XM SATELLITE RADIO HOLDINGS INC
Form 425
June 18, 2007

Filed by Sirius Satellite Radio Inc.
Pursuant to Rule 425 under the
Securities Act of 1933 and deemed filed
pursuant to Rule 14a-12 under the
Securities Exchange Act of 1934
Subject Company: XM Satellite Radio Holdings Inc.
Commission File No.: 0-27441

This communication contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements include, but are not limited to, statements about the benefits of the business combination transaction involving Sirius Satellite Radio Inc. and XM Satellite Radio Holdings Inc., including potential synergies and cost savings and the timing thereof, future financial and operating results, the combined company s plans, objectives, expectations and intentions with respect to future operations, products and services; and other statements identified by words such as anticipate, believe, plan, estimate, expect, intend, will, shou words of similar meaning. Such forward-looking statements are based upon the current beliefs and expectations of SIRIUS and XM s management and are inherently subject to significant business, economic and competitive uncertainties and contingencies, many of which are difficult to predict and generally beyond the control of SIRIUS and XM. Actual results may differ materially from the results anticipated in these forward-looking statements.

The following factors, among others, could cause actual results to differ materially from the anticipated results or other expectations expressed in the forward-looking statement: general business and economic conditions; the performance of financial markets and interest rates; the ability to obtain governmental approvals of the transaction on a timely basis; the failure of SIRIUS and XM stockholders to approve the transaction; the failure to realize synergies and cost-savings from the transaction or delay in realization thereof; the businesses of SIRIUS and XM may not be combined successfully, or such combination may take longer, be more difficult, time-consuming or costly to accomplish than expected; and operating costs and business disruption following the merger, including adverse effects on employee retention and on our business relationships with third parties, including manufacturers of radios, retailers, automakers and programming providers. Additional factors that could cause SIRIUS and XM s results to differ materially from those described in the forward-looking statements can be found in SIRIUS and XM s Annual Reports on Form 10-K for the year ended December 31, 2006, and Quarterly Reports on Form 10-Q for the quarter ended March 31, 2007, which are filed with the Securities and Exchange Commission (the SEC) and available at the SEC s Internet site (http://www.sec.gov). The information set forth herein speaks only as of the date hereof, and SIRIUS and XM disclaim any intention or obligation to update any forward looking statements as a result of developments occurring after the date of this communication.

Important Additional Information Will be Filed with the SEC

This communication is being made in respect of the proposed business combination involving SIRIUS and XM. In connection with the proposed transaction, SIRIUS plans to file with the SEC a Registration Statement on Form S-4 containing a Joint Proxy Statement/Prospectus and each of SIRIUS and XM plans to file with the SEC other documents regarding the proposed transaction. The definitive Joint Proxy Statement/Prospectus will be mailed to stockholders of SIRIUS and XM. **INVESTORS AND SECURITY HOLDERS OF SIRIUS AND XM ARE URGED TO READ THE JOINT PROXY**

STATEMENT/PROSPECTUS AND OTHER DOCUMENTS FILED WITH THE SEC CAREFULLY IN THEIR ENTIRETY WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE PROPOSED TRANSACTION.

Investors and security holders will be able to obtain free copies of the Registration Statement and the Joint Proxy Statement/Prospectus (when available) and other documents filed with the SEC by SIRIUS and XM through the web site maintained by the SEC at www.sec.gov. Free copies of the Registration Statement and the Joint Proxy Statement/Prospectus (when available) and other documents filed with the SEC can also be obtained by directing a request to Sirius Satellite Radio Inc., 1221 Avenue of the Americas, 36th Floor, New York, NY 10020, Attention: Investor Relations or by directing a request to XM Satellite Radio Holdings Inc., 1500 Eckington Place, N.E. Washington, DC 20002, Attention: Investor Relations.

SIRIUS, XM and their respective directors and executive officers and other persons may be deemed to be participants in the solicitation of proxies in respect of the proposed transaction. Information regarding SIRIUS directors and executive officers is available in its Annual Report on Form 10-K for the year ended December 31, 2006, which was filed with the SEC on March 1, 2007, and its proxy statement for its 2007 annual meeting of stockholders, which was filed with the SEC on April 23, 2007, and information regarding XM s directors and executive officers is available in XM s Annual Report on Form 10-K, for the year ended December 31, 2006, which was filed with the SEC on March 1, 2007 and its proxy statement for its 2007 annual meeting of stockholders, which was filed with the SEC on April 17, 2007. Other information regarding the participants in the proxy solicitation and a description of their direct and indirect interests, by security holdings or otherwise, will be contained in the Joint Proxy Statement/Prospectus and other relevant materials to be filed with the SEC when they become available.

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SIRIUS website, which is available at www.SIRIUSmerger.com and has information about SIRIUS proposed merger, has been updated. The updates include the information being filed herewith.

TACT T E f CC NEWOlOOM wtlAT PH ARE SAVONG ... RE5O«1iCE S TACT ~s SIRIUS~ SIRIUSmerger.com SA.TELLITE RA.DIO More choices, better prici nQ, same radios. HEAR FROM MEL KARMAZIN. CEO OF SIRIUS RADIO. IN THE NEWS WHAT S IN IT FOR YOU New Study Shows SIRIUS___XMMe rger Enhances AOOio Compet ton You may have already heard the news that SIRIUS and XM Clic k Hereto Rood the are talking about combining imo one company. And you may also have wondered what that will mean for you. New Diver ,ty Ad U ,led Two Can ~ay: Mock ad The answer is simple: sOOv;;rg NAB fl ip _flOllS OrtlOtcast MORE CHOICES View All Today, fans of satellite radio must purchase two radios and two subscriptions to get all the program offerings of both SIRIUS and XM. If our merger is approved, the combined company will offer consumers the best of each service on your currem radio _at a price well below the cost of the two services today. BETTER PRICING Once we merge, you will have bener pricing choices. Subscribers who Jwant their current subscription package will not have to pay any more after the merger. There will be new subscription packages priced below our currem offerings. And the best of both SIRIUS and XM will be available at a lower cost than the price of subscribing to both services separately. SA ME RADIOS We guaramee no radio will become obsolete. Your current radio will cominue to provide you with the programming you enjoy, whether you keep your current service or change to a new subscription plan. GET MORE DETAIL P PRIVACY1CONTACT US I SIRI US.com ©2001 SIRIUSmerger.com

TACT T E f CC NEWOlOOM wtlAT PH ARE SAVONG ... RE5O«1iCE. TACT ~5 SIRIUS~ SIRIUSmerger.com SA.TELLITE RA.DIO More choice s, better pricinQ. same radios. MORE ARTICLES W SJ Notices That The NAB Has An Agenda Ted dirt April 23. 2007 W hat s the Frequency NAB ? The W all StreBt Journal April 2 1. 2007 Terrestrial Radio Looks To Charge Subscription Fees But Still Doesn t Compete W ith Satell te Techdirt April 19. 2007 Dinosaurs is. Satelrtes Reason Magazine. Radley Balko April 19. 2007 More on XM-Sirius The Technology Liberation Front ~ April 11.2007 A Merger and a Prayer (subscription requiredl Forbes April 09. 2007 Thinking Siriusl About Satellte Radio Competition The Free State Foundation April 09. 2007 Two Can Plav. Mock ad showing NAB flip-flops Orbitc ast April 07. 2007 NAB Shill Says He Didn t Flip-Flop Adds Sky Is Green And Down 18 Up Techdirt April 06. 2007 Busted: Carmel Group has already defined Satelrte Radio s c ompetitors Orbitca st April 04. 2007 How Can New Satellte Radio Merger Analysis Be Independent Wh en The NAB Paid For ~? Techdirt April 03. 2007 Busted M ke Hubbard soonsor of Alabama anti-merger resolution ownS radio station (and morel Orbitcast -March 31 , 2007 Satelrte Sisters The New Yorker. James Surowiecki ~ March 19. 2007 nerrestrial Radio Broadcasters Don t Compete W ith Satellte Radio Techdirt March 01. 2007 l et XM and Sirius Merge l os Angeles Times February 27. 2007 A Monopoly Not San Francisco Chronicl e ___February 2£. 2007 They Cannot Be SIRIUS - Satellte RadiQ The Economist February 24. 2007 SIRIUS-XM Tough l uck? Chicago Tribune February 23. 2007 SIRIUS and XM Together Makes Sense for Listeners USA Today February 23. 2007 Money Not Outrage Fuels Anti-Merger Fight The Miami Herald February 22. 2007 Making Radio W~s W all Street Journal February 2 1. 2007 New Diversity Ad Unveiled New Study Shows SIRIUS-XM Merger Enhances Audio Competition Click Here to Read the Study PRIVACY I CONTACT US I SIRIUS.com tl2001 SIRIUSmerger.c om

TACT T E f CC NEWOlOOM wtlAT PH ARE SAVONG ... RE5O«1iCE. TACT ~5 SIRIUS~ **SIRIUSmerger.com SA.TELLITE RA.DIO** *More* choice s, better pricinQ. same radios. WHAT PEOPLE ARE SAYING Radio station owners have long studied the issue of radio rivalry. and have for ~r a d ade asserted that satellite radio offers a dangerous comre titrve threat. In advocating that regulators deny the prof O sed merger. broadc asters document that its likely eff t will be to prc,,;d e satellite radio listeners more. not less. seMc e for their subscription dolla Thomas Hazlett Professor of Law & Ec onomics George Mason University For the most part. the mainstream media c ompanies offer very limited music and entertainment programming targeted to the Hispanic c ommunity. Satellite radio. by contrast. does prc,,;d e sought after programming such as CNN en Espano!. ESPN Def Ortes. and Mexico Canta W e believe that satellite radio prc,,;d es expanding and ,,;brant platforms for news and entertainment for Hispanic Americ ans Lillian Rodriguez-lopez President Hispanic FiNerati on The farms and rural communities we represent have been well served by satellite radio. Approva l of the merger between Sirius and XM will ensure that our rural c ommunities continue to receive important informational seMce ,,;a satellite radio and will prc,,;de our members and rural neighbors with more programming choic es at improved pric es Pam Potthoff National President W omen Involved in Farm Economics Especially imf O rtant to our membership is the c ommitment the parties have made to issue refunds to satellite radio subscribers who choose to block adult-themed programming .. W ith all of the ind ent and ,,;olent programming bombarding Am eric an families today. we applaud the efforts of Sirius and XM to emf Ower c onsumers who want to oid such c ontent This is cl early a step in the right direction Gar; Bauer President American Values Consolidation of the terrestrial radio industry ~r the last d ade has left much of rural Americ a behind in r ent years. as locally owned stations are replaced by megaorf Orate conglomerates which produce homogenized c ontent and so alled local news and weather delrvered from hundreds of miles away The emergence of satellite radio has offered listeners in rural areas a robust alternative with hundreds of specialized channels that c ater to the programming needs of rural Am eric a. Ni~ Ritchie ExecutIVe P tor league of Rural Voters F or far too long. the l atino marl et has fallen ,,;ctim to traditional radio comp anies that target vefY narrow and highly profitable audiences Under this frameworl, Hispanic s lose out on news. sf Orts. music and diverse cultural programming that is widely aailable on alternative sourc es such as satellite. HP and internet radio. The satellite radio industry. by contrast. has been a launching pad for Hispanic programmers and an increasingly f Opu lar seMc e for vast numbers of Latino consumers and othe listeners who enjoy the richness of Hispanic culture arts and "~ Robert G de Posada President The Latino Coal tion Comretitors that are threatened by the prospect of a thrMng satellite radio c ompany have launchiN a self-interested c ampaign aimed at killing the merge. by asserting that an XM-Sirius alliance would constitute a monof Oly. Despite their cl aims. the merger of XM and Sirius would be beneficial to consumers and deserves SUpf Ort. John Berthoud President National Taxpayers Union Satellite radio is critic al to the programming neiN s of Afric an Americ ans The medium offers dozens of channels that are targeted to the programming needs of Afric an Am eric an entrepreneurs. entertainers. and consumers In fact. Internet radio. music download seMce s. and satellite radio have all played critic al roles in democratizing the music and audio industry allowing c onsumers acc ess to a ,,;rtual on-J emand world Har Alford President National Black Chamber of Commerce Satellite radio is a critical miN ium for Hispanic Am eric ans. making aailable a wide range of listening choic es that are not generally ailable on traditional broadc ast radio For example. ESPN Def Ortes. CNN Espafiol, and several Latin music channels Brent W ilkes EXK ut;W PirK tor League of United Latin American Citizens The botto m line is that with expanded choic es and bett er prices, satellite radio will be an even more attractive option for c onsumers, and this ultimately benefits our Chamber members and the two-million Latino owned businesses in the U.S . There is no doubt that the XM-Sirius merger will be a win-win for Hispanic businesses and the c ommunity and we strongly urge its approva l Alfred P. Placeres Esc President New York State FiNerati on of Hispanic Chambers of Commerce lndeiN , if the National Association of Broadc asters and its terrestrial broadc aster allies are able to rersuade the Department of Justic e and the FCC to prevent the SiriusiXM merger on the basis that

satellite radio c onstitutes a discrete product market, well then, maybe rt1 become a believer in the Easter Bunny too. Randy May, Thinking Siriusly About Satellite Radio Comretition April 9, 2007 ., think all of us would agree. though, that these two. the merger of these two is not going to create a monof Oly in any sense because there is a lot of comre tition out there with the broadcast and the Internet and wireless and iPod, as others have mentioned - Rep Cliff Stearns (FL), 3/7 House Committ ee on Energy and Commerce s pan~ on The Future of Radio Stop throwing around the word ·monof Oly. The comretition they have is WITh radio stations charging zero dollars for the same or a similar product. Rep Anthony W einer (NY), 2128 House Judiciary Committee antitrust task forc e PRIVACY 1CONTACT US 1 SIRIUS.com *V2001* SIRIUSme,ge,.com

TACT T E f CC NEWOlOOM wtlAT PH ARE SAVONG ... RE5O«1iCE. TACT ~5 SIRIUS~ SIRIUSmerger.com SA.TELLITE RA.DIO *More* choices, better pricinQ. same radios. MERGER RESOURCES 230 U Competition Mill. 12S .~- in Audio 116 SOl ; .RAD Entertainment 00 7S 72 """.. """ so 23.5 25 e ,14. .- —""··· 0 1tAM,IF. ..,- ···· ... .., ... Sate llite Radio is a Small Part of a Hig hly Competitive and Ever-Expa nding Market f or Aud io Entertain ment GET MORE The audio entertainment market today is ;brant. com,.etitiw. and inn atiw. INF ORMA TlON and every indic ation is that it will te even more so in the future W e telieve that the combination of SIRIUS and XM will te good for consumers as it will intensify this com,.etition. expand the choices for consumers, and reduc e · SIRIUSlXM r e releases prices SIRIUSlXM pnnt dvertising The market for audio entertainment in the United States is robustly com,.etitive and rapidly ,, ng SIRIUS and XM must com,.ete directly and Audio Entertainment intensely with a host of other audio prO id ers for consumer att ention Markel fact shets Congressional testimony SIRIUS/XM press re leases Federal Communications Commission ~li 9s SIRIUS and XM Announce Merger Mer9 "' AJ1a1ysis SIRIUS Radio Guarantee Press Release · SIRIUS Radio Guarantee SIRIUS and XM Unveil [liyersity *M* New Study Shows SIRIUS-XM Merger Enhance s Audio Comootition SIRIUS/XM print advertis in g Even Bett er TMether *M* Wha! s In It for Consumersr Ad listen to the Numters *M* =P erse Merger Supoort *M* Aud io Entertain ment Market f act sheets Audio Competition Fact SheB1 NAB s Campaign Against Satell te Radio NAB s Gpoosition to Competition NAB W hat They Said Then IS Wh at They are Saying Now Cong ressio nal t est imo ny ill House Judiciary Committ ee s Antitrust Task Force February 28 2007 House Energy and Commerce Committ ee s SuPro mmittee on Telecommunications anll the Internet - March 7 2007 Senate Judiciary Committee s SuPromm itt ee on Ant itrust Comootition Policy and Consumer Rights March 20 2007 Senate Committee on Commerce Science and Transportation April 17 Federal Commu nicatio ns Commissio n f ilings FCC Applicat ion for Merger SIRIUS SEC Form 8-K *[3113/200n* FCC Public Comment Notice Merg er Analysis The Economics ofthe Satellte Raljio Merger PRIVACY I CONTACT US I SIRIUS.com (Cl2001 SIRIUSme ,ge,.com

In addition, the Merger Resources page of the website also contains a link to the following FCC public notice included on the website:

PUBLIC NOTICE

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

News Media Information 202 / 418-0500
Internet: http://www.fcc.gov
TTY: 1-888-835-5322

DA 07-2417

Released: June 8, 2007

MEDIA BUREAU ACTION
SIRIUS SATELLITE RADIO INC. AND XM SATELLITE RADIO HOLDINGS INC. SEEK APPROVAL TO TRANSFER CONTROL OF FCC AUTHORIZATIONS AND LICENSES
MB Docket No. 07-57
PLEADING CYCLE ESTABLISHED

Comments/Petitions Due: July 9, 2007
Responses/Oppositions Due: July 24, 2007

On March 20, 2007, Sirius Satellite Radio Inc. (Sirius) and XM Satellite Radio Holdings Inc. (XM) (collectively, the Applicants) submitted applications seeking consent to transfer control of Commission licenses and authorizations held by Sirius, XM, and their subsidiaries pursuant to Section 310(d) of the Communications Act of 1934, as amended.[1] Under the proposed transaction and pursuant to an Agreement and Plan of Merger dated February 19, 2007, a wholly owned subsidiary of Sirius, Vernon Merger Corporation, will be merged with and into XM, with XM being the surviving entity of this subsidiary merger.[2] The surviving entity will be controlled by a new Board of Directors, selected by both Sirius and XM, and its equity ownership will be represented equally by former shareholders of XM and Sirius prior to the merger.

