power. As the situation is described on Wall Street:

> Sure, XM (XMSR) and Sirius (SIRI) would wring out plenty of cost savings as one company. But the two have yet to earn a penny of profit. Their combined losses for 2006 are expected to hit $1.7 billion. And competition is everywhere. Car salesmen are pushing new iPod jacks. More than 57 million Americans now listen to some form of Web radio each week, says radio-audience tracker Bridge Ratings, compared with 14 million subscribers for XM and Sirius combined. Broadcasters are

[53] Sidak III, par. 16.
[54] White Paper, pp. 14 and 32-33.

> beginning to offer high definition, or HD, radio. While consumers need to buy a special receiver to get HD, which squeezes more programming into the same frequency, the service is free.[55]

Hence, asset valuations are not simply of use in a "failing company" argument, but in assessing how firms grapple with rivals in product markets. Companies that enjoy duopolies and "merge to monopoly" should exhibit healthy returns that are seen by investors to, post-merger, get healthier. Where companies experience competitive returns or less, the evidence about substitute products is given material credence.

> The market's concern about the two companies is not simply that they lose money. Satellite radio had little competition in 2000, when the Sirius stock was above $80. But new wireless products like the Microsoft Zune will be able to work on WiFi signals, and as these get distributed around cities, the need for a satellite feed may become less acute. Apple has also set up its iPod so that it can play through a car stereo. And, traditional radio broadcasters are introducing digital radio with better fidelity.
>
> The world is no longer just XM and Sirius battling for share.[56]

D. "CRITICAL ELASTICITY"

My White Paper spent just a footnote to explain that Prof. Sidak had mis-calculated the "critical elasticity" in its centerpiece analysis. Since the general economic methodology in Sidak I was faulty in excluding dynamic demand factors fundamentally impacting the "critical loss" estimates,[57] relying wholly on price-variable cost margins to infer market power,[58] and misinterpreting evidence of actual demand elasticities, the incremental importance of a corrected estimate may have been small. It may yet be. However, further clarification is offered here given that Prof. Sidak has responded to my correction by implying it was wrong:

> Professor Hazlett claims that, under my margin assumptions, the critical elasticity of demand is actually -1.43, and not the -1.52 that I calculated. He argues that my error is due to a mathematical mistake in my derivation. As it turns out, there is no mistake. The log of 1.05^{ε} is in fact

[55] *XM & Sirius: What A Merger Won't Fix*, BUSINESS WEEK (March 5, 2007).

[56] *Weekend Edition: M&A Nation: Sirius and XM*, WALL ST. 24/7 (Sept. 16, 2006); http://247wallst.blogspot.com/2006_09_01_247wallst_archive.html

[57] Salop et al. 2007, pp. 43-48.

[58] "[P]rice-cost margins commonly provide limited information about the magnitude of the likely buyer response to an increase in price… For this reason, critical loss analysis is no substitute for a critical analysis of all the evidence that bears on the likely magnitude of buyer substitution and should be avoided. Enforcement agencies and litigants can readily be misled when employing critical loss analysis as a simulation tool for market definition if they rely primarily on price-cost margins to infer the demand elasticity… " Jonathan B. Baker, *Market Definition: An Analytical Overview*, 74 ANTITRUST LAW JOURNAL 129 (2007), pp. 156-57.

> $\varepsilon \times \log(1.05)$. Because the industry elasticity of demand for satellite radio ("elasticity"), ε, did not appear in superscript form in the footnote, Professor Hazlett inferred that I took the logarithm of the *product* of 1.05 and the elasticity. Of course, the difference between -1.52 and -1.43 is not economically significant.[59]

It is difficult to discern from this defense that Prof. Sidak did, indeed, miscalculate. Given his assumptions, the critical elasticity equals -1.43, not (as Sidak I claimed) -1.52. His asserted fix supplies the wrong answer for the question he poses.

Nonetheless, this response constitutes a most revealing answer. First, Prof. Sidak claims, "there is no mistake." This takes the position that, if one reads his paper not as it was written but as Prof. Sidak now claims it should have been written, the calculation is correct. The mistake is mine, or presumably any reader's, who assumes that Prof. Sidak meant what he wrote. Instead, he asserts that imaginary superscripts (which 'appeared' in two of his equations) assure that "there is no mistake."

Second, and perhaps equally telling, is Prof. Sidak's suggestion that one not worry much about the mathematical errors he commits in that "the difference between -1.52 and -1.43 is not economically significant." This trivializes the very exercise he features as his central analytical assessment. Of course, Prof. Sidak cannot establish that the post-merger elasticity falls below |-1.52|, let alone |-1.43|, which is what drives the conclusion that the difference between the two is "not economically significant."

Indeed, the only "direct evidence" proffered in Sidak I cites the April 2005 price increase by XM radio.[60] Prof. Sidak noted that the 30% increase in the monthly subscription rate was yet accompanied by "subscriber growth [continuing] at… a rapid pace," which "underscores the low elasticity of demand faced by SDARS providers."[61] The observation left much to be empirically desired (including an adjustment for underlying growth trend and an examination of quality changes, including channel additions, accompanying the change in price[62]). Yet, the economic implication of Prof. Sidak's own interpretation was not that post-merger (or "satellite radio") demand was inelastic, but that *XM's demand was inelastic*. Thus, Prof. Sidak placed XM and Sirius in distinct product markets. The result of Prof. Sidak's critical elasticity analysis is clear: the merger of XM and Sirius is not of horizontal rivals, and their merger does not create market power.

To this, Sidak III responds that his proffered evidence on satellite radio demand was, and was not, factually relevant. "Although it does constitute 'direct evidence' of elasticity, XM's 30 percent price increase was not offered as a point estimate for the actual elasticity facing of demand facing a hypothetical monopoly provider of SDARS. It was intended to demonstrate the general insensitivity of demand with respect to price

[59] Sidak III, par. 22 (emphasis original).
[60] Sidak I, par. 22.
[61] Ibid.
[62] See Salop et al. 2007.

changes."[63] 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 conclusions.

E. A FINANCIAL EVENT STUDY

Prof. Sidak examines financial market reactions to the announcement of the XM-Sirius merger. He does so as a component of his analysis of the economic effects of the proposed combination.