GENERAL INFORMATION

The Consolidated Application for approval of the transfer of control of the licenses and authorizations referenced herein, upon initial review, has been accepted for filing. The Commission reserves the right to return any application if, upon further examination, it is determined to be defective and not in conformance with the Commission s rules, regulations, or policies.

[1] *See* 47 U.S.C. § 310(d); *Applications of XM Satellite Radio Holdings Inc., Transferor, and Sirius Satellite Radio Inc., Transferee, For Consent to Transfer Control*, MB Docket No. 07-57 (filed March 20, 2007) (collectively, the Consolidated

Application). On March 29, 2007, the Commission released a public notice designating this proceeding as permit but disclose for purposes of the Commission s *ex parte* rules. *See XM Satellite Radio Holdings, Inc. and Sirius Satellite Radio, Inc. Seek Approval To Transfer Control Of Licensee Entities Holding FCC Licenses and Other Authorizations*, DA 07-1435, MB Docket No. 07-57 (rel. Mar. 29, 2007).

[2] A complete list of the licenses and authorizations held by Sirius and XM that are subject to the Consolidated Application is set forth in the Attachment.

Interested parties must file petitions to deny, comments, or informal comments no later than July 9, 2007. Persons that do not file petitions to deny may not seek reconsideration of the Commission s decision regarding the transfer of the licenses at issue nor appeal a final decision to the courts but may otherwise participate in the proceeding. Responses or oppositions to such submissions must be filed no later than July 24, 2007. All filings concerning matters referenced in this Public Notice should refer to **MB Docket No. 07-57**, as well as the specific file numbers of the individual applications or other matters to which the filings pertain (unless a filing pertains to all applications).

Under the Commission s current procedures for the submission of filings and other documents, submissions in this matter may be filed electronically (*i.e.*, through ECFS) or by hand delivery to the Commission s Massachusetts Avenue location noted below.

Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: http://www.fcc.gov/cgb/ecfs/. In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and **MB Docket No. 07-57**. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions, filers should send an e-mail to ecfs@fcc.gov, and include the following words in the body of the message, get form. A sample form and directions will be sent in response.

Paper Filers: Parties who choose to file by paper must file an original and four copies of each filing.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission s Secretary, Office of the Secretary, Federal Communications Commission.

The Commission s contractor will receive hand-delivered or messenger-delivered paper filings for the Commission s Secretary at 236 Massachusetts Avenue, NE, Suite 110, Washington, DC 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.

Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington, DC 20554.

People with Disabilities: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

In addition, one copy of each submission must be sent to each of the following:

1. The Commission s duplicating contractor, Best Copy and Printing, Inc., Portals II, 445 12th Street, S.W., Room CY-B402, Washington, DC 20554, telephone 1-800-378-3160, or via e-mail at www.bcpiweb.com;

2. Rosemary C. Harold, Media Bureau, Room 3-C486; e-mail Rosemary.Harold@fcc.gov;[3]
3. Tracy Waldon, Media Bureau, Room 3-C488; e-mail Tracy.Waldon@fcc.gov;
4. Royce Sherlock, Media Bureau, Room 2-C360; e-mail Royce.Sherlock@fcc.gov;
5. Jim Bird, Office of General Counsel, Room 8-C824; e-mail Jim.Bird@fcc.gov;
6. Gardner Foster, International Bureau, Room 6-C477; e-mail Gardner.Foster@fcc.gov;
7. Marilyn Simon, International Bureau, Room 6-A633; e-mail Marilyn.Simon@fcc.gov;
8. Marcia Glauberman, Media Bureau, Room 2-C264; e-mail Marcia.Glauberman@fcc.gov;
9. Amy Brett, Media Bureau, Room 2-C134; e-mail Amy.Brett@fcc.gov;
10. Erin McGrath, Wireless Bureau, Room 6338 (Portals I); e-mail Erin.McGrath@fcc.gov.

Copies of the Consolidated Application and any subsequently filed documents in this matter may be obtained from Best Copy and Printing, Inc., Portals II, 445 12th Street, SW, Room CY-B402, Washington, D.C. 20554, telephone 1-800-378-3160, or via-e-mail www.bcpiweb.com. The Consolidated Application and any associated documents are also available for public inspection and copying during normal reference room hours at the following Commission office: FCC Reference Information Center, 445 12th Street, S.W., Room CY-A257, Washington, D.C. 20554. These materials are also available electronically through the Commission s ECFS, which may be accessed on the Commission s Internet website at http://www.fcc.gov. Additional information regarding the transaction will be available on the FCC s Office of General Counsel s website, http://www.fcc.gov/ogc, which will contain a fully indexed, unofficial listing and electronic copies of all materials in this Docket.

For further information, contact Rosemary C. Harold, (202) 418-2533, Royce Sherlock, (202) 418-7030, or Marcia Glauberman, (202) 418-7046, of the Media Bureau. Press inquiries should be directed to Mary Diamond, (202) 418-2388. TTY: (202) 418-7172 or (888) 835-5322.

[FCC]

[3] The street address for all Commission staff is 445 12th Street, S.W., Washington, D.C. 20554.

ATTACHMENT

The Consolidated Application filed by XM and Sirius includes applications pertaining to the Commission authorizations and licenses listed below. They are separated below by the type of authorization or license, and, within each category, listed by licensee/registrant name, application file number, call sign, and/or other service-specific information, as appropriate. Interested parties should refer to the Consolidated Application for a more detailed listing of the authorizations or licenses. Each of the Applicants subsidiaries or affiliates may hold multiple authorizations or licenses of a particular type. Parties should be aware that additional applications may have to be filed to identify any additional authorizations involved in this transaction.

Part 25 Satellite Communications

File No.	Licensee/Registrant	Call Sign(s)
Satellite Space Stations		
SAT-T/C-20070320-00054	XM Radio, Inc.	S2118 S2119 S2616 S2617[4]
SAT-T/C-20070320-00053	Satellite CD Radio, Inc.	S2105[5]
Satellite Earth Stations		
SES-T/C-20070320-00380	XM Radio, Inc.	E000158 E000724 E040204
SES-T/C-20070320-00379	Sirius Satellite Radio, Inc.	E040363 E060276 E060277 E990291

[4] The following applications for special temporary authority (either pending or in effect) to operate terrestrial repeaters are associated with the XM Radio Inc. space stations: SAT-STA-20070222-00037; SAT-STA-20070222-00036; SAT-STA-20070205-00026; SAT-STA-20061211-00147; SAT-STA-20061114-00138; SAT-STA-20061013-00120; SAT-STA-20061013-00119; SAT-STA-20061002-00114; SAT-STA-20050712-00145; SAT-STA-20050601-00113; SAT-STA-20050307-00056; SAT-STA-20031219-00373; SAT-STA-20031112-00371;

SAT-STA-20030409-00076;
SAT-STA-20030325-00056;
SAT-STA-20020815-00153;
SAT-STA-20020311-00049;
SAT-STA-20010712-00063;
and
SAT-STA-20070330-00059.

[5] The following applications for special temporary authority (either pending or in effect) to operate terrestrial repeaters are associated with the Satellite CD Radio, Inc. space stations:
SAT-STA-20070327-00057;
SAT-STA-20061208-00146;
SAT-STA-20061207-00145;
SAT-STA-20061107-00135;
SAT-STA-20061107-00133;
SAT-STA-20061107-00132;
SAT-STA-20061107-00131;
SAT-STA-20061013-00122;
SAT-STA-20061013-00121;
SAT-STA-20060623-00067;
SAT-STA-20050601-00114;
SAT-STA-20050301-00053;
SAT-STA-20040623-00122;
SAT-STA-20040623-00119;
SAT-STA-20031106-00370;
SAT-STA-20030411-00075;
SAT-STA-20020222-00028;
SAT-STA-20031219-00369;
SAT-STA-20020312-00048;
SAT-STA-20020827-00162;
SAT-STA-20020827-00248;
SAT-STA-20030827-00299;
SAT-STA-20020312-00029;
and
SAT-STA-20010724-00064.

Part 90- Wireless License

File No.	Licensee	Call Sign
0002948781	Sirius Satellite Radio Inc.	WPTX369

Part 5- Experimental License

File No.	Licensee	Call Sign
004-EX-TC-2007	XM Radio, Inc.	WB2XCA XD

In addition, the More Articles, and What People Are Saying and Merger Resources pages of the website also contain a link to the following merger analysis included on the website:

June 14, 2007

VIA HAND DELIVERY

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Re: Consolidated Application for Authority to Transfer Control of XM Radio Inc. and Sirius Satellite Radio Inc., MB Docket No. 07-57

Dear Ms. Dortch:

I have been retained by Sirius and XM to analyze the above-referenced merger. Attached, for consideration by the Commission, please find the study I have prepared, The Economics of the Satellite Radio Merger. This paper explains that approval of this transaction will create a superior satellite radio company that, through efficiencies gained in operations and finance, will offer an enhanced package of valuable services to consumers. This paper further demonstrates the erroneous nature of arguments advocated by merger opponents, who argue that satellite radio is a separate and distinct market and that combining XM and Sirius will create a merger to monopoly.

I ask that you include this paper in the record of the above-referenced proceeding.

Sincerely,

Thomas Hazlett
Professor of Law & Economics, George Mason University
Principal, Arlington Economics

cc: The Honorable Kevin Martin
The Honorable Michael Copps
The Honorable Jonathan Adelstein
The Honorable Deborah Taylor Tate
The Honorable Robert McDowell
Daniel Gonzalez
Catherine Bohigian

1655 North Fort Myer Drive * Suite 700 * Arlington, Virginia 22209 * (703) 351-5248
www.ArlingtonEconomics.com

Monica Desai
Helen Domenici
Michelle Carey
Erika Olsen
Scott Deutchman
Bruce Gottlieb
Barry Ohlson
Rudy Brioché
Aaron Goldberger
Angela E. Giancarlo
Cristina Chou Pauzé

THE ECONOMICS OF THE SATELLITE RADIO MERGER

Thomas W. Hazlett[1]
Professor of Law & Economics,
George Mason University

June 14, 2007

[1] The author previously served as Chief Economist of the Federal Communications Commission and is a principal in Arlington Economics. This study was commissioned by XM and Sirius. The views expressed are solely those of the author.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The proposed XM-Sirius merger will increase competition among providers of audio entertainment. The February 2007 announcement that XM Satellite Radio and Sirius Satellite Radio plan to merge has generated heated opposition from terrestrial broadcasters. These interests emphatically claim that they oppose the merger because it will lead to a monopoly that will harm consumers. This fierce opposition is powerful evidence in itself that AM/FM radio free radio competes with satellite radio, and reveals the true concern of terrestrial stations: that the merger will create a stronger rival better able to meet the needs of consumers. If terrestrial broadcasters genuinely believed that the merger would increase prices and decrease satellite subscriber growth, they would favor the transaction, which would translate into larger audiences and ad revenues for them. Since even before satellite radio systems were launched, broadcasters have consistently argued that the media constitutes a competitive threat, and have repeatedly attempted to restrain this new service, via regulation, to protect their competitive turf.

Numerous independent investment analysts have concluded that the proposed merger will yield substantial efficiencies. The merger is expected to lift the financial prospects of satellite radio, lower capital financing costs, and foster economies of scale. Consensus estimates identify cost synergies of between $3 billion and $7 billion in net present value equal (at the mid-point) to about half the aggregate enterprise value of XM and Sirius combined. These savings will permit more aggressive investment in satellite systems and products and prompt competitive responses from terrestrial broadcasters and other competitors. Indeed, terrestrial broadcasters have already launched HD digital radio as a response to satellite radio.

Through these efficiencies, XM and Sirius will be able to compete more effectively for market share and will lure more subscribers from free radio. That is precisely what terrestrial radio broadcasters fear. They recognize that satellite radio is a substitute for their product, and that a merger would enhance the attractiveness of satellite radio as a competitive alternative. While the terrestrial radio broadcasters dress their opposition in the rubric of antitrust law, their strategy to prevent this efficient market restructuring by obtaining regulatory intervention is an attempt to use antitrust law to subvert competition.

Consumers will benefit from the proposed merger in two ways. First, by combining two small players in the audio entertainment market, the transaction will bring economic vitality to satellite broadcasters and strengthen the financial position of upstart competitors in radio broadcasting. This, in turn, will sustain a wide range of valuable consumer options and spawn new services and products. When costs of capital for satellite radio (now extraordinarily high) are reduced, market rivalry will intensify, spurring competitors to innovate and make product upgrades that are otherwise uneconomical. Second, consumers benefit from lower-cost products and services, as well as wider program choice. By combining operations, satellite operators seek to create greater scale economies in radio receivers, and to supply a wider array of popular

programming to subscribers. Instead of making choices between channels carried exclusively by one satellite carrier or the other and then shouldering risks associated with changes in program line-ups or their own preferences down the road, customers will be able to confidently access their favorite satellite radio content.

There is intense inter-modal competition among providers of audio entertainment. Consumers have a wide range of choices, including advertising-supported terrestrial broadcasting, subscription satellite radio, MP3 devices, and other emerging digital media. Further, the fact that there are widely disparate pricing models among these platforms demonstrates that the competitive frontier is largely defined in terms of quality and convenience of service, rather than price. In markets presenting these competitive dynamics, it is simply a mistake to employ static models or to focus only on nominal prices to define or evaluate the market. The more important question here is whether a change in performance attributes would cause consumers to substitute one product or service for another. And, taking the dynamic nature of the market into account, it is clear that satellite radio broadcasters are not dominant players but compete with a host of other products and services including terrestrial radio.

It is instructive that the investment community consensus is that the XM-Sirius merger will lead to enormous synergies. Analysts see the merger not as an attempt to procure gains by increasing consumer prices, but rather as an attempt by satellite radio providers to drive costs down and to offer a more competitive product. The perceived strategy is to hold down prices while expanding product quality. Independent projections show an *increase* in post-merger subscriber growth due to more programming choices a pro-consumer outcome. A merger that reduces effective prices to subscribers and delivers billions of dollars worth of cost saving efficiencies is in the public interest under either a consumer welfare or a total welfare standard.

By any measure, satellite radio is dwarfed by terrestrial radio. The most common market share metric is revenue. On that scale, terrestrial broadcasters accounted for over $21 billion in sales in 2006, as compared to just $1.6 billion for satellite less than 7% of overall radio revenues. This helps to explain why investors place an enterprise value of about $82 billion on terrestrial stations, as against about $9 billion for satellite radio.

A flurry of new consumer electronics products and services offer customers increasingly broad audio entertainment choices. When iPods and other digital audio media are considered in addition to terrestrial broadcasting, satellite s revenue share falls to 4%. Internet radio is heard weekly by over 50 million Americans, far more than tune into satellite radio. And over 230 million cell phone subscribers now carry mobile handsets, devices embedding the capacity to download MP3 files, access radio broadcasts via broadband links, or tune to AM or FM stations directly.

Static models of the sort used by merger opponents to evaluate this proposed combination fail to reflect market dynamics, ignoring innovation, performance-based competition, and the key role of investment. In one important analysis funded by the National Association of Broadcasters, an economic model is used to assert that satellite radio constitutes its

own market, separate and distinct from terrestrial radio. In fact, the model and the facts on which the analysis is based actually identify *XM and Sirius* as operating in separate markets, thus obviating competitive concerns over an XM-Sirius merger. Further, it is noteworthy that the duopoly or monopoly satellite radio market alleged to exist exhibits a market value that is less than the present value of funds invested. Without competitive profits, let alone monopoly profits, such market boundaries are illusory.

Social gains result from efficiency-creating financial transactions. The consensus forecast is that pronounced synergies would attend an XM-Sirius merger, placing satellite radio in a stronger and more competitive position. The anticipated gains represent an enormous increase in economic welfare, with gains distributed to both consumers and producers. Consumers are likely to see improved quality and service without a corresponding increase in price because of the merger. Estimates suggest that these benefits will lead to considerable growth in the number of subscribers to satellite radio at existing prices. For these reasons, Wall Street analysts have argued in favor of this transaction since long before the parties negotiated a merger agreement. And they explain why incumbent broadcasters oppose it.

I. INTRODUCTION

One can hear the winds of change.

While the implications are rarely noticed, the audio services that Americans use in their everyday lives are in tumult. In recent years society has adopted a stunning array of new consumer electronics, with a curiously high proportion altering what we hear and how we hear it. Of the top ten consumer innovations over the past quarter-century, *USA Today* lists five audio products, among them cellphones, Blackberries, DVDs and iPods.[2] These devices have, in turn, almost entirely displaced what was so new and innovative to previous generations, including eight-track tapes, audio cassettes, and transistor radios.[3]

Into this sea of change dove satellite radio operators XM and Sirius. Spending years to convince regulators to allocate spectrum enabling an exciting new audio content delivery platform, the idea eventually took hold. In 1997, two licenses were auctioned by the federal government[4]; satellites were launched in 1999 and 2000; consumers began receiving satellite radio service in 2001. The new operators supplied rich, diverse program menus each featuring over 100 channels of news, sports, entertainment, and information.

Consumer response has been enthusiastic. Some 14 million subscribers pay $12.95 a month for satellite radio[5], revealing a rapid adoption rate. But the financial burdens are equally impressive. Together the two firms have expended about $10 billion more than they have garnered in revenues; the market value of the firms reflects expectations that investors will not fully recoup losses. Both XM and Sirius underwent debt restructuring in early 2003. As was reported:

Digital competitors Sirius and XM Satellite Radio launched monthly subscription alternatives to AM and FM radio after spending billions on risky satellite systems to attract subscribers by providing national coverage, higher quality audio and advertising-free programming. But

[2] The list: (1) cellular phones; (2) laptop computers; (3) Blackberries; (4) debit cards; (5) caller I.D.; (6) DVDs; (7) lithium rec (9) pay at the pump; (10) lettuce in a bag. *25 Years of Eureka Moments*, USA Today (May 21, 2007); http://www.switched.com/2007/05/21/top-25-tech-inventions-of-the-last-25-years/4.