The general approach is proper. It is highly relevant to the evaluation of the merger's likely impact on *consumers* that one examines the data produced by *capital markets*. The event study is a standard tool designed to deduce information from the self-interested actions of investors who reliably aim to maximize returns.[64] Indeed, the financial event study is potentially informative in the same way objective observers learn about likely merger effects from the positions taken by interested parties. In particular, when the trade association representing terrestrial broadcasters commits to an anti-merger position in the XM-Sirius combination, it signals regulators that owners of horizontal rivals believe that they will suffer wealth losses from additional competitive rivalry. Such wealth losses (or gains) are what financial event studies seek to discover.[65]

Properly analyzed, these data provide strong evidence supporting the conclusion that the merger is pro-consumer. The dispositive information is not provided by share price reactions in capital markets, however, as is shown just below. Terrestrial broadcasters (commercial and non-commercial) strongly oppose the merger and fund a campaign against it to influence regulators.

Alternatively, well-informed complementary suppliers – automobile manufacturers, which install XM or Sirius radios as a factory option (or, in the case of Hyundai, as standard equipment), and electronics retailers – largely favor the merger.[66]

[63] Sidak III, par. 25.

[64] I have previously published research using this methodology to draw inferences about antitrust policy. George Bittlingmayer and Thomas W. Hazlett, *DOS Kapital: Do Antitrust Enforcement Actions Against Microsoft Create Value in the Computer Industry?* 55 JOURNAL OF FINANCIAL ECONOMICS 329 (March 2000).

[65] Prof. Sidak clearly contradicts his assertion about the irrelevance of rivals' opposition to a merger, and then engages in an exercise to discover economic evidence of precisely that. Prof. Sidak also attempts to explain the satellite radio merger as a rent-seeking combination, again using the self-interested actions of suppliers in the market to infer likely consumer welfare outcomes.

[66] For instance, Hyundai Motor's asks the FCC "to approve the proposed merger," arguing that "the merger will… [expand] programming choices and pricing options for all Hyundai customers. Rather than being forced to choose between content that currently is exclusive to one satellite radio provider, our customers will gain access to packages offering the 'best of both' services for significantly less than the current combined price, as well as packages of fewer channels at much lower prices." Hyundai further argues that "the merged company will likely improve upon current in-vehicle services that support the driving experience, such as traffic and weather, and promote the introduction of exciting new services. It will also provide a more robust and stable platform for satellite radio generally, and maximize its prospects

Independent financial analysts view the merger as an output-expanding event that will increase satellite radio receiver sales. These important sources of evidence are simply ignored in the Sidak papers, in favor of an improperly constructed financial event study that produces no useful merger evidence.

1. Interpreting Share Price Movements

In examining one event on one day and the prices of a small number of volatile shares in companies spanning a variety of product markets, Sidak III obtains no result that can be distinguished from financial market "noise." This is easily shown. We begin by noting that Sidak III evaluates price reactions to the satellite merger announcement for three types of companies: (1) SDARS providers (XM and Sirius), (2) owners of terrestrial broadcast stations (such as Clear Channel and Salem), and (3) satellite radio manufacturers (Audiovox, Delphi, Directed, and Visteon).

i. Satellite radio and terrestrial broadcasters

There is no question as to the effect of the merger on these firms. First, consider the merging parties (XM and Sirius). They are engaged in a transaction to increase shareholder wealth; they would not agree to merge unless there were mutual gains. The only empirical question concerns how the gains are distributed between the two firms.

The important thing one can learn from share price movements in these equities, however, is when news of the merger was initially reflected in financial market transactions. This Prof. Sidak fails to do. He pegs the merger announcement event date as the first trading day (Feb. 20, 2007) following formal announcement by the firms (Feb. 19, a Monday holiday on which the exchanges were closed). Yet, the merger had long been urged by Wall Street analysts and information often seeps out prior to announcements.[67] In fact, on Friday, Feb. 16 (the last trading day prior to Feb. 19, 2007), XM shares rose 7.7% and Sirius shares rose 3.6%, substantial increases widely attributed to a pending merger deal. For example, an Associated Press story time-stamped 12:50 pm, Feb. 16, 2007 noted the sharp increase in XM shares and credited the surge to "a potential announcement of a merger with Sirius."[68] The relevance of this is that the correct event date (t_0) is not where Sidak III puts it (Feb. 20) but the trading day prior (Feb. 16). Making this simple adjustment eliminates even the extraordinarily weak results Prof. Sidak obtains for satellite equipment vendors – gained only by lowering

for success in the increasingly competitive market for audio entertainment services." *Comments filed by Hyundai Motor Corporation* (submitted to the FCC July 10, 2007), pp. 1-2.

[67] *Analysts Upgrade XM, Sirius On Merger Rumors*, FINANCIAL WIRE (Jan. 17, 2007); *Sirius, XM Satellite merger still possible despite FCC chairman comments, analysts say*, ASSOCIATED PRESS NEWSWIRES (Jan. 18, 2007); *Another Year of Satellite Mergers Expected*, 29 SATELLITE WEEK (Jan. 29, 2007).

[68] *Patterson drags down Nasdaq 100, XM Satellite up on takeover speculation*, ASSOCIATED PRESS NEWSWIRES (Feb. 16, 2007). This news was also reported on AP's FINANCIAL WIRE, *Midday Leaders & Laggards: Nasdaq 100* (Feb. 16, 2007), time-stamped 12:50 p.m. EST. David B. Wilkerson, *Bear Stearns talks up XM Satellite-Sirius merger; shares gain*, Dow Jones MARKETWATCH (Feb. 16, 2007), time-stamped 1:45 pm EST.

standard statistical confidence levels below standard levels and by arbitrarily focusing on one of 16 event window results -- as discussed below.

Second, consider Prof. Sidak's finding that companies owning radio broadcast stations demonstrate no statistically significant negative returns around his (flawed) event date.[69] His conclusion is that such "findings…are not consistent with the procompetitive [merger] hypothesis advanced by Professor Hazlett, which predicts a significant decline in the market valuation of broadcast radio providers."[70]

This assertion is false. The pro-competitive view of the XM-Sirius merger predicts that broadcast station owners will suffer a wealth loss, but it makes no prediction as to whether that loss will result in "a significant decline in… market valuation." It is entirely possible that the decline will be small relative to the overall value of radio stations, and will be swamped by the daily variance in share prices. Indeed, this is expected given that satellite radio broadcasters account for only about 4% of U.S. radio listening time; even if the merger were to significantly increase satellite radio subscriber growth rates, it would make only a very small percentage difference in audience sizes for terrestrial broadcasters.

What is more stunning in the Sidak III claim that evidence is "not consistent" with a pro-competitive interpretation of the satellite radio merger, is that the corollary is identically true (or, in this case, false): the proffered evidence broadcaster returns is equally "inconsistent" with Prof. Sidak's theory of the merger. In putting forth the view that broadcasters oppose the XM-Sirius combination because they fear enhanced competition in the advertising market, he also predicts negative returns for broadcast station owners. By his event study interpretation, Sidak's own theory is rejected. That he fails to see the parallel nature of the tests he performs provides information of its own.

ii. Satellite radio manufacturers

At a high level, economic intuition supports the view that vendor share price returns are positively correlated with consumer welfare. That is because suppliers of key inputs, satellite radios, will generally prosper when satellite radio service providers expand output and financially decline when they restrict it. Hence, examining reactions of firms or investors to the SDARS combination can potentially provide key information on the likely effect of the merger on consumers. The same is true for auto makers and electronics retailers. That is why antitrust authorities routinely interview customers and complementary suppliers, taking their views into account when conducting merger analyses.[71]

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[69] "[T]he abnormal returns for all but one broadcast radio provider in my survey (Salem) were neither statistically nor economically significant" Sidak III, par. 46. One broadcaster, Salem, does exhibit statistically significant negative returns, but Prof. Sidak argues that the valuation decline was attributed to extraneous factors. No similar inquiry is conducted when examining satellite radio vendor returns.

[70] Sidak III, par. 46.

[71] But interpretation of such data must be handled with care. It is well known that some vendors or customers will not have interests that are precisely aligned with the general consuming public. A merger announcement that lowered share returns in these suppliers might, for example, be caused by expectations

Of fundamental importance is the availability of "pure plays," firms that specialize in just the activity under investigation. While satellite radio makers generally have an interest in an expansion of satellite subscribers, the companies make a wide variety of products. On any given trading day, the fortunes of the firm – as measured by share price movements – will be impacted by changing expectations regarding a large number of its products and operations, not just satellite radio sales.

The lack of a "pure play" in satellite radio is why it would be ludicrous to examine General Motors' or Nissan's equity returns around the SDARS merger announcement to discern economic effects of the merger. But, to a considerable (if lesser) extent, the four firms selected by Prof. Sidak to proxy the satellite radio maker "industry" all produce an array of electronics, deriving only a fraction of sales from satellite radios. Since the firms do not publicly break out sales of product lines, this information is inferred by examining financial web sites and the companies' filings with the Securities and Exchange Commission.

Audiovox manufactures at least 21 products (or families of products), not counting services.[72] This is hardly a "pure play" in satellite radio receiver production. Sidak III attempts to patch this gap by noting that Audiovox lists satellite radio products "first, or close to first, in its list of products and industries" in its 2007 Annual Report.[73] This does not come close to patching this hole.

Similarly, Delphi is also far from a pure play. Although a major supplier of satellite radios, Delphi is also a major supplier of a large number of other auto parts and

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that the merger would tap more efficient, competitive supply sources. Ken Heyer, *Predicting the Competitive Effects of Mergers By Listening to Customers*, 74 ANTITRUST LAW JOURNAL (2007)

[72] "Audiovox Corporation and its subsidiaries engage in the design and marketing of electronic products worldwide. It offers a range of mobile electronics products, including mobile multi-media video products, such as overhead, headrest, and portable mobile video systems; autosound products, comprising CD radios, speakers, amplifiers, and CD changers; satellite radios, including plug and play models and direct connect models; automotive security and remote start systems; car to car portable navigation systems; rear observation and collision avoidance systems; automotive power accessories; home electronic accessories, such as cabling and performance enhancing electronics; and accessories, such as remotes, iPod products, wireless headphones, and other connectivity products. The company also provides consumer electronic products, including LCD and flat panel televisions, home and portable stereos, HDTV antennas, WiFi antennas, and HDMI accessories, two-way radios, personal video recorders and MP3 products, home speaker systems, portable DVD players, and flat panel TV mounting systems. In addition, Audiovox offers various value added management services, including product design and development, engineering and testing, sales training, instore display design, installation training and technical support, product repair services and warranty, installation network, and warehousing. The company serves power retailers, mass merchants, regional chain stores, specialty and Internet retailers, independent 12 volt retailers, distributors, new car dealers, vehicle equipment manufacturers, and the United States military."[72] Yahoo!Finance; http://finance.yahoo.com/q/pr?s=VOXX (visited Aug. 26, 2007).

[73] Sidak III, par. 43.

services to the automobile industry.[74] Its 2006 annual report uses the word "satellite" just twice.

Visteon Corp. manufacturers automotive information displays, engine controllers, climate control modules, interior components, and lighting, in addition to an "audio systems" segment that include "digital and satellite radio broadcast tuners."[75] The company's 2006 annual report contains only one mention of satellite radio (in the description of the company's products). The electronics segment, which contains audio systems, contributed just 25% of company revenues in 2006.[76]

Directed Electronics supplies Sirius radios and calls itself the "largest supplier of aftermarket satellite radio receivers, based upon sales."[77] The company's annual report also has an extensive discussion of its satellite radio business. However, the company also designs and markets a variety of other products. The firm was founded in 1982 as a maker of automobile security devices. As of May 2007 the company's website described the firm as "the largest designer and marketer of consumer branded vehicle security and convenience systems in the United States… and a major supplier of home audio, mobile audio and video, and satellite radio products."

It should be noted that Sidak III does reference one bit of evidence offering a "pure play" assessment of satellite radio set sales as per the SDARS merger: "Some analysts predicted that suppliers would not be negatively affected."[78] This lacks the ostensible precision of event window returns, but it is here better evidence. The analysts cited all have access to the share price returns data Prof. Sidak examines, and, indeed, are expert at interpreting them. Their conclusion is that the negative effects Sidak III purports to show are not, in fact, in evidence.