[3] USA Today includes the first and last of these in its list of 25 social institutions that have been lost over the past quarter centu Today (June 4, 2007); file:///C:/Documents%20and%20Settings/Compaq_Administrator/My%20Documents/top25disappear.

[4] *International Bureau Grants Satellite Digital Radio Authorization to Satellite CD Radio, Inc.*, Federal Communications Com 1997); http://www.fcc.gov/Bureaus/International/News_Releases/1997/nrin7036.html.

[5] Richard Siklos and Andrew Ross Sorkin, *Merger Would End Satellite Radio s Rivalry,* N.Y. Times (Feb. 20, 2007); http://www.nytimes.com/2007/02/20/business/media/20radio.html?ex=1329714000&en=e5462230fee9f582&ei=5124&partn

both companies debt levels have left serious doubts about their ability to survive until they can sign up enough subscribers to offset their costs.[6]

The firms have survived. They have reduced their debt loads. But they are yet to prosper. Investment analysts have long seen both companies best chance to become financially formidable, more potent inter-modal competitors, as merger. Consensus estimates place the cost-saving synergies as extremely high, from $3 billion to $7 billion in net present value.[7] Merger is not seen to promote price increases, but to increase subscriber growth via higher product quality given broader offerings of the most popular content. Such sweeping efficiencies would clearly fortify their efforts to rival incumbent stations and to claw their way to profitability in the increasingly competitive marketplace for audio consumer electronics.

Since the announcement on February 19, 2007 that XM and Sirius planned to combine operations in a merger of equals, there has been much discussion of the effect this transaction will have on competition. Merger opponents argue that satellite radio is a separate and distinct market, and combining the two operators will create merger to monopoly. This begs the questions: why are terrestrial broadcasters (a) responding to satellite rivalry by investing in HD radio[8] and reducing commercial time[9]; (b) filing regulatory pleadings, arguing repeatedly, over fifteen years, that satellite is a competitive

[6] Ben Charny, *Funds Orbit Sirius Away from Bankruptcy*, CNET News.com (March 5, 2003); http://news.com.com/Funds+orbit+Sirius+away+from+bankruptcy/2100-1035_3-991269.html?tag=news.1.

[7] XM, *SIRIUS and XM to Combine in $13 Billion Merger of Equals*, News Release (Feb. 19, 2007) [XM 2007]; http://xmradio.mediaroom.com/index.php? s=press_releases&item=1423.

[8] Digital radio broadcasting is critically important for terrestrial stations in view of the launch of two satellite distributed digit in 2001. Hence, the dawning of terrestrial digital radio is driven more by marketplace and competitive concerns as opposed to conversion timeline mandated by the FCC. Donald R. Lockett, The Road to Digital Radio in the United States (Washington Association of Broadcasters; 2004), p. xvii. The book was published as an NAB Executive Technology Briefing.

[9] Facing increasing competition from satellite radio and iPods, Clear Channel Communications is trying something radically commercial radio station in Texas: getting rid of the commercials. The station uses sponsors each hour, allowing announcer sponsor s product conversationally. The product-themed chitchat will account for about two minutes peppered throughout the 12 minutes to 16 minutes of commercials that most stations broadcast each hour. Andrew Adam Newman, *In Dallas, Co Without Commercials*, N.Y. Times (April 23, 2007), [Newman 2007]; http://www.nytimes.com/2007/04/23/business/media/23radio.html?ex=1334980800&en=670c621e96d488ef&ei=5088&partn

threat endangering terrestrial radio s profitability[10] and (c) opposing the satellite merger, urging regulators to block it?[11]

The campaign against XM-Sirius presents a fall-back market definition, one that includes radio stations in the relevant market. But the market share measures used are based on the *number of channels* offered listeners.[12] If Clear Channel owns five stations in a market, and other terrestrial broadcasters own 25, the Clear Channel market share = 1.5%, the XM (170 channel) market share = 51%, and Sirius (133 channels) = 40%.

The methodology purports to show that a satellite radio merger would be highly problematic according to the Department of Justice/Federal Trade Commission Merger Guidelines. The logic, however, clashes frontally with market realities. The market share analysis conducted posits that satellite radio is the overwhelmingly dominant radio service. This would surprise investors, who value terrestrial radio broadcasting properties at more than eight times the level of satellite operators. Indeed, they value one broadcaster, *Clear Channel,* at more than twice the value of XM and Sirius combined. Based on revenues, the most common metric for market share analysis, satellite accounts for under 7% of radio broadcasting sales. If iPods and other digital audio media are included, satellite s revenue share falls to 4%.[13]

Consumers easily substitute for satellite radio services via alternative media, most obviously including terrestrial radio. Fewer than 10% of the 240 million U.S. automobiles in use contain satellite radio receivers, while virtually all vehicles include AM/FM radios.[14] Only 3.4% of radio listening is to satellite.[15] More than 30 percent of Americans use MP3 players (including iPods) on a weekly basis, more than six times the

[10] For example, see Federal Communications Commission, In the Matter of Application of Digital Satellite broadcasting Corporation for Authority to Construct, Launch and Operate a Digital Audio Radio Service Satellite System, *Response of the National Association of Broadcasters to Digital Satellite Broadcasting Corporation s Opposition to Petitions to Deny and Response to Comments*, File Nos. 26/27-DSS-LA-93; IO/l I-DSS-P-93 (June 25, 1993), [NAB Response 1993], and Federal Communications Commission, *In the Matter of Request for Comment on Petition Filed by the National Broadcasters Regarding Programming Carried by Satellite Digital Audio Radio Services, Reply Comments of the National Association of Broadcasters*, MB Docket No. 04-160 (June 21, 2004) [NAB Response 2004]; http://www.nab.org/AM/AMTemplate.cfm?template=/CM/ContentDisplay.cfm&ContentID=3785.

[11] See case records at the Federal Communications Commission filings for MB Docket No. 07-57; http://www.fcc.gov/transaction/xm-sirius.html#record.

[12] J. Gregory Sidak, *Expert Declaration of J. Gregory Sidak Concerning the Competitive Consequences of the Proposed Merger of Sirius Satellite Radio, Inc. and XM Satellite Radio, Inc.* (March 16, 2007) [Sidak 2007]; http://ssrn.com/abstract=977318. The paper was commissioned by the Consumer Coalition for Competition in Satellite Radio, an organization supported by the National Association of Broadcasters (Ibid., p. 37).

[13] Kit Spring and John Wren, *Satellite Radio Merger Attempt Likely, Based on History & Risk/Reward*, Stifel Nicolaus (Nov. 27, 2006), [Spring 2006], p. 2.

[14] Tim Farrar, *The Competitive Landscape for Satellite Radio*, Telecom, Media & Finance Associates (April 6, 2007), [Farrar 2007]; http://www.tmfassociates.com/SatRadio.pdf.

[15] Arbitron study cited in Stifel Nicolaus, *Thoughts About the Thinkable XM-Sirius Merger: Expect Resistance, But Increasingly Doable Over Time*, Washington Telecom, Media & Tech Insider

(March 5, 2007), p. 1.

number who listen to satellite radio.[16] [A]lmost 50% of iPod users had purchased accessories which allow for in-car connections, as per a January 2005 study.[17] These facts put the relevant firm positions into focus. The great majority of U.S. consumers substitute from satellite to terrestrial AM/FM radio or other media each and every day.

The proposed merger combines two niche players in the radio market. It attempts to rationalize industry structure, forging a superior competitor which, via efficiencies gained in operations and finance, will offer an enhanced package of valuable services, improving its competitive thrust against dominant terrestrial station incumbents and emerging digital media rivals.

II. RIVALRY AND ANTITRUST

It has been well reported that the XM-Sirius deal is strongly opposed by terrestrial broadcasters, who have invested in an aggressive campaign to convince regulators to block the merger. One such news report explains the situation thusly:

Former Attorney General John Ashcroft... has blasted Sirius Satellite Radio Inc. s proposed acquisition of XM Satellite Radio Holdings Inc., saying the combination would leave only one provider in the market. Ashcroft... was hired by the National Association of Broadcasters to examine the acquisition... The NAB, which represents traditional radio broadcasters, has been a fierce critic of the acquisition, now worth about $4.4 billion, since it was announced last week.[18]

Perhaps the most telling piece of evidence as to the likely economic effect of the satellite merger is found in this reaction by rival radio broadcasters. Their opposition signals precisely what regulators attempting to discern pro-competitive from anti-competitive combinations need to know: will the transaction result in higher outputs and reduced quality-adjusted prices? Dartmouth economist B. Espen Eckbo explains the economic incentives at work:

[I]t is important to keep in mind that, while preventing efficient mergers harms consumers, the rivals of the merging firms benefit as they avoid having to face competition from an increasingly efficient merged firm. The rivals can indeed form a politically strong interest group in situations

[16] See Table 5, below.

[17] Farrar 2007, p. 2.

[18] *Ashcroft Attacks Sirius-XM Deal*, Associated Press (March 2, 2007); http://news.moneycentral.msn.com/ticker/article.aspx?Feed=AP&Date=20070302&ID=6565391&Symbol=AAPL.

where they perceive a significant threat to their existing industry equilibrium.[19]

From the earliest days of the satellite radio industry indeed, years before the first satellite was launched radio stations have seen the medium as a dangerous competitive threat. In filings with the Federal Communications Commission and elsewhere, incumbent broadcasters have consistently argued that the public interest in terrestrial radio is put at risk by satellite operators siphoning off listeners.[20]

With the February 2007 announcement that satellite radio systems XM and Sirius had reached an agreement to join forces,[21] broadcasters again signaled just how serious they consider this economic rivalry to be. They have attacked the combination as merger to monopoly,[22] and emphatically urge regulators to reject the merger as anti-competitive. Radio station owners reveal precisely what one needs to know about the proposed merger between XM and Sirius to evaluate its effect on consumer welfare.

Were the proposed combination truly anti-competitive, the post-merger satellite radio enterprise would predictably raise quality-adjusted prices, reducing subscriptions sold. These are the telltale signs of merger to monopoly. With fewer households purchasing satellite radio service, more would be listening to terrestrial stations. Station owners would thereby enjoy financial gains as their audiences and, hence, ad revenues, grew. Not only would this be profitable for broadcasters, it would according to the broadcasters long-standing rationale for public policy enhance the public interest.

In seeking to block the proposed XM-Sirius combination, however, terrestrial radio interests reveal that they predict just the opposite would occur. They anticipate that a merger would facilitate not price increases, but an intensification of rivalry. Economies of scale enabled via merger could markedly improve the ability of XM and Sirius to lure subscribers from free radio. A strategy to prevent this efficient market restructuring by obtaining regulatory intervention nicely illustrates the anticompetitive use of competition policy.

In studies published by radio broadcasters and industry trade associations, it is argued that the proposed merger would raise satellite radio prices by at least 5% for at least two years.[23] There are many problems with the analysis, as discussed below, but the thrust of the broadcasters policy suggestion is most informative. Were the NAB to *believe* rivals prices would substantially increase, it would unless subverting the interests of its members enthusiastically support the merger.

[19] B. Espen Eckbo, *The Anticompetitive Significance of Merger Revisited*, paper for The Market for Corporate Control Regulation and Corporate Governance Issues, Univ. of Lille 2 (March 22, 2007), p. 14.

[20] NAB Response 1993 , p. 4.

[21] XM 2007.

[22] Sidak 2007, p. 2.

[23] Sidak 2007, pp. 8-14.

The testimony of industry incumbents is particularly powerful, in that radio stations have had well over a decade to research the question of satellite competition. With about $82 billion in station values, terrestrial broadcasters have strong incentives to pursue policies that will protect their assets. Broadcasters took a leading position opposing a spectrum allocation for satellite radio from the early 1990s on the rationale that competition with terrestrial stations would hurt them:

[S]atellite DARS systems will immeasurably injure terrestrial radio stations by siphoning off listeners with their thirty or more channels of new programming.[24]

Since the auctioning of satellite radio licenses in 1997, the National Association of Broadcasters (NAB) has aggressively lobbied for regulations that would limit the ability of XM or Sirius to provide competitive services such as local news, weather, and sports, which reduce terrestrial listening audiences:[25]

In lieu of the promised niche audiences... [XM and Sirius] have instead devoted substantial bandwidth to compete directly with local broadcasters with local content, without being subject to any public interest obligations... A centralized localized service, which is essentially duplicative of existing programming, does little to foster diversity and localism: it can only exist to the detriment of the dissemination of free and over-the-air local services to local communities.[26]

See Appendix 1, *NAB Statements on Terrestrial vs. Satellite Radio Competition*, for a further sampling of positions taken by broadcasters confirming their view that terrestrial and satellite services are highly competitive.

A merger produces multiple economic effects. On one side, merging otherwise independent firms can reduce the number of competitors, lessening market rivalry.[27] On the other, combining assets to foster cooperation in production can yield efficiencies, intensifying inter-brand competition. The merger evaluation task carried out by pro-consumer policy agencies is to discern where the factors in a given merger balance out: on net, and over time, will consumers and the overall economy benefit?

In the satellite radio merger, this balancing test has been conducted by certified, reliably self-interested experts in the matter. Terrestrial broadcasters have concluded that satellite radio is a substitute for their product, and that a merger between satellite

24 *NAB Response* 1993, p. 4.

25 Thomas Hazlett, *Local Motives*, Slate (March 16, 2004); http://www.slate.com/id/2097247/.

26 Federal Communications Commission, *In the Matter of Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band Radio Service Terrestrial Repeaters Network, National Association of Broadcasters Petition for Declaratory Ruling*, IB Docket No. 95-91 GEN Docket No. 90-357 (April 14, 2004), Executive Summary.

27

The same can be said for contracts, joint ventures, or patent licensing agreements, each of which are common, pro-competitive features of a capitalist economy.

operators would enhance the attractiveness of that competitive alternative. Pre-empting this combination would deny rivals critical efficiency gains, effectively raising rivals costs.[28] While clothed in the language of antitrust, the strategy is itself anti-competitive.

III. CONSUMER IMPACT

Prof. J. Gregory Sidak, articulating the case for merger foes, defines the relevant merger market as limited to two satellite radio operators, labeling the proposed combination a merger to monopoly.[29] This analysis claims that the market is not sufficiently competitive to support the merger. On the contrary, Sirius CEO Mel Karmazin argues that there is abundant choice available to listeners, including terrestrial radio, new HD stations, iPods, CDs, Internet radio stations, and services delivered via mobile handsets.[30]

Courts and regulatory authorities grapple with the issue by examining various price and output measures, along with consumer surveys and other evidence. What is a more fundamental point in any competitive analysis, however, is that the burden of proof should not be on the marketplace. That is to say, where increasing consumer welfare is the objective of public policy, the question is not whether the market as defined one way or the other is sufficiently competitive. The determinative policy cut is *whether the proposed merger will likely increase or decrease the value of services available to consumers*.

This goes to the essential goal of competition policy: not to protect competitors, but competition. This is a process that over time provides customers better products, lower prices, and greater innovation. Individual competitors may or may not achieve that; when a merger increases consumer benefits, then it is pro-competitive whatever the current market definition and whatever regulators conclude about the extent of competition. Economist Kenneth Heyer of the U.S. Department of Justice Antitrust Division articulates the point:

Over the past several decades, there has emerged a rough consensus among professional antitrust practitioners, and within the law and economics community generally, that the competition referred to in our antitrust statutes is not to be interpreted simply as pre-merger rivalry

[28] Thomas G. Krattenmaker and Steven C. Salop, *Anti-competitive Exclusion: Raising Rivals Costs to Achieve Power over Price*, 96 Yale Law Journal 2 (Dec., 1986).

[29] Sidak 2007, p. 2.

[30] Mel Karmazin, Chief Executive Officer, Sirius Satellite Radio, *Regarding the Digital Future of the United States: The Future of Radio*, Testimony Before the House Energy and Commerce Committee s Subcommittee on Telecommunications and the Internet (March 7, 2007); http://energycommerce.house.gov/cmte_mtgs/110-ti-hrg.030707.karmazin-testimony.pdf.

among entities. Rather, it is best viewed as a process, the outcome of which is welfare, with welfare not rivalry being the object of interest.[31]

Arguments as to the relevant market and its competitiveness are secondary. The primary consideration is whether a given transaction will benefit consumers and the economy.[32] This focus is fundamental, as debates over many of the derivative questions may not admit to easy resolution. Fortunately, in the satellite radio merger, the primary issue does. Precisely because the combination is so clearly a threat to the dominant provider of radio broadcasting services, it is clearly a competition-enhancing event.

The consumer benefits of the merger can be summarized as flowing from two broad sources. The first stems from economically strengthening upstart competitors in radio broadcasting. Valuable consumer options will be sustained, and new ones emerge, because satellite broadcasting currently valued at less than the capital invested in the two existing platforms becomes more financially viable. Market rivalry intensifies when costs of capital for satellite radio, now extraordinarily high, are reduced, justifying innovation and product upgrades otherwise unaffordable. And the more aggressive is the competition stemming from satellite radio providers, the more likely it is that alternative providers will offer higher value to consumers in response.

The second category of consumer gains is associated with the direct benefits of lower cost products and wider customer choice. With the proposed combination, subscribers will enjoy greater scale economies in radio receivers and standardized technologies, and gain access to a wider array of programming. Instead of making choices between popular channels carried exclusively by one satellite system or the other, and then shouldering risks associated with changes in program menus or their own preferences, customers will be able to confidently access their favorite shows.