2. Interpreting Sidak's Results

The key results of the event study attempted in Sidak III appear here in Table 1.

[74] Delphi's 2006 Annual Report describes seven reporting segments: Electronics and Safety, Thermal Systems, Powertrain Systems, Electrical/Electronic, Steering, Automotive Holdings (non-core product lines), and Corporate and Other (Product and Service Solutions, various aftermarket segments)

[75] Visteon, *2006 Annual Report Form 10-K*, p. 4. http://www.secinfo.com/dsvR3.u157.htm

[76] Ibid., p. 28.

[77] Directed Electronics, Inc., 2006 *Annual Report Form 10-K*, p.3; http://www.secinfo.com/dsVs6.uy6.htm.

[78] Sidak III, par. 38.

TABLE 1. SIDAK'S EVENT STUDY RESULTS

		Audiovox Corp.	*Delphi Corp.*	*Directed Electronics, Inc.*	*Visteon Corp.*
Alpha		0.000	0.013	0.000	0.002
Beta		1.959	0.323	0.953	2.354
1-day Window	CAR	0.551%	-4.954%	-4.572%	0.452%
	z-stat	0.256	-0.639	-1.898	0.125
	p-value	0.798	0.523	0.058	0.900
3-day Window	CAR	0.340%	-7.619%	-2.180%	8.411%
	z-stat	0.092	-0.548	-0.558	1.380
	p-value	0.927	0.584	0.577	0.168
5-day Window	CAR	3.490%	-9.252%	-1.624%	5.824%
	z-stat	0.786	-0.492	-0.357	0.691
	p-value	0.432	0.622	0.721	0.490
11-day Window	CAR	4.108%	-24.114%	-6.930%	-0.199%
	z-stat	0.572	-0.893	-0.975	-0.060
	p-value	0.567	0.372	0.330	0.952

Source: Sidak III, Table 1, p. 26.

Sixteen returns were calculated, one for each "event window" presented (four companies with returns across four different periods surrounding the event date, t_0). These returns are CARs, or "cumulative average returns," over 1- 3-, 5- and 11-day windows surrounding the (erroneous) event date of Feb. 20, and adjust for overall market returns during the same windows. (So returns for the firms are "abnormal.") None of the sixteen returns are statistically significant at standard levels (5 percent or 1 percent level). One statistically significant abnormal return is created by lowering the standard: the negative one-day return associated with Directed Electronics is then significant at the 10% level.[79] Using this approach, one would expect that, of 16 calculated statistics, one or two would be randomly "significant." Using appropriate statistical methods, the estimated abnormal returns cannot be distinguished from typical share price volatility.

There is also a scaling issue. Sidak III presents each company's stock price performance as an equal test, but the firms are not of equal size. Changes in the share price of the largest firm economically dominate changes of the smallest. When abnormal returns are weighted by market capitalization, the Sidak III abnormal returns are positive for two of the windows and negative for two of the windows, again mirroring random chance.

[79] "The one-day abnormal return for Directed Electronics was statistically significant at the 10 percent level." Sidak III, par. 42.

Sidak III further argues that while the Delphi abnormal return on his event date is insignificant it "certainly was economically significant" because shareholders lost nearly 5% of their stock value.[80] This is wrong. Delphi's large negative return is statistically insignificant (indeed, it is not close to statistical significance) precisely because there is so much day-to-day volatility in its share price. A one-day loss (or gain) of five percent is not at unusual for this stock, and "economic significance" cannot be inferred from the data.

Delphi was and is a financially troubled corporation. Its stock declined by 3.51% (unadjusted) on Feb. 20, 2007, but during the seven preceding months experienced one-day price changes of greater magnitude on 61 of 146 trading days, or 42% of the time. This volatility reflects the company's financial difficulty. The company's share price fell from $3.92 on Dec. 27, 2006, to $0.48 on Aug. 16, 2007, a decline of 88%. It is far-fetched in the extreme to imply that a statistically insignificant decline in its stock price – pulled from this free-fall – offers evidence about the satellite radio merger announcement. Moreover, on the day when news of the merger first became known to traders, Feb. 16, Directed Electronics' share price *increased* relative to the market. In short, the Sidak III event study reveals no evidence whatever that the satellite radio merger is anti-consumer.

3. A Properly Constructed Event Study

The event study attempted in Sidak III is properly constructed here, setting the event date equal to Feb. 16.[81] The results appear in Table 2, with equally-weighted average (abnormal) returns in the second-to-last column and enterprise-value-weighted average returns in the last. The firms and window lengths for the CAR (cumulative average returns) used in Sidak III are used here, with data from Yahoo!Finance.[82]

As seen, there are no statistically significant positive or negative abnormal returns exhibited, either for individual firms or for weighted averages of the combined returns at standard (5% or 1%) confidence levels. In fact, the one-day returns are largely positive, with only Audiovox declining a small and insignificant amount on Feb. 16. The simple and the EV-weighted[83] averages are also positive.

The three-day event window centered on Feb. 16 (covering Feb. 15, 16, and 20) likewise evinces no statistically significant coefficient estimates. Two are positive and two negative. The simple average return is negative and the EV-weighted mean is positive. The 5-day and 11-day simple and weighted average returns are negative, but far from statistical significance. The pattern is one of random chance as relates to price

[80] Ibid.

[81] In addition, I use the 30-day Treasury Bill rate to proxy risk-free returns. Sidak III incorrectly uses the 30-year bond rate, which contains a risk premium for inflation variance. Results are not noticeably impacted by this change.

[82] The estimated model is: $R_{it} = R_{ft} + \alpha_i + \beta_i(R_{mt} - R_{ft}) + \varepsilon_{it}$, where $R_{it} = P_{it}/P_{it-1}$ is the daily return on company i's stock on day t, R_{ft} is the risk-free rate as measured by the yield on the 3-month T-bill (expressed as a daily rate), and R_{mt} is the daily return on the S&P 500 index.

[83] EV = Enterprise Value = market value of equity + market value of debt.

movements, thus yielding no indication as to the merger's likely effect on profits of satellite radio makers.

As seen, there are no statistically significant positive or negative abnormal returns exhibited, either for individual firms or for weighted averages of the combined returns at standard (5% or 1%) confidence levels. In fact, the one-day returns are largely positive, with only Audiovox declining a small and insignificant amount on Feb. 16. The simple and the EV-weighted averages are, not surprisingly, also positive.