A. Financially Strengthening Competitive Entrants into Radio

The argument for merger, in fact, has been made for some time by industry experts who saw the financial weakness of satellite radio operators as a major impediment to robust inter-modal rivalry between satellite and terrestrial radio. As *Yahoo!Finance* reported, most analysts see numerous financial reasons to like a combined XM-Sirius:[33] Deutsche Bank projects that a merged entity could generate $5bn in cost synergies,[34] a forecast consistent with other estimates.

Stifel Nicolaus, calling the merger a no brainer, estimates that a successful merger could create $7 billion of shareholder value, a result produced under the assumption that prices to consumers would not increase while product improvements

31 Kenneth Heyer, *Welfare Standards and Merger Analysis: Why Not the Best?* 2 Competition Policy International 2 (Autumn 2006) [Heyer 2006], p. 29.

32 Heyer 2006 offers a compelling argument that a total welfare standard should rule merger analysis.

33 Sonja Ryst, *Analyst to XM, Sirius: Quit Quibbling*, Yahoo! Financial News (Feb. 20, 2007); http://uk.biz.yahoo.com/20022007/244/analyst-xm-sirius-quit-quibbling.html.

34 James G. Dix, *The Die is Cast Reaffirm Buy Ratings on Merger,* Deutsche Bank (Feb. 20, 2007), p. 1.

would drive enhanced subscriber growth.[35] Consensus forecasts of aggregate cost savings due to merger synergies range from $3 billion to $7 billion in net present value.[36]

Table 1. Cumulative Deficits and Enterprise Values
for XM and Sirius, as of 2007 ($mil.)

	Cumulative Cash Flows			*Value of Deficit, CF s invested at:*		
	Sales	*Capital, Operating & Interest Expense*	*Deficit*	*U.S. Treasury Bills*	*12% hurdle rate:*	*Enterprise Value*
Sirius	1,910.0	7,620.3	-5,710.3	6,488.6	9,132.5	4,800.0
XM	2,994.6	7,660.5	-4,665.9	5,147.4	7,158.9	4,420.0

Note: Cumulative sales and expenses through 2006 calculated from Sirius (1993-2007) and XM (1998-2007) annual reports. Sales and expenses for 2007 projected in Moffett, Rifkin and Parker, *XMSR and SIRI: Heads I Win, Tails You Lose*, Bernstein Research (April 23, 2007). T-bill returns for 2007 assumed to equal median annual return, 1992-2006. Enterprise values from *Yahoo!Finance* (June 8, 2007).

Such efficiency gains are an attractive opportunity under any circumstances; in satellite radio, such changes have the potential to dramatically advance competitive forces. Wall Street sees satellite radio firms as financially constrained, given high capital costs and elusive profitability. Markets currently establish an enterprise value (EV) equal to market value of equity plus market value of debt of about $4.4 billion for XM and about $4.8 billion for Sirius, or approximately $9.2 billion in aggregate. In contrast, the combined investments of the two firms, including capital expenditures and operating losses through 2007, are valued at $11.6 billion, assuming reinvestment at prevailing t-bill rates. When outflows are compounded at a more realistic 12% cost of capital (hurdle rate),[37] the present value of expenditures rises to over $16.3 billion. See Table 1. Substantially more money has been invested in satellite radio service than firm owners and bondholders have to show for it.

This is inconsistent with steady-state equilibrium. The big picture, as revealed by market valuations, is that investment is flowing *out* of satellite radio. The recurring investments required for continued operations will be

difficult to sustain; innovations to improve products and expand services will be difficult to launch. These constraints have direct and important consequences for consumer choice.

Owners and managers of firms, quite productively, look for ways to reorganize operations. This realignment is crucial for consumer welfare, as it seeks to redeploy

[35] Spring 2006, p. 1.

[36] XM 2007.

[37] RBC Capital Markets uses a hurdle rate for XM-Sirius of 10.8%; Bear Stearns a rate of 11.3%; Deutsche Bank 14%.

assets in a way that creates competitive superiority. To the degree the firms are correct about projected efficiencies, investment capital will flow into, rather than out of, satellite radio. This will increase competitive options for current and potential customers.

By invigorating the satellite radio service, the merger offers to sustain and intensify the inter-modal rivalry featured in the competition between terrestrial and satellite radio. According to terrestrial broadcasters themselves, the presence of satellite radio service is a competitive choice for listeners, some of whom will be siphoned to an alternative service.[38] The launch of digital HD radio by terrestrial stations has been explicitly ascribed by the National Association of Broadcasters to satellite radio s market entry.[39] Some radio stations are reducing commercial time in an effort to keep listeners from migrating to satellite.[40] By increasing the probability that satellite radio will be viable for the long run, the value of satellite radio as a competitive option increases.

[38] NAB Response 1993, p. 4.

[39] Lockett 2004.

[40] Newman 2007.

Table 2. Broadcaster Bond Ratings [41]

Sector/Company (No. of bonds)	*Moody s / S&P Ratings*
Terrestrial Broadcasters	
Clear Channel Communications (16)	Baa3 / B+
Emmis Communications Corp. (1)	B3 / B-
Entercom Communications Corp. (1)	B1 / B
Salem Communications Corp. (2)	B2 / B-
Radio One (2)	B1 / B-
Satellite Broadcasters	
Sirius (1)	Caa1 / CCC
XM (2 bonds with separate ratings)	Caa3 / CCC- ; Caa1 / CCC

Source: NASD BondInfo. Citadel, not shown here, has one unrated publicly traded bond. This tabulation includes ratings for all bonds, regardless of maturity.

Part of this increase in competitiveness accrues from lower capital costs for entrants. XM and Sirius have issued debt that is rated well below investment grade. This is not a result of the firms balance sheets exhibiting extraordinarily high leverage.[42] Table 2 shows debt ratings for radio broadcast companies with publicly traded issues (Clear Channel, Emmis, Entercom, Salem, Sirius and XM). The terrestrial broadcasters have ratings of medium grade obligations or speculative. In contrast, the bonds of Sirius and XM are designated as having poor standing.

Low ratings signal high risk, resulting in relatively high capital costs. Table 3 displays the average yields for publicly traded, non-convertible bonds with at least two years to maturity remaining. The yields-to-maturity on bonds of the two satellite companies exceed, by over 300 basis points (3 percentage points), yields for bonds that make up a widely used index for medium-grade corporate debt (Lehman s Triple B/Baa Index). In comparison, the debt of terrestrial broadcasters trades at a much smaller discount to medium grade bonds, indicating that these broadcasters face a more certain future and enjoy a lower cost of capital.

[41] Moody s: Obligations rated Baa are subject to moderate credit risk. They are considered medium-grade and as such may possess certain speculative characteristics... Obligations rated B are considered speculative and are subject to high credit risk... Obligations rated Caa are judged to be of poor standing and are subject to very high credit risk. Moody s Rating Symbols & Definitions (March 2007), p. 8. Standard & Poors: Obligations rated BB , B , CCC , CC , and C are regarded as having significant speculative characteristics. BB indicates the least degree of speculation and C the highest. While such obligations will likely have some quality and protective

characteristics, these may be outweighed by large uncertainties or major exposures to adverse conditions. Standard & Poors Credit Ratings; https://www.bonddesk.com/sp.html (visited June 9, 2007).

[42] At market values, the ratio of debt to equity for XM = 0.41; Sirius ratio = 0.25. Yahoo!Finance (May 30, 2007).

Table 3. Bond Yields for Radio Broadcasters (May 25, 2007)

Bonds	*Yields (% p.a.)*	*Risk Premium over BBB corporate (% p.a.)*
Terrestrial radio mean of 11 bonds from Clear Channel, 5 bonds from Entercom, Radio One, and Salem	7.12	1.05
Satellite radio 3 bonds form Sirius and XM	9.09	3.02
US Corporate Debt Triple B / Baa (Lehman Index)	6.07	0.00

Source: Broadcaster bonds NASD Bondinfo, most recent yield to May 25 in the Daily Summary, http://www.nasdbondinfo.com. US Corporate debt from the Wall Street Journal, Markets Data Center, Tracking Bonds Benchmarks; http://online.wsj.com/mdc/public/page/2_3022-bondbnchmrk.html ?mod=mdc_bnd_pglnk (visited May 25, 2007). *Notes*: All broadcaster bonds are non-convertible and have remaining maturities of two years or more. The single traded Emmis bond is excluded because it is convertible. All bonds are callable except one from Clear Channel and one each from Salem and XM. Call features lower prices and raise yields.

The data indicate that satellite radio operators face very high capital costs, making it difficult to sustain their recurring fixed investments or to undertake investment projects including system upgrades, product innovations, or R&D that would be profitable at conventional hurdle rates. Financial distress, in short, hampers a firm s ability to compete. One influential study found that firms with high leverage see their output decline more in downturns than the average firm in their industry.[43]

Merger synergies, if realized, would predictably improve satellite radio s financial position. This would lower capital costs, making a range of product-enhancing investments more economical. It would also, of course, raise the probability that a strong competitive presence challenging terrestrial broadcasters and other audio media would continue and intensify.

B. Direct Gains for Consumers

Recognizing the dynamic nature of radio fundamentally undercuts the static analysis of market share offered by broadcasters merger to monopoly claim, as shown in detail in Section V. It also shows how important it is for consumers that new economies be realized. Merger is one obvious and large source of such efficiencies, precisely why many independent analysts have embraced the combination. With a stronger financial base, capital costs will decline. Moreover, product choice will increase. And, most essentially, the long-run health of the competitive entrants will improve, thereby raising the probability that terrestrial broadcasters will face this important inter-modal rivalry for years to come. James Surowiecki writes in *The New Yorker*:

[43] Tim C. Opler and Sheridan Titman, *Financial Distress and Corporate Performance*, 49 Journal of Finance 1015 (July 1994).

Consumers, then, have little to fear from a merged satellite company in the radio market, and they may actually have a lot to gain. Dominated by chains like Clear Channel, AM/FM radio has become a catalogue of bland choices, pre-programmed playlists, and syndicated talk. A recent study by the Future of Music Coalition found that four companies received fifty per cent of all radio advertising revenue and had nearly fifty per cent of all listeners. Even among competitors, there is often tremendous overlap in music playlists; in this environment, XM and Sirius, which offer real diversity across three hundred channels, are a gain for consumer choice. And there s no reason to think that this diversity would ebb after a merger; no one wants to pay thirteen dollars a month to hear the same songs he could have got free from his local KISS-FM.[44]

This take views the merger as pro-competitive in extending the strength of a small competitor against the industry s dominant suppliers. Merger may prove particularly important for an entrant into a business that involves high fixed costs relative to marginal costs, a situation applying to XM-Sirius:

Not surprisingly in a new business where most costs are fixed rather than variable, both firms still make losses. But this cost structure, rather than a desire to increase market power, is what makes the deal attractive, says Craig Moffett of Sanford C. Bernstein, a broker. By teaming up, the two firms can cut their fixed costs, the biggest of which is content. A merger would cut the cost of Howard Stern in half, says Mr Moffett, and so move the combined firm closer to profit. It is unlikely , he contends, that the merged firm would raise prices beyond the $12.95 per month that both Sirius and XM now charge subscribers.

But what about choice? Counter-intuitively, a merger would lead to more of it, say XM and Sirius, since it would allow them to drop channels that duplicate each other and to replace them with a wider range of niche channels.[45]

That the merger will increase the ability of the entrant to compete for market share is not controversial. Broadcasters themselves endorse this view by objecting to the merger. That radio stations are reacting, altering their investments and business models, reveals the competitive threat posed by satellite radio and other media: While commercial radio stations once had automobile drivers ears all to themselves, competition today is intense, writes the *New York Times*. The satellite companies

44 James Surowiecki, *Satellite Sisters*, The New Yorker (Mar 19, 2007); http://www.newyorker.com/talk/financial/2007/03/19/070319ta_talk_surowiecki.

45 *They cannot be Sirius: Regulators may oppose the merger of America s two satellite-radio firms,* The Economist (Feb 24, 2007), p. 73.

Sirius and XM offer scores of noncommercial stations, and new cars are increasingly factory-equipped to play iPods.[46]

This intense inter-modal competition is not centered on price. Given the rather disparate pricing models of advertising-supported terrestrial broadcasting, subscription satellite radio, MP3 devices, and other emerging digital media, it is clear that the competitive frontier is largely defined in terms of quality and convenience of service rather than price. Thomas Jorde and David Teece note the confusion that results when static models are employed in such markets, with analysts focusing only on nominal prices. In markets presenting these competitive dynamics the test for substitution between products, informing market definition of the relevant antitrust market, is then not appropriately conducted by merely analyzing prices.

When competition proceeds primarily on the basis of features and performance, the pertinent question to ask is whether a change in the performance attributes of one commodity would induce substitution to or from another. If the answer is affirmative, then the differentiated products, even if based on alternative technologies, should be included in the relevant product market. Furthermore, when assessing such performance-induced substitutability, a one-year or two-year period is simply too short, because enhancement of performance attributes involves a longer time to accomplish than price changes.[47]

This seriously undercuts the applicability of the SSNIP[48] test, used for defining antitrust markets, in the context of the satellite radio merger (see discussion below, in Section V). Rather, it suggests that competition clearly encompasses multiple audio services, given that the suppliers of the disparate services react (by their own admission) to the performance-enhancing features of rivals. This identifies terrestrial and satellite radio as competitors, which by itself places satellite radio in a safely competitive context. This is seen in Table 4, showing the relative size of the service providers as measured by industry revenues.

46 Newman 2007, op cit.

47 Thomas M. Jorde and David J. Teece, *Antitrust Policy and Innovation: Taking Account of Performance Competition and Competitor Cooperation*, 147 Journal of Theoretical and Institutional Economics 118 (1991), p. 124.

48 SSNIP refers to a small but significant non-transitory increase in price, and is used in defining

antitrust markets. The exercise attempts to find the smallest set of products, including the products of the parties to the proposed merger, that a monopolist would need to control to profitably increase prices a small but significant amount above competitive levels. Mary T. Coleman, David W. Meyer, and David T. Scheffman, *Economic Analyses of Mergers at the FTC: The Cruise Ships Mergers Investigation*, 23 Review of Industrial Organization 2 (Sept. 2003) [Coleman et al. 2003], p. 122.

Table 4. U.S. Radio Broadcasting Revenues, 2000-2006 ($MIL)

	2000	2001	2002	2003	2004	2005	2006
Satellite Digital Audio Radio Service							
XM (1)		0.5	20.2	91.8	244.4	558.3	933.4
Sirius (2)			0.8	12.9	66.9	242.2	637.2
Total Satellite		*0.5*	*21.0*	*105*	*311*	*801*	*1,571*
Commercial Terrestrial Radio Broadcasters (3)							
Network	1,029	919	1,000	1,033	1,081	1,053	1,112
National	3,596	2,898	3,275	3,470	3,453	3,384	3,553
Local	15,223	14,552	15,134	15,100	15,479	15,634	15,478
Non-Spot				1,260	1,398	1,384	1,522
Total Commercial Terrestrial	*19,848*	*18,369*	*19,409*	*20,863*	*21,411*	*21,455*	*21,669*
Grand Total	19,848	18,370	19,430	20,968	21,722	22,256	23,240
% Satellite	**N/A**	**0.0**	**0.1**	**0.5**	**1.4**	**3.6**	**6.8**

Sources: (1) XM 10-k filings; (2) Sirius 10-k filings; (3) Radio Advertising Bureau (RAB); http://www.rab.com/public/pr/yearly.cfm. (RAB analysis includes information from Ernst Young, Radio Expenditure Reports, Miller Kaplan & Arase Co., and Hungerford Aldrin Nichols & Carter.)

Even the tiny share of radio broadcasting sales accounted for by satellite radio just 6.8 percent as of 2006 diminishes when additional audio services are accounted for. This reveals the presence of a wide array of popular, effective, and competitively priced substitutes, rendering a satellite merger harmless. As the *Financial Times* notes: [I]n the larger scheme of things, it matters little whether there is one US satellite radio operator or two. Consumers have many alternatives if the merged company throws its weight around: in a world with thousands of free internet radio stations, tens of millions of iPods and countless unknown technologies on the horizon, it is hard to see two companies with a combined 3 per cent market share as a stifling monopoly.[49]

Given the range of consumer choice, a market restructuring to strengthen satellite s position over the long run serves pro-competitive ends. The way satellite services are marketed and sold produces further gains from merger, as well. In the rivalry between XM and Sirius, different content is offered by either system. This provides incentives to operators to pursue popular content, but it also splits consumer purchases. With the merger of the two satellite platforms, subscription to one service could allow a customer access to a broader range of popular programming. These gains

[49] *Leader: Satellite Radio Merger Every Monopoly is not a Bad Monopoly in the iPod Age*, Financial Times

(Mar 9, 2007),
p.14.

have impressed those not normally disposed to endorse mergers, including the editors of *USA Today*:

It makes little sense that sports fans must decide between every single pro football game and no baseball games, or vice versa. Nor does it make much sense that people s listening preferences should enter into their car-buying decisions. That s one reason the proposed XM-Sirius combination, announced this week, may be the rare merger that is good for consumers.[50]

The dynamic changes in the audio markets yield an analysis that is fundamentally distinct from the static analysis offered by merger to monopoly. In the maelstrom of new services available to listeners, satellite radio is hardly dominant, and clearly in need of seizing greater efficiencies in order to offer long-run competitive value. These factors themselves combine to suggest that only by pursuing the merger s market restructuring can satellite radio realize its potential as a part of the emerging audio services market, a point made nicely in the *Los Angeles Times*:

Consider a few statistics. Half of the new cars sold in the U.S. this year will have stereo systems designed to work seamlessly with an iPod. These and similar devices can also play podcasts a recorded program that emulates over-the-air radio from more than 44,000 sources. Of the roughly 12,500 over-the-air stations pumping out conventional radio broadcasts, about 1,200 also broadcast in digital frequently, with more than one channel in different formats. And a growing number of mobile devices are able to tap into the expanding ranks of online music services.