If one took the view that share price movements on both Feb. 16 and the following trading day, Feb. 20 capture merger announcement reactions, the three-day event window (covering Feb. 15, 16, and 20) would yield relevant evidence. However, none of the three-day event window results centered on Feb. 16 are significant statistically. Two are positive and two negative. The simple average return is negative and the EV-weighted is positive. The 5-day and 11-day simple and weighted average returns are negative, but far from statistical significance. The pattern is one of random chance as relates to price movements, thus yielding no indication that the merger would be good or bad for the future profitability of satellite radio makers. This might well be a product of the fact that the four publicly listed firms examined (1) are far from pure plays and (2) exhibit very volatile daily share price returns.

Hence, share price changes around the merger announcement yield no useful evidence on the likely effect of the merger. The superior market evidence relates to the analyst reports forecasting the merger will not reduce profits for satellite radio makers (cited by Sidak III) and that the merger will likely increase the sales of satellite radio receivers;[84] the positions taken in the regulatory proceedings by auto makers which generally favor (without opposition) the merger; and the strong opposition to the merger voiced by terrestrial radio broadcasters who compete with satellite for listeners. No evidence supplied by financial market share price reactions casts doubt on this evidence, all of which points strongly to the efficiency of the satellite radio merger.

[84] "The merger could be a boon for manufacturers of satellite radios. Analysts say an equipment-maker like Directed Electronics could be in a unique position to profit from such a deal because of its exclusive branding agreement with Sirius, which could be adapted to fit the needs of a single, larger company. It is unlikely that a current manufacturer would be dropped, analysts said, because the merger would likely result in greater demand for satellite radio devices." Brendan McGarry, *Congressman Has Personal Stake in XM-Sirius Merger*, TELECOM WATCH, Center for Public Integrity (May 14, 2007); http://www.publicintegrity.org/telecom/telecomwatch.aspx?eid=2906&entry=feed.

TABLE 2. EVENT STUDY RESULTS: CORRECTED EVENT DATE

		Audiovox	*Delphi*	*Directed*	*Visteon*	*Avg*	*EV*
Alpha		0.000	0.013	0.000	0.002	0.004	0.004
Beta		1.976	0.315	0.985	2.373	1.412	1.556
1-day	CAR	-0.554%	0.513%	0.751%	6.738%	1.862%	2.875%
	z-stat	-0.258	0.066	0.317	1.871	0.787	1.074
	pvalue	0.796	0.947	0.751	0.061	0.431	0.283
3-day	CAR	1.145%	-3.528%	-5.089%	5.780%	-0.423%	0.938%
	z-stat	0.347	-0.257	-1.278	0.951	-0.103	0.200
	pvalue	0.729	0.797	0.201	0.341	0.918	0.841
5-day	CAR	-2.919%	-9.581%	-2.930%	4.151%	-2.820%	-2.288%
	z-stat	-0.675	-0.521	-0.587	0.501	-0.521	-0.374
	pvalue	0.500	0.603	0.557	0.617	0.602	0.709
11-day	CAR	2.269%	-19.585%	-5.954%	-2.166%	-6.359%	-7.209%
	z-stat	0.343	-0.734	-0.801	-0.158	-0.769	-0.773
	pvalue	0.731	0.463	0.423	0.874	0.442	0.440

Notes: Abnormal returns during event windows are obtained setting risk-free return equal to 30 day Treasury Note and defining event date (t_0) as Feb. 16. *CAR* = cumulative annual return; *EV* = window returns weighted by Enterprise Value of firms.

F. A PRO-CONSUMER THEORY OF NAB MERGER OPPOSITION

Sidak II suggests that one should "scrutinize[s] this proposed merger with a modicum of skepticism informed by public choice theory…"[85] This is advice very well taken. The rent-seeking in evidence explains why terrestrial broadcasters so ardently oppose this merger of their competitive rivals.

Professors Sidak and Wildman attempt an *ex post* patch for this clear signal of merger efficiency. They allege that merger proponents fail to understand the nature of "two-sided markets" and that radio station opposition to the merger is driven by fears of an increase in satellite radio advertising minutes – an asserted outcome of the merger that would harm both listeners (subjected to less programming and more commercials) and terrestrial radio stations. Broadcasters who – according to the NAB's experts – do not compete for satellite radio listeners, do – according to these same experts – compete to sell the ad spots that reach these listeners.

This theory collapses under its own weight. First, were consumers really in different product markets, advertising competition would concern radio broadcasters no more than newspapers, TV stations, web sites, or other ad sellers. But the radio merger is of keen interest only to broadcast stations. This is because listeners freely substitute between the two media. The two sides of the radio broadcasting market (competition for

85 Sidak II, par. 5.

listeners, competition for advertisements) square this circle. In fact, it is the NAB's experts who fail to incorporate both sides of the market into their analysis.

This one-sided analysis of two-sided markets prompts a second fundamental flaw in the Sidak-Wildman analysis. Whatever the validity of the forecast that satellite radio ad inventories will increase post-merger, the broadcasters' economic interest cannot be stated without balancing the offsetting gains (increased audience size) against the asserted losses (more competition against larger satellite radio ad spot inventories). *Arguendo*, take the forecast of enhanced advertising competition post-merger as a given. A merger that results in more commercials sprinkled through satellite radio programming will slow subscriber growth, ceteris paribus, increasing broadcast radio audiences as listeners substitute back into AM/FM (as well as other audio media). This increases ad revenues for stations.

Hence, a balancing test – weighing the asserted loss to traditional stations from more (satellite) commercials against the implied gain in audience share of listeners – is necessary to deduce the net effect. Instead, Professors Sidak and Wildman posit a theoretical case for gains on one side and simply assume away the trade-offs. This omission is telling; the theory is not taken seriously by its own proponents.

Third, competition in ad markets is valuable in its own right, a factor likewise omitted from the argument. Advertisers gain via increased rivalry for their business; consumers (end users) benefit indirectly from the additional goods and services thus supplied, as well as directly from the informational content featured in such messages. Given that satellite radio has no ability to raise subscription rates above competitive levels, as per evidence of consumer substitution, very low market shares, and the financial valuations of satellite radio operators, the asserted output gains in the ad market would appear to constitute net competitive benefits for the economy. At a minimum, they increase output in a given market, and calls by horizontal rivals to suppress the enabling merger are seen – by the admission of the parties' own experts – as anti-competitive.