Meanwhile, Sirius and XM are bleeding money at a prodigious rate as they try to amass the subscribers needed to overcome their debt and depreciation costs. Allowing them to merge could save them billions of dollars in marketing and maintenance expenses while preserving satellite radio as one of many alternatives available to consumers.[51]

Finally, it is instructive that the investment community consensus views the XM-Sirius merger as leading to between $3 billion and $7 billion in synergies, and *does not* anticipate gains from price increases post-merger.[52] Instead, analysts see the merger as an attempt by satellite radio suppliers to drive costs down and to offer a more competitive product to customers. The perceived strategy is to hold down prices while expanding product quality. Stifel Nicolaus analysts project the merger will *increase* subscriber growth the combo will be able to offer more programming by combining channels

50 *Our View on Your Radio Options: Sirius and XM Together Makes Sense for Listeners*, USA Today (Feb. 23, 2007); http://blogs.usatoday.com/oped/2007/02/post58.html.

51 *Radio Daze, XM and Sirius, the nation s two satellite radio providers, want to merge. The FCC should let them*. Los Angeles Times (Feb. 20, 2007).

52 XM 2007.

leading to 1MM more subs over time[53] precisely the quality-adjusted price competition that benefits consumers.

If these independent analytical assessments are accurate, and there is no evidence suggesting they are not, than this assessment is dispositive. Transactions likely to expand output are pro-competitive. A merger that reduces effective prices to subscribers and delivers billions of dollars worth of cost saving efficiencies is in the public interest under either a consumer welfare or a total welfare standard.

IV. SATELLITE RADIO COMPETITION

It is no secret that in merger reviews market definition essentially listing the economically relevant rivals to the merger parties is often determinative. It is therefore important to further elaborate on the issue of satellite radio s market competition. This section attempts to do that, covering three specific topics.

First, it establishes the historic rivalry between satellite radio and terrestrial radio as evidenced in the long effort by radio broadcasters to obtain regulatory rules limiting the scope of satellite radio s product menu, broadcast quality, and competitiveness. Second, it analyzes Cable TV v. Broadcast TV competition, an analogy introduced by Sidak, to explain how radio broadcasting competes directly with satellite radio. While Sidak asserted that satellite and radio services do not effectively compete, the example he raised supports just the opposite conclusion. Third, it examines the current market for audio services, exploring the product mix that consumers consider substitutes for satellite radio service. Evidence gleaned across all three discussions reveal that terrestrial radio and satellite radio are strong inter-modal rivals and satisfy similar demands via substitute products.

A. Historic Rivalry Between Satellite and Terrestrial Radio

Satellite radio, also known as satellite DARS (digital audio radio service) or SDARS, was first considered by the FCC in 1990. Four firms filed petitions requesting spectrum allocations, and a proceeding was opened to consider the applications. A contentious rule-making took place that spanned seven years before the FCC successfully allocated 25 MHz of spectrum to two DARS licenses (12.5 MHz each) and awarded them, via auction, for approximately $173 million in April 1997.[54]

The long rule-making was largely consumed by a dispute over what harm satellite radio entry would bring terrestrial radio stations. The National Association of

[53] Spring 2006, p.4.

[54] See Federal Communications Commission, Auction 15 Digital Audio Radio Service (DARS) Factsheet; http://wireless.fcc.gov/auctions/default.htm?job=auction_factsheet&id=15.

Broadcasters (NAB) relentlessly fought the allocations, claiming that the introduction of satellite broadcasting would deal a lethal financial blow to many terrestrial stations. See Appendix 1 for a sample of these comments.

When outright denial faded as a policy outcome, the NAB put forth multiple requests for regulatory burdens to be levied on the rival service. In this proceeding, and long before the SDARS services had even launched, the broadcasters position was that satellite radio would siphon[55] listeners from terrestrial radio and reduce its revenues. That, the NAB argued, would reduce the public interest in a healthy and vibrant local radio service. Whatever the merits of that argument, the competitive position of terrestrial broadcasting was never in doubt: broadcasters explicitly sought to block competition for broadcasters market share on the grounds that such competition was harmful to society. A 1995 FCC Reply Comment filed by the NAB is illustrative:

One way that the Commission can act to minimize the harmful effects of satellite DARS introduction is to structure it as a subscription-only service, as the NAB has proposed. Although satellite DARS will have a competitive impact on terrestrial stations in every radio market no matter what its regulatory classification, the NAB has urged the Commission to soften this blow to the greatest extent possible. Canvassing the Commission s available regulatory options, a subscription requirement will introduce at least some level of differentiation between satellite DARS and terrestrial radio, and will help to minimize the direct impingement by satellite DARS providers into markets for advertising sales.[56]

Lest there be any question about the reality of terrestrial-satellite radio rivalry, the NAB elaborated in a footnote:

Whether it is advertising-supported or not, satellite DARS providers fundamentally will compete with terrestrial broadcasters for listeners. Because audience impacts are the primary driver in the radio business, smaller audiences translate into reduced sales of advertising to both local and national advertisers, notwithstanding DARS suppliers focus of subscriptions or national advertisers for support.[57]

The footnote went on to cite a Kagan study:

[55] Federal Communications Commission, *In the Matter of Amendment of the Commission s Rules with regard to the Establishment and Regulation of New Digital Audio Radio Services, Comments of the National Association of Broadcasters*, Gen. Docket No. 90-357 (Nov. 13, 1990), p. 17.

[56] Federal Communications Commission, *In*

the Matter of Establishment of the Rules and Policies for the Digital Audio Radio Satellite Service in the 2310 to 2360 MHz Frequency Band: *Reply Comments of the National Association of Broadcasters,* IB Docket No. 95-91 (Oct. 13, 1995), pp. 34-5 (footnotes omitted).

[57] Ibid, p. 34.

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Although subscriber supported services would not appear to propose a direct threat to local broadcasters revenue base, the audience fragmentation likely to occur from the deluge of programming options could severely handicap traditional radio broadcasting...[58]

The competition that the NAB feared has materialized, according to numerous NAB Comments filed with the FCC post-DARS entry. In a 2004 petition to the Commission, terrestrial broadcasters sought a declaratory ruling that satellite operators could not offer local content even if distributed nationwide. It stated the case that inter-modal competition was intense:

What was true in 1995 is still true today if SDARS is allowed to penetrate the local market, local broadcasting, and the voice of the community it provides, will suffer. Contrary to XM and Sirius assertions, the Commission did not reject the 1995 economic studies. Rather, the Commission stated that they because they [found] *no evidence that satellite DARS would be able to compete for local advertising*, terrestrial broadcasting would not be substantially harmed. The latest actions by satellite radio providers step beyond the boundaries they promised to stay within, to be a national service, and require the Commission to again look at the hard data the NAB and others provided in 1995. With the addition of local traffic and weather, satellite radio is no longer an exclusively national service; and its impact on terrestrial broadcasting is growing and could quickly evolve into a force in the local advertising market. How much harm, however, is largely dependent on Commission s decision in this proceeding *and* timely FCC action.[59]

The FCC took no action, the NAB petition was withdrawn,[60] and the competition that the NAB feared rages on. Terrestrial broadcasters are not, of course, sitting idly by. Continuing to see satellite radio as a competitive threat, in late 2005 the NAB launched a $40 million advertising campaign with spots that highlight... compelling audio entertainment on local radio and close with the tag Radio: You Shouldn t Have to Pay for It.[61] This followed the launch of HD radio as a performance-based competitive response to satellite radio and other audio products, and preceded the initiation of a $250 million advertising campaign to make consumers aware of this competitive option.[62]

58 Ibid.

59 NAB Response 2004, pp. 15-16 (footnotes omitted, italics in original).

60 *NAB Withdraws Petition to FCC on Satellite Radio*, Radio Currents Online (Nov. 10, 2004); http://radiomagonline.com/currents/radio_currents110804/.

61 National Association of Broadcasters, *Radio Industry Launches New On-Air Ad Campaign*, Press Release (Nov. 30, 2005); http://www.nab.org/AM/Template.cfm?Section=Press_Releases1&CONTENTID=5170&TEMPLATE=/CM/ContentDisplay.cfm.

62 *HD Radio Launching $250 Million Ad Campaign,* Orbitcast (Dec. 4, 2006); http://www.orbitcast.com/archives/hd-radio-launching-250-million-ad-campaign.html.

B. The Cable TV and Broadcast TV Analogy

Prof. Sidak s Declaration offers a telling example, using the regulatory history of cable television to offer insight on the proper way to view competition between radio stations and satellite radio operators.[63] The episode is important, in that it reveals how regulatory authorities have viewed rivalry between free (advertising support) services delivered over the air by broadcasters and an alternative delivery system selling subscription services including much larger channel packages with much more diverse programming. The implications for the XM-Sirius merger are, as Sidak indicates, pronounced. But they are the opposite of what his analysis offers.

Sidak writes that the 1992 Cable Act recognized that the broadcast medium could not effectively compete with the emerging and popular multichannel subscription-based services...[64] He cites the Act s finding that, without the presence of another multichannel video programming distributor, a cable system faces no local competition.[65] This is correct. The 1992 statute allowed local authorities to cap cable rates, under FCC guidelines, except in markets where effective competition was found to exist. This term was defined in the statute to involve head-to-head competition with another multi-channel video provider such as a cable TV operator, a satellite TV operator, or a multi-channel, microwave distribution system (MMDS).

Sidak s analysis is also correct in its interpretation that the statute nominally omitted broadcast television as a relevant competitor. The medium was, by 1992, believed to offer only a weak constraint on cable TV pricing in most markets, but not everywhere. In fact, the 1992 Cable Act explicitly defined effective competition as obtaining in a cable TV market when less than 30% of households subscribed to the service.[66] This implicitly included broadcast TV and other video delivery systems in the market. Moreover, it means that if the 1992 Cable Act rules delineating competition between free and subscription services *were* applied to radio, it would today produce the conclusion that satellite radio does not constitute a separate market but is effectively competitive with alternative media including terrestrial radio. Satellite radio with 14 million subscriptions in a nation of over 110 million households and 240 million automobiles falls well below the 30% effective competition threshold, however calculated.[67] Table 5, showing results of a recent audio listenership study by Bridge Ratings, indicates that only about five percent of U.S. citizens listen to satellite radio on a weekly basis, as compared to over 93 percent who listen to terrestrial stations. Hence,

63 See Sidak 2007, pp. 22-25.

64 Ibid, p. 22.

65 Ibid.

66 See Thomas W. Hazlett and Matthew L. Spitzer, PUBLIC POLICY TOWARDS CABLE TELEVISION: THE ECONOMICS OF RATE CONTROLS (MIT Press,

1997) [Hazlett & Spitzer 1997], p. 62.

67 Given the very low penetration of satellite radio, an exact measure is here unnecessary. Yet, it should be noted that probably fewer than ten percent of households subscribe to satellite radio today, as many of the 14 million SDARS subscriptions are delivered within family plans. It is also the case that multiple subscriptions are generally needed per household to fully substitute for terrestrial broadcasting, counting listening time in cars, home and work.

Sidak s regulatory reference, properly constructed, offers direct evidence *for* the notion that satellite radio operates in a market that is effectively competitive with rival media.

TABLE 5. PERCENTAGE OF AMERICANS USING AUDIO MEDIA (WEEKLY)

	HD Radio	*Satellite Radio*	*Internet Radio*	*MP3 Players*	*AM/FM*
May 2007	0.0015	4.8	21.0	30.4	93.7
June 2006	0.0010	4.6	19.0	30.1	93.5

Source: *Population Break-Down of Audio Listenership*, ORBITCAST (May 29, 2007) (reporting survey by Bridge Ratings); http://www.orbitcast.com/archives/population-breakdown-of-audio-listenership. html.

The history of cable TV offers additional support. In 1992, cable television had become the *dominant delivery platform* for video services, with 55.2 million subscribers out of a universe of 93.2 TV households (for a penetration rate equal to 59.2 percent).[68] Cable was perceived to be changing from an inter-modal rival to TV broadcasting into a market of its own. It was additionally seen that broadcast TV signals, which are carried by cable TV systems and which are typically of higher signal quality over cable, were losing their effectiveness as substitutes.

Hence, the 1992 Act reversed a policy enacted when cable TV penetration was lower. In 1984, with cable TV systems emerging as an important video delivery platform, the first national Cable TV Act was enacted. In that measure, the federal government pre-empted local rate regulation in any market where effective competition existed. The term was then defined by the Federal Communications Commission, in April 1985, to obtain wherever three or more over-the-air TV stations (Grade B contours) were available.[69] In 1991, the FCC revisited the question, increasing its effective competition standard to the presence of six over-the-air TV signals.[70]

In 1992 the Congress redefined effective competition in cable TV markets further. Cable TV had gone from a fledgling competitor to dominance among delivery platforms. The shift altered market definition.

The relevance for the XM-Sirius merger is that satellite radio is today fledgling, not dominant. The services are considered substitutes, and the great majority of

[68] Kagan, Cable TV Financial Databook (June 1991), p. 11; Cable TV Financial Databook 1997, p.7.

[69] We now conclude that the existence of three or more off-the-air broadcast signals in the cable market provides viewers with adequate programming choices and presents an

effective constraint on the market power of a cable system in the provision of basic service. Federal Communications Commission, *In the Matter of Amendment of Parts 1, 63, and 76 of the Commission s Rules to Implement the Provisions of the Cable Communications Policy Act of 1984: Report and Order*, MM Docket No. 84-1296 (rel. Apr. 19, 1985), at 32-33.

[70] Federal Communications Commission, *In the Matter of Reexamination of the Effective Competition Standard for the Regulation of Cable Television Basic Service Rates: Report and Order and Second Further Notice of Proposed Rulemaking*, MM Docket No. 90-4 (rel. July 12, 1991), par. 1.

customers currently choose substitutes over subscription satellite radio. The pre-1992 effective competition standards in cable TV explicitly recognized this type of rivalry. Even when applying the 1992 statutory cable rules Sidak cites, satellite s market penetration is sufficiently low as to be considered effectively competitive with inter-modal rivals. Hence, the cable TV example is apt. Alternative media effectively constrain the behavior of subscription satellite service providers.

C. Competition in Audio Services

Developments in technology have dramatically broadened the choices available... [for] audio programming. By the late 1990s, consumers had the newfound ability to listen to audio streamed over the Internet, and two new radio satellite services were born. Digital radio has continued to evolve with the advent of podcasting... and HD Digital Radio... In the past, radio was limited solely to what was available on the AM/FM dial. Today radio choices for consumers appear to have no bounds.[71]

Terrestrial and satellite broadcasting compete for customers. The terms of this rivalry are not the textbook perfect competition margins where identical firms with identical products compete on price, instantly converging to identical prices via the pressure of perfect substitutability.[72] The dynamics of this real world marketplace force rivals to innovate and to differentiate, precisely as broadcasters are doing in adopting digital technologies to produce HD digital radio.[73]

In a dynamic sense, the audio services market is swimming with competition. The primary issue regarding adoption of alternative services is distribution of customer premises equipment (CPE). The embedded base of investment in receiver/player units is a barrier for new technologies to surmount, as competitive services typically require adoption of new CPE. This is certainly true of satellite radio, HD radio, iPods and other MP3 players.[74] CDs and cassettes, as well as AM/FM radio receivers, are already well

[71] Arbitron, *The Infinite Dial 2007: Radio s Digital Platforms* [Arbitron, 2007]; http://www.arbitron.com/downloads/digital_radio_study_2007.pdf, p.1.

[72] Former Federal Trade Commission Chair James Miller, now a consultant to the NAB, argues against the XM-Sirius merger by quoting the FCC: Other audio delivery media are not, of course, perfect substitutes for satellite (radio). That is not surprising, as differentiated products do not perfectly substitute; firms compete largely by adding features that distinguish their products. Miller s invocation of perfect substitutes as the standard for whether other products are included in the same market, however, actually renders the satellite radio merger harmless. Given that XM and Sirius are not perfect substitutes, they would occupy separate markets under the Miller analysis. The merger would, thus, have no impact on market concentration. James C. Miller III, *Satellite Radio Merger: How Sirius?* WASHINGTON TIMES (May 1, 2007); http://washingtontimes.com/commentary/20070430-093354-5176r.htm.

[73] That HD is terrestrial broadcasters competitive response to satellite radio is evidenced by the testimony of broadcasters themselves (see Lockett 2004, op cit.), and is obvious to outside observers: iBiquity launched its digital radio technology at CES in 2004... The big difference between iBiquity s digital radio and the popular services from XM and Sirius is that iBiquity s digital signals are broadcast from the stations you already know and love, over the traditional AM and FM

bands. And it s free, just like today s ordinary radio. *Ordinary Radio Strikes Back*, CNET NEWS.COM (Jan. 6, 2005).

[74] Currently, 30% of Americans age 12 and over own a portable MP3 player. Arbitron 2007, op cit., p. 3.

distributed among potential listeners, mitigating switching costs. Cellular phones are also widely distributed, given over 230 million U.S. mobile phone subscribers,[75] with more and more handsets featuring MP3 capability[76] or AM/FM radio tuners.[77]

In the maelstrom to establish a base of customers equipped to receive the content they distribute, all these media compete on multiple price and performance margins. Crucial aspects of rivalry are not captured in standard static models focused solely on price competition. But they form virtually the entire whole of what is interesting and competitive about the market for audio services.