Fourth, claims by NAB experts directly contradict what the NAB itself has previously stated as its reason for opposing the satellite radio merger:

> …the [satellite radio] monopoly will attempt to accelerate the acquisition of new subscribers by offering them a lower-cost point of entry – likely a basic advertiser-supported tier offered for less than the current $12.99 [sic] per month. On its face, such a plan may not sound bad, but of course no introductory price would be locked in and a monopoly provider could easily raise this price at a later time to increase profits at the expense of consumers.[86]

[86] Testimony of David Rehr, President and CEO of the National Association of Broadcasters, *Statement Before the U.S. House of Representatives Committee on the Judiciary, Antitrust Task Force* (Feb. 28, 2007), p. 17.

Hence, the NAB's official prognostication is that satellite radio will expand its audience by lowering prices. Its ancillary forecast, that long-run prices will rise but that subscribers will be retained due to "lock in" is clearly wrong; satellite subscribers are free to switch their listening to AM/FM radio and other audio entertainment services. Indeed, about 20% of current SDARS customers substitute out of the service each year.[87]

Not only do commercial broadcasters explicitly signal their fear that the merger will expand satellite radio subscriber growth, but National Public Radio has formally filed Comments with the FCC opposing the merger.[88] Given that Professors Sidak and Wildman base their theory on radio broadcasters' fear of increased competition in the advertising market, it is key that non-commercial broadcasters march in lock-step with the NAB. Not only do public broadcasters not participate in the ad market, these stations would doubly benefit from a satellite radio "merger to monopoly" that (a) raised subscription prices, and (b) increased the number of ads per hour on competitive satellite radio fare. This would unambiguously limit satellite radio audiences, driving terrestrial public radio station audiences higher.

On the other hand, if the merger is based on efficiency and serves to expand SDARS audiences, the NPR position is understandable as a response to a non-advertising competitor's expected lower price. It is output expansion that broadcasters anticipate and which drives them to oppose the merger.

IV. PROF. WILDMAN'S "LOCALISM" ARGUMENT

Prof. Steven Wildman's paper argues that the FCC should block the XM-Sirius merger because it will threaten "localism."[89] The contention is that, if the merger produces a firm that lowers the profits of terrestrial broadcasters, these licensees will have fewer financial resources to subsidize certain forms of unprofitable programming, including content specifically developed for local markets.

This reasoning concedes that the merger would be pro-competitive, as it reduces the profits generated by rivals. It then justifies a policy to prevent that efficient outcome by arguing that this harms broadcasters financially. It thus identifies protection of competitors as the policy goal, at the sacrifice of competition.[90]

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[87] Salop et al, 2007, par. 30.

[88] See *Comments of National Public Radio, Inc., In the Matter of XM Satellite Radio Holding Inc., Transferor and Sirius Satellite Radio Inc., Transferee*, MB Dkt. No. 07-57 (submitted to the FCC Aug. 10, 2007).

[89] Wildman, p. 20.

[90] Protecting competitors while undermining the competitive process is anti-consumer. See Robert Bork, The Antitrust Paradox (1978). Through improved economic understanding, however, antitrust has moved away from this counter-productive policy. See William E. Kovacic, *The Intellectual DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard Double Helix*, 2007 COLUMBIA BUSINESS LAW RE VIEW 1; http://www.ftc.gov/speeches/kovacic/2007dna.pdf.

The National Association of Broadcasters has long insisted that satellite radio attracts their listeners and thereby reduces their profitability, requesting rules and regulations to limit such "siphoning."[91] This parallels the broadcasters' arguments in the 1960s and 1970s that cable television service would divert TV audiences and eliminate the "public service" benefits of over-the-air broadcasting. The argument was crafted to claim not that the major VHF TV stations would suffer, but that fledgling UHF stations (and particularly educational stations) would perish. The effort paid off with rules that delayed the introduction of cable television into most U.S. markets until at least the late 1970s, when cable was finally deregulated. The country was then wired for cable, and this succeeded in hugely increasing the quantity of "public service" content available, including 24-hour news, information, documentary, and public affairs channels, precisely the opposite of the arguments made to protect the rents of broadcast licensees.[92]

Similarly, TV broadcasters told the FCC in the 1980s that direct broadcast satellite (DBS) should be thwarted because it, too, posed a competitive threat to "localism." Broadcasters sued the agency when their arguments fell flat. Howard Shelanski writes:

> The broadcasters challenged the FCC's deregulatory decision in court, claiming that space-based stations with national footprints violated the 1934 Act's requirement of local licensing, robbed free local television service of advertising revenue, and undercut programming directed at local interests. The United States Court of Appeals for the D.C. Circuit rejected these arguments... The court agreed that DBS promised many advances and expressly commended the Commission for "assuring that regulation... not impede new technologies that offer substantial public benefits." The court rejected the petitioners' localism arguments as "luddite" ...[93]

Prof. Shelanski also noted the even more ambitious broadcaster argument, that the entrant be excluded because "DBS is particularly vulnerable to attack or take-over by foreign nations, insurgents, or others, as well as interruption during heavy rainfall and the spring and fall equinoxes."[94] Such schemes to block rivals are inevitably wrapped in "public interest" arguments. It should not require extensive effort to decipher the real messages delivered, as former FCC Chairman Mark Fowler recently explained:

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[91] See Appendix 1 in Hazlett 2007 for a lengthy list of anti-competitive pleadings by the NAB, requesting that satellite radio be regulated in ways that limit its competitiveness.

[92] Owen, Beebe and Manning, Television Economics (D.C. Heath; 974), *The Internet Challenge to Television*, Harvard University Press (1999), *The Future of Television: Understanding Digital Economics*, in Noll and Price, eds., A Communications Cornucopia: Market Foundation Essays on Information Policy. (Brookings Institution; 1998), Bruce Owen and Steve Wildman, Video Economics (Harvard University Press; 1992).

[93] Howard A. Shelanski, *The Bending Line Between Conventional "Broadcast" and Wireless "Carriage,"* 97 COLUMBIA LAW REVIEW 1048 (May 1997), p. 1056 (footnotes omitted).

[94] Ibid., p. 1064.

> As chairman of the Federal Communications Commission in 1981, I was visited by a lobbyist for the broadcast industry. Over-the-air broadcasters vehemently opposed the FCC's authorization of Direct Broadcast Satellite television services, and the lobbyist quickly launched into his preamble: "We are all for competition, Mr. Chairman, but... "
>
> Meaning, "forget what I said up to the word 'but,' and now listen carefully..."
>
> In observing the broadcasters' intense negative reaction to the proposed merger of the two satellite radio companies, XM and SIRIUS, it struck me that little has changed in 26 years. Each year, the skies over Washington darken as the Lear jets bring industry lobbyists to the latest battlefront against competition and its offshoot -- mergers that enhance competition.[95]

Prof. Wildman cites papers which find that the news media are important in bringing information to the American public; there is no debate on this essential point. A more subtle question, however, is how government regulation of the media can improve the free flow of ideas, thus improving both consumer welfare and our democratic values. Allowing incumbent broadcasters to thwart rivals by petitioning regulators – the "localism" argument he attempts here – sacrifices the public's interests for the financial benefit of incumbents.

For instance, Prof. Wildman cites a recent academic study showing that the introduction of Fox News Channel on cable TV systems had a statistically significant effect on voting patterns in elections.[96] But, as noted above, broadcasters fought the very deregulation that facilitated the creation of cable news channels, using "localism" as the rationale for suppressing new competition. For years this delayed the advent of television content (via Fox News, CNN, MSNBC, Bloomberg, and C-SPAN, among others) that informs voters and now carries the great majority of our presidential debates.[97]

Another paper cited by Prof. Wildman documents that increased distribution of the *New York Times* in local markets reduces participation in local elections.[98] Rather than support the view that the FCC block competition to local radio broadcasters, this finding speaks to the First Amendment importance of allowing consumers to choose their media freely, even when it permits citizens to patronize national services.

By permitting satellite radio to pose a more protean, post-merger challenge to terrestrial radio, regulators allow a more intense inter-modal rivalry. One predictable

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[95] Mark Fowler, *Competitive Electronics,* NEW YORK SUN (Sept. 5, 2007); http://www.nysun.com/article/61892 (Footnotes omitted).

[96] DellaVigna, Stefano and Kaplan, Ethan Daniel, *The Fox News Effect: Media Bias and Voting* (April 2006). NBER Working Paper No. W12169. SSRN: http://ssrn.com/abstract=897023

[97] Thomas W. Hazlett, *Digitizing "Must-Carry" under Turner Broadcasting v. FCC* (1997) 8 THE SUPREME COURT ECONOMIC REVIEW 141 (2000).

[98] Lisa George and Joel Waldfogel, *The New York Times and the Market for Local Newspapers*, 96 THE AMERICAN ECONOMIC REVIEW 435 (March 2006).

outcome of that is an intensification of competitive forces pushing radio stations to actually offer more local fare. Prof. Christopher Yoo notes that "the underlying economics suggest that nationally oriented content will likely find it beneficial to migrate toward DARS. This would free terrestrial radio to focus on local content still further."[99] Blocking satellite radio efficiencies, including the merger, then reduces "localism."

V. THE CONSUMERS' UNION V. CONSUMER WELFARE

The Consumers' Union ("CU") paper[100] follows the lead of the NAB, arguing for a narrow market definition that would block the satellite merger. Remarkably, it contests the view that consumer welfare occupies center stage in merger analysis. To wit, it critiques the White Paper for noting that "arguments as to the 'relevant market' are secondary," because the "primary consideration is whether [the merger] will benefit consumers and the economy."[101]

The CU paper attacks this indisputably pro-consumer position as an effort to "decouple competition from consumer welfare."[102] A better informed analysis, however, may have prevented the CU brief from abandoning consumers, tossing down with the "anti-competitive abuse of antitrust"[103] that results when horizontal mergers are scuttled at the urging of competitors.

The CU offers a clear illustration of the policy problem. What "decouples" merger review from consumer protection are analyses that focus on the calculation of concentration ratios while failing to recognize competitive realities determining costs and benefits for consumers. Indeed, U.S. antitrust authorities explicitly reject a narrow focus on market definition in the merger review process, stressing an "integrated analysis" that considers factors much beyond concentration ratios:

> The Guidelines' five-part organizational structure has become deeply embedded in mainstream merger analysis. These parts are: (1) market definition and concentration; (2) potential adverse competitive effects; (3) entry analysis; (4) efficiencies; and (5) failing and exiting assets.
>
> Each of the Guidelines' sections identifies a distinct analytical element that the Agencies apply in an integrated approach to merger review. The ordering of these elements in the Guidelines, however, is not itself analytically significant, because the Agencies do not apply the Guidelines

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99 Christopher S. Yoo, *The Role of Politics and Policy in Regulation*, 53 EMORY LAW JOURNAL 255 (2004), p. 273.
100 The Consumers Union is joined on the brief by Common Cause, Consumer Federation of America and Free Press. Petition to Deny filed by Common Cause, Consumer Federation of America, Consumers Union and Free Press (submitted to the FCC July 7, 2007) ("CU 2007").
101 White Paper, p. 13.
102 CU 2007, p. 48.
103 Baumol & Ordover (1985).

as a linear, step-by-step progression that invariably starts with market definition and ends with efficiencies or failing assets.[104]

To leave no doubt, the approach explicitly recommended by the government is exactly as stated in the White Paper: "the Agencies examine whether the merger of two particular rivals matters, that is, whether the merger is likely to affect adversely the competitive process, resulting in higher prices, lower quality, or reduced innovation."[105]

Numerous other errors follow in the CU paper. It claims, for instance, that a post-merger reduction in marketing costs proves that XM and Sirius compete and will, as a single firm, reduce competitive efforts. This wrongly equates high costs with efficient performance. Enjoying economies of scale and scope, eliminating important free-rider problems, and permitting more effective competition against terrestrial radio and other rivals[106] reduces costs (including for marketing) and expands output. Another misunderstanding is evinced when the CU notes that "Wall Street analysts predict a dramatic reduction in the total number of channels made available by satellite radio."[107] This is an arithmetic misinterpretation. What analysts predict is that *individual customers* will have access to an *expanded choice of the most popular* programs, with some overlapping genres dropped to eliminate duplication.[108] CU then takes issue with my position, as they put it, that "[i]f the two satellite providers each has a country channel, [Hazlett] declares it a waste…"[109] Actually, it is *consumers* who believe this duplication a waste, as it deprives them of the higher-valued services made available via merger.