A recent essay in PC MAGAZINE[78] states the case in an informative way. The writer sees satellite radio as existing in a space where wireless internet delivery (IP) is emerging as the dominant distribution platform. This is seen in the emergence of cellular and local area wireless networks for accessing audio content. The use of such services is today modest, compared with traditional radio broadcasting, in the same way that satellite radio penetration is today modest relative to terrestrial broadcasting. But the confines of that market with its substitutability across audio products are already visible. The author of the article listens to AM/FM, satellite radio, and his iPOD, all of which are available to me in my car. But on long trips, he uses his EV-DO-connected laptop to play Internet radio stations, using a Rhapsody web application, through his car speaker system. Noting a wireless WAN connection... [yields] media choices... beyond what I could have ever imagined three short years ago, the writer sees a rich and diverse content universe being supplied by a variety of IP networks and devices. The implications for XM-Sirius are drawn:

If the NAB thinks it has competition now from this proposed satellite merger, imagine what type of competition it will face when wireless IP content becomes mainstream and gives consumers more choices then they could ever dream of. The NAB will look back at this period in history and reminisce about a time when it only had to deal with satellite competition. Ah, the good old days.

So, while the FCC, Justice Department, and Congress review the proposed XM and Sirius merger and consider the issue of consumer choices, I

75 The Cellular Internet and Telecommunications Industry Association (CTIA) reported 238,006,530 subscribers as of June 8, 2007; http://www.ctia.org/.

76 Music services via handsets are provided by cellular carriers Cingular, Verizon Wireless, and Sprint Nextel. Stifel Nicolaus, *Cingular Online Music Moves Impact Satellite Radio Antitrust Analysis*, WASHINGTON TELECOM, MEDIA & TECH INSIDER (Nov. 3. 2006), p. 6.

77 Bridge Ratings latest study of cell phone use shows that 25% would really like to use their cell phones to time-shift on-demand radio content, while 30% see listening to some form of radio content on their phones as a service of interest. Only 8% were interested in audio streaming through their cell phone, but 37% use it for music downloading and 15% as an AM/FM receiver. *Bridge Study Says Cell Phones Threaten Radio Listening*, RADIO ONLINE (May 9, 2007); http://news.radio-online.com/cgi-bin/$rol.exe/headline_id=b9879.

78 Tim Bajarin, *Would a Sirius/XM Merger Violate Consumer Rights?,* PC MAGAZINE (March 16, 2007); http://www.pcmag.com/article2/0,1895,2104518,00.asp.

respectfully submit that they put their concerns through my video/media jukebox in the sky litmus test. If they do, and fully understand the ramifications of wireless changing everything, it would be hard to rule against this merger at least when it comes to the argument that it limits consumer choices.[79]

This broad view of the market is compelling. Analysts evaluating market trends and the competitiveness of rival firms see burgeoning competition in audio services. One such review, by Standard & Poor s, notes vibrant rivalry across platforms:

Music phones and wireless music services have become immensely popular. US wireless subscribers with music player enabled cell phones grew from 4.6 million in the third quarter of 2005 to 23.5 million in the same quarter in 2006... More than two million subscribers downloaded music over the air to their phones in the third quarter of 2006... (p. 19).

The percentage of wireless subscribers who purchase music over cellular networks will grow from 4% in 2006 to 21% by 2010, based on studies by IDC (p. 20).[80]

To apply standard equilibrium models of market structure to an industry that features such volatility is to invite overly conservative assessments of the margins on which rivalry exists. As shown in the following section, that is precisely the error rendered in characterizing the satellite combination as merger to monopoly.

V. SIDAK S MERGER ANALYSIS

In the most ambitious analysis of the XM-Sirius merger offered by opponents, Georgetown University Law Professor J. Gregory Sidak defines a critical elasticity measure, evaluates market shares, and examines net consumer benefits. He concludes that satellite radio constitutes the most reasonable market definition, and that the XM-Sirius combination would constitute merger to monopoly. Even a broader market definition including terrestrial broadcasters would rule the merger anti-competitive, asserts Prof. Sidak, who uses the metric of radio channel capacity to measure market share. Finally, Sidak sees only small (gross) consumer benefits accruing from merger in that the forecast synergies accrue, by his calculations, almost entirely to fixed costs reductions rather than to marginal cost savings.

79 Ibid.

80 Standard & Poor s, *Industry Surveys: Telecommunications Wireless* (March 22, 2007).

These conclusions are unwarranted. Sidak s own analysis, ironically, produces a strong defense of the merger. This is so for the following reasons.

1) Sidak calculates a critical own-price elasticity of demand for the post-merger firm,[81] and then argues that satellite radio features an own-price demand elasticity below the critical level (in absolute value), such that a 5% price increase for the merged entity would be profitable. But the market Sidak claims to define has *negative* capital value, suggesting that no sustainable, long-term satellite radio service let alone stand-alone market yet exists. Moreover, duopoly or monopoly markets should exhibit above-competitive profits. Hence, the lack of expected profitability is a fatal flaw in the market definition analysis.

2) Sidak claims that the most reasonable market definition includes simply XM and Sirius, but then considers other competitive media, including HD radio and, then, terrestrial radio. Market shares are measured not using revenues or units sold, but radio channel capacity. This methodology would show, e.g., that no antitrust issue would arise were Clear Channel to purchase 80% of U.S. radio stations by revenue, so long as they only owned just 20% of terrestrial stations. It would also, conversely, eliminate any antitrust issue with the XM-Sirius merger by simply including Internet radio, with its vast channel capacity. Using revenue shares, as in standard analyses, terrestrial radio stations and networks dwarf satellite radio, with 2006 sales of over $21 billion vs. just $1.6 billion. These more appropriate market shares reveal that there is only trivial change in industrial concentration via the XM-Sirius merger.

3) In evaluating evidence as to the own-price elasticity for satellite radio demand, Sidak s key empirical evidence suggesting low elasticity is that when, in April 2005, XM hiked monthly service prices by 30% it encountered (according to Sidak) virtually no reduction in subscriber growth.[82] This is said to establish price elasticity of demand below the critical level, revealing satellite radio to be a distinct market.[83] The conclusion is incorrect. Sidak s analysis actually *defines XM s service as a distinct market*. If true, this renders an XM-Sirius merger

[81] Miscalculates, actually. Given his model and factual assumptions, the correct calculation of critical own-price elasticity is -1.43, less (in absolute value) than Sidak s derivation of -1.52. Sidak s equation [2] defines price elasticity of demand as: = $[Q_1/Q_0] \div [P_1/P_0]$ given the constant elasticity

assumption. However, this is an incorrect approximation. The critical own-price elasticity of demand can still be calculated without indeed resorting to the constant elasticity assumption, with Sidak s assumed price and margin, using the original elasticity formula: =[(Q - Q_0)/Q_0]÷[(P_1 - P_0)/P_0]=[Q_1 /Q_0 - 1]÷[P_1/P_0 - 1]. Sidak, further makes an incorrect simplication going from Equation [3] to Equation [4]: the logarithm of the product 1.05 should be ln(1.05) + ln( ) , not ln(1.05)

82 Sidak 2007, pp. 11-12.

83 The empirical assertion by Sidak is here taken at face value. In an actual assessment of elasticity, of course, one would compare the rate of

subscriber growth change before and after the price increase, and take into account other factors including the existence of contracts.

competitively harmless. While that policy conclusion is correct, it is not because XM and Sirius occupy different markets. This outcome vividly illustrates the overly-narrow market definitions Sidak s analytical framework produces.

4) Sidak cites the 1992 Cable Act where cable TV competition was defined in terms of available multi-channel video (cable, satellite) choices, using the analogy to establish that over-the-air broadcasting is not considered a competitive constraint for subscription services.[84] The analogy is apt but demonstrates just the reverse. The 1992 Act specifically defined cable markets as effectively competitive when they served fewer than 30% of homes passed, a threshold condition easily met by satellite radio services today. Moreover, prior to 1992, when cable had yet to become the dominant distribution platform for video, FCC regulators explicitly defined effective competition as the presence of three (and, later, six) over-the-air TV stations. This non-dominant position is where subscription radio is today, and it likewise competes with broadcasters for market share.

5) Sidak finds consumer gains from the merger not to be substantial, only a 1.1% reduction in marginal costs. This is a faulty approach both theoretically and empirically. Factually, the consensus of independent market analysts predicts that a merger would produce cost synergies of between $3 billion and $7 billion.[85] Sidak assumes that these enormous efficiencies will not flow to consumers, by restricting his analysis to exclude key competitive considerations such as product quality improvements, technology upgrades, and economies of scale the very reasons compelling investors to support the merger. In fact, independent analysts predict that the merger will lower quality-adjusted prices for consumers, leading to increases in subscriber growth due to efficiencies entirely ignored in the Sidak analysis.

A. The Critical Own-Price Elasticity Model

Prof. Sidak pursues a critical own-price elasticity analysis to address the issue of whether the merging parties collectively form a distinct product market. This method estimates a critical elasticity of demand measure using the Lerner Index, a microeconomic formula derived using price-marginal cost margins. The critical value indicates the level of substitutability for services; if actual elasticity for the product of the post-merger satellite radio firm is predicted to be less than this level, in absolute value, the merged firm is expected to have the incentive and ability to raise prices five percent for a sustainable period. Claiming that the critical elasticity = -1.52,[86] Sidak proceeds to argue that the actual demand for satellite radio is less elastic, leading him to conclude that (a) satellite radio constitutes a distinct product market, and (b) merger will lead to higher consumer prices.[87]

[84] Sidak 2007, pp. 22-23.

[85] XM 2007.

[86] Sidak 2007, p. 10.

[87] Ibid, pp. 11-14.

There are several deficiencies in this approach and the conclusions obtained, numerical errors aside. For one, there is no measurement of the actual, purportedly low , elasticity, and therefore nothing to specifically compare to the critical elasticity. For another, the evidence cited to estimate the actual elasticity, such as the churn rates, is derived from current pre-merger demand for XM and Sirius products.[88] No allowances are made for the high-growth, disequilibrium circumstances of the satellite radio market, which are known to alter pricing strategies and, hence, Lerner Index results.[89] Moreover, the complexities of that marketplace, including two-year customer contracts, exclusive contracts with automobile manufacturers, switching costs for existing (and renewing) satellite radio customers, and switching costs for existing terrestrial radio customers, are all ignored. This renders the analysis of firm pricing behavior incomplete, in that each factor has a substantial impact on how consumers react to price increases.

B. An Asserted Duopoly Market with Negative Profits

If satellite radio constitutes a distinct market, it is today structured as duopoly. Indeed, Sidak suggests just this. He approvingly quotes Gerald Faulhaber s description of the satellite merger: It s a duopoly looking to merge into a monopoly.[90] Later, he refers to current rates charged by XM and Sirius as the duopoly price.[91]

Sidak s market definition omits a crucial element: the cross-check provided by capital markets. If a distinct market exists, it would feature non-negative profitability. Indeed, were such a market organized as a duopoly headed, via merger, towards monopoly, expected profits would be well above competitive levels. Indeed, the SSNIP test Sidak outlines and attempts to conduct is designed to define the smallest set of products, including the products of the parties to the proposed merger, that a monopolist would need to control to profitably increase prices a small but significant amount above competitive levels.[92] Where prices fail to generate *competitive* returns, no market has been defined.

As seen above, however, XM and Sirius are valued at just about $4.4 billion and $4.8 billion, respectively. These enterprise values include the market value of both equity and debt, and represent the present value of all future earnings anticipated for the firms. Each firm has invested significantly more than its EV, when capital expenditures and operating losses are calculated in present value terms. All told, XM and Sirius have collectively spent upwards of $11.5 billion. When cash flows are re-invested at the

88 Ibid, pp. 12-13.

89 In this exercise, Sidak assumes that pre- and post-merger marginal costs are the same, a dubious approach in a nascent industry where larger scale (say, through merger) may well reduce marginal costs. It is also true that market dynamics, including strategic efforts to establish the

popularity of a new service, often render pricing predictions produced by the Lerner formula incorrect. See, e.g., Robert Pindyck, *The Measurement of Monopoly Power in Dynamic Markets*, 28 Journal of Law & Economics 1 (Apr., 1985).

90 Sidak 2007, p. 5.

91 Ibid., p. 55.

92 Coleman et al. 2003, p. 122.

firms cost of capital (assumed =12%), the present value of expenditures for the two firms exceeds $16 billion. See Table 1 in Section III.

These capital market valuations demonstrate that investors do no expect either the current structure of satellite radio services, or the merger to monopoly, to produce monopoly profits. Given the level of investment required to supply these services, other products are sufficiently substitutable that not even *competitive* profits are anticipated. This renders the market defined by Sidak illusory, and explains why the owners of assets providing satellite radio services would logically seek new organizational forms in an attempt to gain profitability.

C. Defining Markets Narrowly: XM Doesn t Compete with Sirius

Prof. Sidak asserts that the most reasonable market definition would include only XM and Sirius radio, such that the proposed transaction constitutes merger to monopoly. His model to justify this conclusion is the critical own-price elasticity test, explained above. There is a fatal flaw in the logic, however.

To establish that the actual price elasticity of demand for satellite radio services is below that of the critical elasticity, Sidak cites the price increase instituted by XM in 2005:

On April 2, 2005, XM increased its monthly price from $9.99 to $12.95 to bring its price in line with the price of Sirius an increase of nearly 30 percent. In the two quarters following the price increase, XM realized subscriber growth of 13 percent (third quarter 2005) and 20 percent (fourth quarter 2005). The fact that subscriber growth continued at such a rapid pace in the presence of [a] 30 percent price increase underscores the low elasticity of demand faced by SDARS providers.[93]

Calling this direct evidence on the own-price elasticity of demand faced by SDARS providers,[94] it is the only direct evidence offered. In the model used by Sidak it proves far too much, however. Because XM raised prices and purportedly found only limited consumer substitution away from its product, Sidak s analysis on its own terms demonstrates that *the market is defined as XM alone*. Therefore, combining XM with Sirius does not increase industry concentration and cannot be anti-competitive.

This stunning result falls out of the application of Sidak s framework to a market not in long-run equilibrium, complex in terms of contractual mechanisms, and facing numerous inter-modal rivals that compete primarily on quality.[95] None of these

[93] Sidak 2007, pp. 11-12 (footnotes omitted).

[94] Ibid, p. 12.

[95] It may also stem from a downward bias in Sidak s calculation of elasticity. In failing to examine changes in the growth trend, or to account for other influences on subscribership (apart from the

increase in the monthly service fee), consumer price responses may have been overlooked.

complicating factors is taken into account in the analysis, which places XM and Sirius in separate markets. The Sidak framework then, reveals little about real-world competition for audio services, but produces compelling evidence that its own market definitions are too narrowly crafted.

D. Market Shares by the Channel Capacity Metric

Relaxing the monopoly satellite radio market definition, Sidak then considers including just HD radio as a competitor to satellite radio. This exercise in line drawing raises several points. First, having been openly declared a competitive response to SDARS by broadcasters,[96] that this medium would be excluded under *any* market definition is curious. Second, HD radio is a fledgling audio service that, following a launch in 2004,[97] is being introduced station by station. Given the comparatively wide use of still other audio products, including MP3 players, cellular audio services, and Internet radio, it is *ad hoc* to include just this one inter-modal rival.

Indeed, broadcasters themselves stress repeatedly that a variety of digital audio media now exist as direct rivals to terrestrial and HD radio. See, for instance, a sample of broadcasters statements filed with the Securities and Exchange Commission, in Table 6. Citadel Broadcasting Corporation explicitly cites the XM-Sirius merger as a competitive threat: The growth of Internet radio and the proposed merger of the two satellite radio companies, if approved, could result in increased competition .[98]

In comparing HD radio stations market share with satellite radio, Sidak elects to use *number of channels* to measure relative economic size. According to this methodology, if there were 20 HD radio stations in a given geographic market, while Sirius delivers 133 channels and XM 170,[99] then the satellite merger would constitute a 94% market share, HD in aggregate just six percent. Sidak defends the use of channel capacity, citing the Department of Justice s Merger Guidelines that recommend using such an approach whenever capacity represents the best indicator of the firms future competitive significance.[100] Yet Sidak presents no such evidence, and such an approach here is critically flawed.

First, it omits the vast content *capacity* of MP3 players, Internet radio, or other audio products. Were capacity the proper measure of future competitive significance and not revenues or other economic measures, the vast channel capacity offered by these media options would be of key significance. Indeed, it is asymmetric to evaluate competition on the basis of capacity and to then exclude capacious market segments. Second, the approach produces implausible policy conclusions. This can be seen by means of a simple example. Suppose that the top seven radio stations in a market

96 Lockett 2004.

97 *Digital Radio Makes Debut With CD-Quality Sound,* CNN Technology (Jan. 7, 2004); http://www.cnn.com/2004/TECH/ptech/01/07/digital.radio.ap/.

98 See Table 6.

99 These are the satellite radio channel sizes given in Sidak 2007, p. 38.

100 Sidak 2007, p. 37.

featuring 35 individually-owned stations accounted for 80% of the market s ad sales and listener ratings. The acquisition of these assets by one buyer would undoubtedly provoke an antitrust response by authorities. Yet, it would muster no interest under Sidak s approach to market share, even assuming Sidak s baseline assessment that terrestrial broadcasting is a separate market from satellite radio. In this hypothetical merger, the Herfindahl-Hirschman Index (HHI) would increase from 286 to 629, levels classified as unconcentrated, beginning to end, by the DOJ/FTC *Merger Guidelines*.