The CU paper also confuses its own argument by asserting that I have argued that satellite radio is a "natural monopoly."[110] My White Paper could scarcely have been more emphatic, pointing to abundant evidence that satellite radio operators compete vigorously with broadcast radio and other audio entertainment media. CU should understand this, as they write in opposition to my characterization of the relevant market. CU also evinces a stark misunderstanding of financial market data, advancing the position that "Hazlett insists that [satellite radio providers'] failure to achieve immediate profitability is an indicator of a lack of market power, when it is part of the normal cycle in an industry such as this."[111] My analysis of market power, of course, did not consider "immediate profitability" but evaluated operating losses over the decade-long life of satellite radio *and* current Enterprise Values (EVs) for XM and Sirius. These EVs reveal investors' expectations as to the flow of profits into the indefinite future. These data reveal that the investments in satellite radio are highly unlikely to realize a supra-competitive return on assets, an outcome not explained away by "the normal cycle."

104 U.S. Department of Justice and Federal Trade Commission, *Commentary on the Horizontal Merger Guidelines* (March 2006), p. 2.
105 Ibid.
106 See the discussion in Salop et al. 2007, p. 52.
107 CU 2007, p. 51.
108 White Paper, p. 38.
109 CU 2007, p. 51.
110 Ibid., p. 52.
111 Ibid.

Finally, the CU is aware that allying with terrestrial broadcasters in opposition to the satellite radio merger presents a conflict. The CU paper attempts, then, a "counter explanation" to the reasoning that broadcaster opposition signals the likely pro-consumer impact of the XM-Sirius combination: "The NAB would like to eliminate every shred of competition, no matter how minor and indirect."[112] Yes -- and that is precisely why the NAB's opposition speaks so persuasively for merger efficiency. Adding up all the pluses and minuses, incumbent broadcasters calculate that the merger is highly deleterious to their future profits. And, "to eliminate every shred of competition," their trade association vigorously opposes it.

VI. CONCLUSION

Prof. Sidak bemoans the merger proposal put forward by XM and Sirius, which, he says, "flouts at least three decades of refinements in antitrust jurisprudence that have sought to diminish political influence by elevating the principled analysis of consumer welfare through accepted economic methods."[113]

One can surely empathize. The experts retained by the National Association of Broadcasting must conduct their "principled analysis of consumer welfare" in the din of the NAB lobby, noisy with merger hecklers and festooned with a banner announcing: "XM + SIRIUS = MONOPOLY."[114] Not much patience for analytics, perhaps, where "for fifteen years AM/FM stations have done everything they could to cripple satellite radio, lobbying the F.C.C. to stop its roll-out in the nineteen-nineties and persistently trying to limit the types of programming XM and Sirius can carry."[115]

Now the terrestrial competitors to satellite radio seek to squelch an efficiency-creating combination that will strengthen a rival and further consumer interests. Independent analysts have long called for such a merger to enhance satellite radio's ability to compete more vigorously with radio stations. Emerging media have made such a transaction more imperative for the parties, and less risky for customers, than in previous years.

Broadcaster opposition to the merger signals a fear of competitive superiority. Efforts by Professors Sidak and Wildman to translate the message into a subtle strategy wrapped in the language of two-sided markets collapses under its own weight – omitting, in fact, a two-sided analysis of the two-sided market the theory purports to capture. Similarly, Prof. Sidak's ill-crafted financial event study brings forth zero evidence as to the efficiency of the merger, failing to even properly identify the financial event date. This follows Prof. Sidak's miscalculation, and mis-application, of the "critical elasicity"

112 Ibid., p. 53. Here the CU paper quotes one of its co-authors, Marc Cooper, of the Consumer Federation of America.
113 Sidak II, par. 6.
114 See http://www.xmsiriusmonopoly.org/.
115 James Surowiecki, *Satellite Sisters*, THE NEW YORKER (Mar 19, 2007); http://www.newyorker.com/talk/financial/2007/03/19/070319ta_talk_surowiecki.

used in SSNIP tests, an inadvertent assertion of evidence that XM and Sirius occupy separate product markets, and an argument that the 1992 Cable Act provides a framework to show that satellite and traditional radio are not competitors (that framework would actually classify satellite radio service as "effectively competitive" with terrestrial stations).

Analysts predict that satellite radio sales will increase post-merger,[116] that prices will not rise,[117] that quality and choice will improve for consumers, and that subsequently the rate of subscriber growth will rise.[118] The largest customers of satellite radio are auto makers – several of which publicly support the merger; none are opposed.[119] One of the largest retailers of satellite radios, Circuit City, likewise supports the transaction.[120] As one analyst notes, "[a]nything that will help to sell more autos and consumer electronics would be good for these companies."[121] Their expert opinion is that the merger is output-expanding and, therefore, pro-consumer. Nothing put forward in Sidak I, II, III, IV, the Wildman paper, or the CU brief, offers plausible evidence to dispute that assessment.

116 Spring 2006, p. 1.

117 Craig Moffett, Sanford Bernstein as quoted in *They cannot be Sirius: Regulators may oppose the merger of America's two satellite-radio firms,* THE ECONOMIST (Feb. 22, 2007) 73; http://www.economist.com/displaystory.cfm?story_id=8744746.

118 Spring 2006, p. 4.

119 *Comment Letter filed by Toyota Motor North America, Inc.*, (submitted to the FCC July 9, 2007), *Reply to July 25, 2007 Letter of National Association of Broadcaster (NAB) filed by Toyota Motor Sales, U.S.A., Inc.*, (submitted to the FCC August 3, 2007), and *Comments filed by Hyundai Motor Corporation*, (submitted to the FCC July 10, 2007).

120 *Comment filed by Circuit City Stores, Inc.* (submitted to the FCC June 28, 2007).

121 George Reed-Dellinger, *XM-Sirius and the DOJ*, WASHINGTON ANALYSIS (July 25, 2007).