In comparing channel shares between HD radio and satellite radio, Sidak purports to demonstrate that satellite radio has overwhelming dominance and that a merger would be highly anti-competitive. In his third and final pass at a market definition, however, Sidak offers to include terrestrial and satellite radio together in one market. Not only is this competitive rivalry apparent to the broadcasters, who are lobbying diligently to thwart the combination, but also to independent observers. As investment analysts at Stifel Nicolaus comment:

Consider a world without terrestrial radio; what would that do to satellite radio s pricing power? We suspect it would increase it substantially. If so, then satellite and terrestrial radio are probably in the same market.[101]

No matter. Using Sidak s market share metrics, terrestrial competitors change little. With 303 channels, the satellite providers again prove dominant, given that even a relatively large market features no more than about 30 analog radio stations. As Sidak notes: Because the existing capacity of analog signals is small relative to the merged firms capacity, and because the ownership of such signals is mildly concentrated, the results are not significantly different from those reported when defining the market to include just HD and SDARS.[102]

Suffice it to say that this interpretation of the HHI merger analysis is unrealistic. In place of competitively misleading channel numbers, an appraisal of rival economic size is called for. The standard metric used in merger analysis is revenues. As seen above in Table 4, terrestrial radio revenues in 2006, at over $21 billion annually, dwarf satellite radio sales of $1.6 billion. Together, XM and Sirius account for less than 7% of radio revenues. This reverses the market share comparison offered by Sidak: instead of terrestrial radio being one-tenth the size of satellite radio in a typical (large) market with about 30 radio stations, it is over ten times larger than satellite radio.

[101] Stifel Nicolaus, *XM-Sirius: Closer to a Toss-Up Than on Life Support; Focus on FCC, Hearings, DBS Appears Off Mark to Us,* Washington Telecom, Media, Tech Insider (May 2, 2007), p. 3.

[102] Sidak 2007, p. 40.

Table 6. Radio Station Owners SEC 10K Statements About Competition For Audio Services

Clear Channel Communications	***New Technologies May Affect Our Broadcasting Operations*** Our broadcasting businesses face increasing competition from new broadcast technologies, such as broadband wireless and satellite television and radio, and new consumer products, such as portable digital audio players and personal digital video recorders. These new technologies and alternative media platforms compete with our radio and television stations for audience share and advertising revenue, and in the case of some products, allow listeners and viewers to avoid traditional commercial advertisements. ... Other matters that could affect our broadcast properties include technological innovations and developments generally affecting competition in the mass communications industry, such as direct broadcast satellite service, the continued establishment of wireless cable systems and low power television stations, streaming of audio and video programming via the Internet, digital television and radio technologies, the establishment of a low power FM radio service, and possible telephone company participation in the provision of video programming service. (2006 Annual Report, p.25)
Beasley Broadcasting	The radio broadcasting industry also competes with other media technologies such as satellite-delivered digital audio radio services, audio programming offered by cable systems, direct broadcast satellite systems, internet content providers, personal communications services and other wireless digital audio delivery services as well as low-power FM radio, which has resulted in new noncommercial FM stations serving small, localized areas. (2006 Annual Report, p. 6)
Cumulus Media	In addition, the radio broadcasting industry is subject to competition from services that use new media technologies that are being developed or have already been introduced, such as the Internet and satellite-based digital radio services. Such services reach nationwide and regional audiences with multi-channel, multi-format, digital radio services that have a sound quality equivalent to that of compact discs. Competition among terrestrial-based radio stations has also been heightened by the introduction of terrestrial digital audio broadcasting (which is digital audio broadcasting delivered through earth-based equipment rather than satellites). (2006 Annual Report, p.7)
Citadel Broadcasting Corporation	**Competition:** We operate in a highly competitive industry. Our radio stations compete for audiences and advertising revenue directly with other radio stations as well as with other media, such as broadcast television, newspapers, magazines, cable television, satellite television, satellite radio, the Internet (and Internet radio), outdoor advertising and direct mail within their respective markets. Our radio stations also face increasing competition from new consumer products such as portable digital audio players, which create new ways for individuals to listen to music and other content of their own choosing without traditional commercial advertisements. **The growth of Internet radio and the proposed merger of the two satellite radio companies, if approved, could result in increased competition**. [Latter emphasis added.] (2006 Annual Report, p. 26)
Emmis Communications	***We must respond to the rapid changes in technology, services and standards that characterize our industry in order to remain competitive.*** The radio broadcasting industries are subject to rapid technological change, evolving industry standards and the emergence of competition from new media technologies and services. We cannot assure

you that we will have the resources to acquire new technologies or to introduce new services that could compete with these new technologies. Various new media technologies and services are being developed or introduced, including: satellite-delivered digital audio radio service, which has resulted in the introduction of new subscriber-based satellite radio services with numerous niche formats; audio programming by cable systems, direct-broadcast satellite systems, personal communications systems, Internet content providers and other digital audio broadcast formats; MP3 players and other personal audio systems that create new ways for individuals to listen to music and other content of their own choosing; in-band on-channel digital radio (i.e., HD digital radio), which provides multi-channel, multi-format digital radio services in the same bandwidth currently occupied by traditional AM and FM radio services; low-power FM radio, which could result in additional FM radio broadcast outlets... (2006 Annual Report, pp. 18-19)

Other economic measures of relative size all point in the same direction. XM and Sirius jointly had an enterprise value of $9.2 billion on June 8, 2007, for instance. At the same time, Clear Channel Communications radio broadcasting assets alone had an enterprise value of $13.7 billion.[103] EVs for all terrestrial radio companies, based on a multiplier applied to revenues, amount to about $82 billion. XM and Sirius, jointly account for just 10% of that total. Employment levels present even a more lopsided picture. XM and Sirius have 860 and 772 employees, respectively. Total employment by terrestrial and satellite radio broadcasting in 2006, in contrast, was 113,482. Thus, the two satellite operators accounted for only 1.4% of market employment. See Table 7. By any reasonable measure, including terrestrial broadcasting in the relevant market when evaluating the XM-Sirius merger reveals the combination to encompass but a small portion of radio broadcasting.

Table 7 Comparative Enterprise Value, Revenue and Employment at Radio Stations And Xm-sirius[104]

	Enterprise Value June 8, 2007 (millions)	*2006 Revenue (millions)*	*2006 Employees*
Pure-play publicly traded terrestrial broadcasters	$ 9,303	$ 2,453	
Clear Channel	$26,340	$ 7,070	30,900
All terrestrial broadcasters	$82,170	$21,669	111,850
XM & Sirius	$ 9,220	$ 1,571	1,632
Total Industry	$91,390	$23,240	113,482
XM & Sirius as percent of total terrestrial & satellite			
All broadcasters	**10.0%**	**6.8%**	**1.4%**

Notes: Pure-play publicly traded terrestrial broadcasters include: Beasley, Citadel, Cox Radio, Cumulus, Entercom, Radio One, Regent, and Salem. This group s EV/Revenue equals 3.79. Clear Channel data apply to all of Clear Channel, which derived 52% of its 2006 revenues from radio broadcasting. Clear Channel s EV/Revenue equals 3.73. The enterprise value of all terrestrial broadcasters ($82.17 billion) is estimated by applying the pure-play multiple of 3.79 to 2006 terrestrial broadcasting revenues ($21.7 billion). Source: *Yahoo!Finance.*

[103] This measure counts 52% of Clear Channel s total EV, which is the percentage of its revenues derived from over the air radio broadcasting.

[104] Data for publicly traded stations for May 20, 2007 come from Yahoo!Finance http://biz.yahoo.com/p/724conameu.html. Total terrestrial radio revenue from Radio Advertising Bureau http://www.rab.com/public/pr/yearly.cfm. Total radio broadcasting employees (except Internet) are from *May 2006 National Industry-Specific Occupational Employment and Wage Estimates,* Bureau of Labor Statistics, NAICS 515110 Radio Broadcasting; http://www.bls.gov/oes/current/naics5_515110.htm. Clear Channel, XM and Sirius employees from Google Finance.

E. A Static Model

1. Quality Enhancement

The static analysis used by Prof. Sidak omits consideration of whether the XM-Sirius merger could lead to product improvements that increase value for consumers. Focusing solely on what he identifies as marginal cost decreases and a hypothetical decrease in post-merger demand elasticity, the analysis is on its own terms incomplete. That is because it leaves unanswered whether asserted post-merger price increases would be compensated by quality enhancements leaving consumers better off.

This is a severe omission. In theory, there is no reason to suspect that the sole source of consumer gain springs from marginal cost reductions that reduce nominal prices. Competition among audio service media, in fact, heavily relies on performance improvements among differentiated products as opposed to price rivalry among homogeneous goods. This, many economists note, fundamentally alters the competitive analysis.[105] Even without complex theorizing, it is apparent that the merger will permit an expansion of attractive programming choices for satellite radio customers. Howard Kurtz, writing in the *Washington Post*, summarized this position by citing an opinion offered in the blogosphere:

One of the frustrations of being a Sirius subscriber was that I always wondered if I picked the right company. Since much of their premiere content is mutually exclusive. I knew subscribing to Sirius meant I would not get any of the good content from XM. So while it sounds like it will take about a year for their programming to merge, it is nice to know I that eventually I will have the best of both worlds.[106]

To combine the most popular listening options in the short-run, and to expand program line-ups with the dual capacity of multiple systems (and bandwidth) as new receivers are developed over time, leads to three sources of quality enhancement. First, it provides customers with a higher-quality package on existing receivers, as the most popular programs can be transmitted to all satellite radio subscribers. Second, it creates a path for line-up expansion over time. As new receivers are available, additional programming content can be developed to fill extra channels, leading to more diverse choices for customers. The technology and equipment standards to enable this choice-expanding process will itself be facilitated by common ownership of satellite radio assets post-merger. Third, merger reduces the risk that consumers associate with a satellite radio receiver purchase. Solving the quandary confronting potential subscribers (cited above) with more certain access to a diverse array of programs encourages technology adoption.

[105] See, e.g., David J. Teece and Mary Coleman, *The Meaning of Monopoly: Antitrust Analysis in High-Technology Industries*, The Antitrust Bulletin 801 (Fall-Winter 1998), [Teece & Coleman 1998] pp. 827-28.

[106] Howard Kurtz, *Satellite Synergy*, Washington Post (Feb. 21, 2007) (quoting King s Chronicles); http://www.washingtonpost.com/wp-dyn/content/blog/2007/02/21/BL2007022100354_pf.html.

These gains are excluded from Sidak s static model. Consider the situation wherein quality changes are the *only* consumer benefits i.e., where the advantages of the merger are *wholly contained in improved products* for customers. There is no economic case to be made that such mergers lack the ability to bring social gains. But the Sidak model would reject the merger by simply excluding the benefit side of the ledger.

In reality, many experts see the merger as mainly about performance enhancements. Craig Moffett of Bernstein Research, considering the opposition of terrestrial broadcasters to the proposed combination, concludes that the position is largely driven by concern over program content upgrades:

The NAB s concern appears to be that a merged satellite radio company would have less duplicative programming, and therefore could use its freed-up capacity to offer more *unique* channels than the two companies have today. Specifically, they would likely use at least some of the freed-up capacity for launching local-like services such as local news (these kinds of services are permissible for satellite radio under FCC rules as long as they are made available *nationally* rather than locally). Ironically, the companies will undoubtedly argue to the FCC that greater diversity of programming enabled by the same elimination of duplicative stations and music genres is the single strongest public interest argument in *favor* of the merger.[107]

Omitting quality from the merger analysis results in forecasts of competitive damage where, in fact, large consumer gains are available. A mechanical application of the SSNIP test is known to produce such results, which is why it is properly expanded to include additional evidence of market definition and merger effects, particularly in emerging high-tech industries where new products struggle to rival, or displace, established technologies. There, firms are likely to battle for market share by non-price improvements and by exploiting economies of scale that, as in the standard case of declining unit costs, spread fixed costs over larger production runs. Hence, neither nominal prices nor predicted marginal cost changes reveal the essential efficiencies delivered by the economic process.

By assuming that products in a market are homogeneous and competitors compete on price, write David Teece and Mary Coleman,

[a]pplication of the SSNIP test in an industry where competition is performance-based rather than purely price-related is likely to create a downward bias in the definition of the size of the relevant product market, and a corresponding upward bias in the assessment of market power.[108] So here.

[107] Bernstein Research, *XMSR and SIRI: Where to From Here?* (Feb. 20, 2007), p. 4 (emphasis in original).

[108] Teece & Coleman 1998, pp. 827-28.

2. Dynamic Competition

Dynamic competition to develop new products and to improve existing products can have much greater impacts on consumer welfare than static price competition, and antitrust policy should take dynamic competition into account when evaluating mergers or conduct in innovation-intensive industries.[109]

Prof. Sidak, assuming a constant pre- and post-merger product, and asserting that the only marginal cost savings flow from billing costs (excluding customer acquisition charges from marginal cost, e.g.), offers that just $10 million in annual marginal cost savings are associated with the merger.[110] These synergies, just 1.1% of what Sidak identifies as annual marginal costs, produce Sidak s verdict that the majority of efficiencies identified by the merging parties would not benefit consumers.[111]

This approach fails to consider marginal cost reductions for such items as customer acquisition and customer equipment. More broadly, it is not true that the only gains that accrue to consumers are short-run marginal costs. Indeed, the DOJ/FTC *Merger Guidelines* explicitly note that antitrust authorities reviewing mergers consider the effects of cognizable efficiencies with no short-term, direct effect on prices in the relevant market.[112] Moreover, the *Guidelines* recommend that productive efficiencies, should be considered as potential merger gains,[113] despite the fact that they are not likely to be measurable for the marginal unit sold.

What is the magnitude of Sidak s efficiency omissions? Abstracting from quality enhancements and focusing only on cost savings, the consensus view of independent investment analysts identifies $3 billion to $7 billion in net present value (NPV) gains.[114] RBC Capital Markets explains their financial breakdown of the merger this way:

Our analysis suggests NPV of potential merger synergies in the $5-6 billion range, though most would likely be realized 3-5 yrs. from now. While significant realizable synergies exist, the most valuable synergies will not likely materialize until longer-term OEMs (who won t have two entities to play off each other anymore) contracts expire. We believe that back office, retail incentives, and advertising savings are possible near-term, but only advertising synergies will likely drive the same order of magnitude in savings as reductions in OEM and content costs. Also, given

[109] Richard J. Gilbert, *New Antitrust Laws for the New Economy ?,* Testimony Before the Antitrust Modernization Commission, Washington, D.C. (Nov. 8, 2005), p. 1.

[110] Sidak 2007, p. 51.

[111] Ibid, p. 50.

[112] *Horizontal Merger Guidelines*, Department of Justice and the Federal Trade Commission (April 2, 1992; Revised April 8, 1997) [Merger Guidelines], footnote 37.

[113] Ilene Knable Gotts, *The Role of Efficiencies in Integrated Merger Analysis,* DOJ Presentation (Feb. 19, 2004); http://www.usdoj.gov/atr/public/workshops/docs/202669.htm.

[114] XM 2007.

2-3 year OEM planning cycle, XM/SIRI probably need to maintain separate operating platforms for 24 months post-deal. [115]

These savings have been annualized in the consensus Wall Street view at about $500 million.[116] Now consider Sidak s claim that the total cost savings via merger sum to $115 million per year, with just $10 million per year in marginal cost reductions.[117] These estimates are cited from a web article, [118] and displayed in Sidak s Table 3, which, he writes, shows the purported merger-specific savings that have [been] claimed by the merging parties![119]

But these are not, in fact, the estimates of the XM and Sirius. The merging parties cite analysts forecasts that NPV savings will range from $3 billion to $7 billion. [120] Indeed, the source referenced in Sidak s paper notes that the estimates are its own, and that they exclude programming costs [which] are the largest expense at both companies![121] Nonetheless, this forms the source of Sidak s empirical assertion that total savings from merger would amount to $115 million, of which just $10 million would result in lower marginal costs and thus (solely) impact consumers.

Sidak s approach is incomplete, and its incompleteness on the cost efficiency side can be quantified. In its most generous light, Sidak s cost savings estimate of $115 million per year excludes 77% of the cost savings seen in the consensus estimate. In addition, Sidak excludes pro-competitive effects of the increase in operator capacity that would accrue from doubling the post-merged firm s bandwidth, from gains in wider distribution of existing content exclusive to only one of the operators, from better coordination and pricing of satellite receivers and pre-sales auto installations (OEMs) or programming, and from reduced customer acquisition costs due to economies of scale and standardization in radio receiver production.

Further, the position that only marginal cost reductions create consumer gains is incorrect. To an economist, the claimed efficiency must reduce the merged firms marginal costs, as reductions in fixed costs do not affect the pricing decisions of a profit-maximizing firm. [122] Sidak thereby excludes, for instance, radio receiver price reductions from any contribution to consumer welfare. The *Merger Guidelines* are cited for support ... marginal cost reductions may reduce the merged firm s incentive to

115 RBC Capital Markets, *Wedding Bells are Ringing for XMRS and SIRI* (Feb. 20, 2007), p. 28.

116 Wachovia Equity Research, Sirius Satellite Radio (April 30, 2007), p. 1. As a perpetuity discounted at ten percent, $500 million annually is worth $5 billion in NPV, the mid-point of the consensus synergies estimates.

117 Sidak 2007, p. 51.

118 Douglas McIntyre & Jon Ogg, *How Sirius & XM Would Look As a Merged Company*, 24/7WallStreet.com (Feb. 19, 2007), [McIntyre & Ogg 2007]; http://www.247wallst.com/ 2007/02/how_sirius_xm_w.html.

119 Sidak 2007, p. 51.

120 *XM and Sirius to Combine in $13 Billion Merger of Equals*, XM Press Release (Feb. 19, 2007); http://xmradio.mediaroom.com/index.php?s=press_releases&item=1423.

121 Douglas McIntyre and Jon Ogg, *How Sirius & XM Would Look As a Merged Company,* 24/7WallStreet.com (Feb. 19, 2007); http://www.247wallst.com/2007/02/how_sirius_xm_w.html .

122 Sidak 2007, pp. 50-51.

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elevate price.[123] But this passage, while economically compelling, pointedly does not support the analytical framework used.

Indeed, the *Merger Guidelines* explicitly invite consideration of fixed cost savings and the creation of economies of scale,[124] tempering unconvincing results yielded by simplistic models of static equilibrium. Reductions in fixed costs, specifically costs that do not vary directly with output, are essential to the creation of production economies, quality enhancements, product innovation, and the creation of new entrants. In standard models of industrial structure, such costs help determine the number of competitors, such that lowering fixed costs increases the intensity of inter-firm rivalry. To assert that fixed cost economies provide no positive impetus to consumer welfare is tantamount to denying that intellectual property rights, or policies that allow for the recoupment of sunk investments, deliver important consumer benefits.

Whether additional firms can obtain FCC licenses to mimic the satellite radio delivery system is an interesting regulatory issue.[125] While it is a dynamic entry question that the Sidak analysis selectively addresses, satellite radio licenses are one of many vehicles that can be used by entrants into audio services. The launch of two SDARS networks has expanded market entry by provoking the HD radio response from terrestrial broadcasters.[126] Terrestrial stations have also reduced commercial minutes in an effort to better compete with satellite operators, who offer scores of commercial-free music channels.[127] And the creation of additional programming on a given satellite platform supplies competitive entry via expanded choices for consumers.

Economies of scale can generate crucial consumer benefits, even as such social gains are excluded by assumption in static models. With increased financial ability and economic incentives to deploy advanced technologies, or standardized technologies, consumer benefits are generated. With greater profitability available to marginal service providers, firms potentially reduce capital costs. This makes the investments necessary to supply competitive satellite radio services more economical.

William J. Baumol writes that the process of continuous innovation by firms is the essential ingredient of capitalist economic development.[128] The pressure to recover continuing and repeated sunk costs is its day-to-day driver.[129] This quest for productive and innovative efficiency, and the profit payoff for which investors risk capital to create it, preserves and extends market rivalry. The static efficiency properties, writes

[123] *Merger Guidelines*, supra note 9, at § 4, cited in Sidak 2007, footnote 175.

[124] Antitrust authorities analyzing mergers will also consider the effects of cognizable efficiencies with no short-term, direct effect on prices in the relevant market. *Merger Guidelines*, footnote 37. See also, Heyer 2006; and William Kolasky, *Prepared Remarks*, FTC/DOJ Joint Workshop on Merger Enforcement Panel on

Efficiencies/Dynamic Analysis/Integrated Analysis, Washington D.C. (Feb. 19, 2004).

125 Originally, four firms filed FCC petitions to obtain satellite radio licenses, and the FCC initially allocated 50 MHz for four 12.5 MHz licenses.

126 Lockett 2004, op cit.

127 Newman 2007, op cit.

128 William J. Baumol, *The Free Market Innovation Machine* (Princeton University Press, 2002).

129 Ibid., p. 167.

Baumol, ...are emphatically not the most important qualities of capitalist economies.[130] And his reference to the process of innovation well describes the dynamics of satellite radio, where entrants have risked substantial investments to provide a new range of products to customers, challenging old business models:

[I]n key parts of the economy the prime weapon of competition is not price but innovation... [M]anagements are forced by market pressures to support innovative activity systematically and substantially, and success of the efforts of any one business firm forces its rivals to step up their own efforts. The result is a ferocious arms race among the firms in the most rapidly evolving sectors of the economy.[131]

This entrepreneurial dynamic is not powered by incremental reductions in marginal costs for given technologies or services, but by the creation of new markets or products altogether. In attacking radio broadcasting incumbents with a higher quality alternative, and in restructuring the supply of satellite radio to strengthen this foray, the managers of XM and Sirius endeavor to compete in this arms race. Yet that central event in the strategic alignment of XM-Sirius plays no role in Prof. Sidak s analysis.

By common sense, the $5 billion in consensus savings has far more to do with the economic purpose of the proposed merger than the $10 million in annual billing cost savings which forms the sole merger rationale for consumers in Sidak s static model. Consumers are not insulated from the enormous organizational and financial efficiencies that the merging parties seek to achieve. This has not escaped notice anywhere outside of static models that foreclose such considerations. Indeed, broadcaster opposition to the merger is largely based on just these expected outcomes:

The economic logic of the merger is irrefutable. These are, after all, very high operating leverage businesses, with very high fixed and very low variable costs. As a consequence, scale is tremendously important (this, too, suggests that the companies are unlikely to raise prices as a consequence of greater market power even after the merger, should it be approved).[132]

Broadcasters anticipate that the merger will make consumers more likely to listen to satellite radio, and enjoy it. This is the pro-consumer aspect of the merger and the synergies that may be largely ascribed to fixed costs.

[130] Ibid., p. viii.

[131] Ibid., p. ix.

[132] Bernstein Research, *Where to From Here?* (Feb. 20, 2007), p. 5. Analyst Craig Moffett elaborates the price constraint point:

> Strategy 101 would seem to dictate that sustained rapid subscriber growth (*i.e.* a low price strategy) would

easily trump harvest (*i.e.* a high price strategy) for as long as possibly feasible. Moreover, since a merger would leverage these same high fixed costs much more efficiently across a larger base, yielding a lower per-subscriber cost structure, one could imagine that a merger would facilitate *lower* rather than higher consumer rates.

VI. CONCLUSION

Mergers and divestitures are a vital part of the process by which capital markets rationalize the use of economic assets. When firms capture efficiencies, either by combining or splitting up, investors realize positive returns. Often these gains derive from lower costs for systems and operations, enabling the supply of more attractive products. Customers benefit directly, facing lower quality-adjusted prices. They also benefit over time, as economies intensify competitive forces, introducing improved products and expanded choices and, in turn, provoking innovation from rivals.

The role of competition policy is to challenge acquisitions driven by the creation of market power. Where a corporate sale is best explained as an effort to facilitate output restriction, raising quality-adjusted prices, regulatory authorities have the ability to block it. The analysis focuses on a balancing test in which the gains anticipated from merger synergies are weighed against expected losses due to enhanced market power.

The XM-Sirius merger is well informed, in this balancing test, by the extremely large efficiencies forecast by independent analysts, by the implausibility of quality-adjusted price hikes post-merger, and by the strong opposition to the satellite radio combination by the service s chief inter-modal rival, terrestrial radio.

Consensus estimates by investment analysts see cost synergies of between $3 billion and $7 billion in net present value. These enormous efficiencies, equal to about half the aggregate enterprise value of XM and Sirius combined, would bolster the financial position of competitive radio entrants. This strengthens rivalry by raising its long-term prospects, permitting more aggressive investment in satellite systems and products, and in prompting competitive responses from terrestrial broadcasters and other competitors. Indeed, HD digital radio has already been launched to counter satellite s digital audio service.

Given the incentives of the merged satellite radio firm to expand its subscriber base, and facing alternative audio media that include not only analog and HD broadcasting but MP3 players, Internet radio, and cellular phones featuring both MP3 and AM/FM tuner technology, the competitive constraints are tight. The merger is seen not as an attempt to restrict output, but as an effort to strengthen the product, offering consumers more content per dollar. Analysts forecast that revenue will increase post-merger not with price increases, but quality enhancements triggering higher subscriber growth.

To view the merger as facilitating market power, a position taken by merger foes who define the market as limited to satellite radio, conflicts with the economic evidence. Yet static models omit this evidence, failing to incorporate non-price competition, technological innovation, contracts, and the competitive role played by recurring fixed

costs. Simplistic application of such models produces implausibly narrow markets, defining XM s product, for instance, as existing in a separate market from Sirius.[133]

The opposition of terrestrial broadcasters evinces no such analytical infirmity. Radio station owners have long studied the issue of radio rivalry, and have for over a decade asserted that satellite radio offers a dangerous competitive threat. In advocating that regulators deny the proposed merger, broadcasters document that its likely effect will be to provide satellite radio listeners more, not less, service for their subscription dollar.

This market test for the XM-Sirius merger is clear to many. Economist David Henderson asks if broadcasters would oppose the merger if they thought the merger would raise prices for what you bought? His answer: Not likely.[134] Gigi Sohn, president of Public Knowledge, also sees the position of interested parties as key. It is no accident that the National Association of Broadcasters is vigorously opposing this merger despite their protestations to the contrary, they view satellite radio as a major competitor.[135]

Given that satellite radio accounts for under seven percent of radio broadcasting revenues, treating satellite and terrestrial radio as competitors makes the case for merger approval straightforward. Donald Russell, a 24-year veteran of the U.S. Department of Justice Antitrust Division now a private antitrust attorney, asks: If satellite radio doesn t compete against traditional broadcasters, why is the NAB making an all-out effort to block the merger?[136]

The question was posed to Mark Cooper, director of research at the Consumer Federation of America, who argued in this *Wall Street Journal* forum that regulators should block the merger. His response was telling: The NAB would like to eliminate every shred of competition, no matter how minor and indirect it is. That does not constitute evidence that such competition is effective or sufficient to prevent abuse.[137]

Actually, so far as the merger is concerned, it does. That radio station owners are keen to oppose the slightest shred of competition provides clarity to their broadcast signal. Any change to reduce rivalry by merger to monopoly would be welcomed. Yet it is their reliably self-interested opinion that the merger will not create monopoly, but more intense competition. Precisely why this combination is in the consumer s interest.

[133] This is the implication of Prof. J. Gregory Sidak s analysis, as discussed in Section V.

[134] David R. Henderson, *Sirius Business*, Wall Street Journal (Feb. 28, 2007), p. A15.

[135] Gigi Sohn, *The XM-Sirius Merger and the Public Interest,* Public Knowledge (April 6, 2007); http://www.publicknowledge.org/node/903.

[136] *Reply All: Is XM-Sirius Good for Consumers*?, Wall Street Journal (Feb. 27, 2007)

[137] Ibid.

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APPENDIX 1

Appendix 1. NAB Statements On Terrestrial Vs. Satellite Radio Competition

Name of FCC Proceeding	*Date Filed*	*NAB Position*	*page*
Response of NAB to American Mobile Radio Corporations Reply and Opposition to Petitions to Deny in File Nos. 26/27-DSS-LA-93; IO/l I-DSS-P-93	25-Jun-93	[U]nderlying NAB s concern over the proposed expansion of an already saturated marketplace is the loss of local service communities will face as currently struggling stations are pushed over the financial precipice.	3
Response of NAB to American Mobile Radio Corporations Reply and Opposition to Petitions to Deny in File Nos. 26/27-DSS-LA-93; IO/l I-DSS-P-93	25-Jun-93	[S]atellite DARS systems will immeasurably injure terrestrial radio stations by siphoning off listeners with their thirty or more channels of new programming.	3
Response of NAB to American Mobile Radio Corporations Reply and Opposition to Petitions to Deny in File Nos. 26/27-DSS-LA-93; IO/l I-DSS-P-93	25-Jun-93	AMRC asserts that because it intends to rely on subscriptions and not advertising sales for profits, it would not be competing with terrestrial broadcasters in a manner sufficient to drive marginal stations off the air, and it summarily dismisses competitive concerns. This conclusion is untenable. A radio station s product, what it sells. is numbers of listeners, its ratings. Satellite DARS of necessity will cut into terrestrial broadcasting audiences. As a result, stations which are already struggling to remain financially viable will be incredibly hard pressed to persevere, with lower ratings, and thus lower ad dollars paid for lower numbers.	3-4
Response of NAB to American Mobile Radio Corporations Reply and Opposition to Petitions to Deny in File Nos. 26/27-DSS-LA-93; IO/l I-DSS-P-93	25-Jun-93	[L]ocal programming is relatively expensive to produce. As the audience for such programming is fractured between the local station(s) and satellite DARS programming. the ability of a terrestrial station to support its local product will evaporate.	5

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Comments of the NAB, Gen. Docket No. 90-357	13-Nov-90	Any success of satellite-based audio broadcast services would likely be at the expense of local broadcast stations, in that satellite services would affect the amount of advertising placed on local radio stations, and the related cost of air time on the station s rate card. Due to the inherent non-local nature of satellite-distributed services, if commercial satellite audio broadcasting services were to be based on advertising, rather than on subscription fees, a substantial percentage of the revenues would likely come from existing national and/or regional advertisers. Consequently, the existing foundation of advertising revenues, supporting current local radio services, would be affected, perhaps significantly.	14
Comments of the NAB, Gen. Docket No. 90-357	13-Nov-90	Should radio s national/regional advertising revenues migrate to new satellite-delivered audio services, conceivably this could translate into a potential loss of almost a fifth of the total economic base of the entire radio broadcasting industry in the United States. While total loss of all national/regional revenues is possible, a more likely scenario is a loss of an increasing percentage of national/regional ad dollars.	14
Comments of the NAB, Gen. Docket No. 90-357	13-Nov-90	The viability of local radio stations in the United States could be seriously threatened by major advertising market realignments caused by communications policies promoting two rival radio distribution markets one local, and one national/regional. The effect of heavy losses in national/regional revenues would not likely be evenly distributed among local broadcasting stations. The impact would most likely fall hardest on the class of stations most vulnerable at this time AM stations.	15
Comments of the NAB, Gen. Docket No. 90-357	13-Nov-90	[W]ith the advent of a satellite-audio service configured on a nationwide distribution model, financial support is more likely to be siphoned from radio s national advertising base rather than from new, unknown and unidentified sources.	17
Comments of the NAB, Gen. Docket No. 90-357	13-Nov-90	[T]he introduction of a new, national radio broadcast competitor could be expected to have a more direct effect on audiences and advertisers than any of today s non-broadcast media services. The system and concept of broadcasting is well-known and understood by American audiences. Due to this familiarity factor alone, satellite-delivered digital audio services may have an edge in competing with non-broadcast distribution media. And more to the	18

		point, services that generally sound, operate, and are received over-the-air, just like radio, on automobile, home stereo, and portable receivers, might attract specific segments of the listening audience (i.e., especially those in mobile vehicles) and thus affect local broadcasting stations much more than do CDs, DAT or new cable audio services.	
NAB petition to deny in re: Satellite Radio, Inc. 8-DSS-DISC-91(Z); 49/50-DSS-P/U-90; I58/59-DSS-&VEND-90	18-Mar-91	Satellite CD s proposed private satellite sound broadcasting system will compete directly with NAB member stations for listening audience. Because the stations revenues depend on the size of their listening audience, the loss of listening audience to Satellite CD will adversely affect the stations economically.	1-2

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Reply comments of the NAB, Gen. Docket No. 90-357	20-Oct-95	DARS will bring only minimal new benefits to the vast majority of the listening public, but will, with its certain duplication of mainstream formats and its sure diversion of audiences and fragmentation of advertising, lessen the ability of traditional radio stations everywhere to provide quality local programming and community services.	2
Reply comments of the NAB, Gen. Docket No. 90-357	20-Oct-95	[T]he efficiencies to be offered to advertisers suggest that nationwide DARS would have competitive advantages to compete with incumbent broadcasters.	4
Reply comments of the NAB, Gen. Docket No. 90-357	20-Oct-95	Three of the DARS Proponents, in their comments, blatantly misrepresent the reach of terrestrial radio by referencing only the reach of FM radio signals by referencing only FM stations as just described, it becomes clear that the DARS applicants are really focused not on the smaller stations, but on the audience of the larger stations (FM), the larger populations, the real numbers and the real dollars.	6-7
Reply comments of the NAB, Gen. Docket No. 90-359	20-Oct-95	[T]he fact that radio listenership in cars continues to grow does not mean that the inclusion of CD and cassette players in cars has not diverted radio listenership in cars. We submit that the fact that radio listenership in autos has continued to grow is much more a function of the fact that over the last several years people have been experiencing longer commutes in their cars and therefore all listening in cars has dramatically increases. Moreover CD s and cassettes are simply not fungible products with radio, in that CD s and cassettes must be purchased, transported to the car and selected and, they do not have the personality or commentary of announcers.	24
Reply comments of the NAB, Gen. Docket No. 90-359	20-Oct-95	[S]atellite DARS will have a competitive impact on terrestrial stations in every radio market no matter what its regulatory classification	34
Reply Comments of the NAB, Gen. Docket No. 90-359; The Truth About Satellite Radio, Attachment	20-Oct-95	The primary audiences of local radio and satellite radio are the same: home/office/auto. They will compete directly for local market share.	2
NAB Petition for Declaratory Ruling, IB Docket No. 95-91 GEN Docket No. 90-357	14-Apr-04	In lieu of the promised niche audiences, foreign language services, senior and children s programming, [XM and Sirius] have instead devoted substantial bandwidth to compete directly with local broadcasters with local content, without being subject to any public interest obligations.	i

NAB Petition for Declaratory Ruling, IB Docket No. 95-91 GEN Docket No. 90-357	14-Apr-04	NAB conducted extensive studies which showed the economic harm a national satellite radio service would have on local broadcasters and their ability to serve their local communities ... The SPR Study, along with a study provided by Kagan Media Appraisals, are replete with evidence of the relative fragility of local radio service and how it could be severely impacted by diversion of the audience to SDARS.	8

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NAB Petition for Declaratory Ruling, IB Docket No. 95-91 GEN Docket No. 90-357	14-Apr-04	[T]he majority of XM and Sirius lineups are music channels that are essentially are [sic] duplicative of formats offered by terrestrial radio, albeit broken down by channels into subcategories by music genre ... Instead of fulfilling their commitments to serve children, senior citizens, ethnic and foreign language communities, XM and Sirius have devoted their bandwidth to variations on traditional, mainstream programming.	11-12; 13
NAB Petition for Declaratory Ruling, IB Docket No. 95-91 GEN Docket No. 90-357	14-Apr-04	In lieu of the promised niche audiences ... they have instead devoted substantial bandwidth to compete directly with local broadcasters with local content, without being subject to any public interest obligations ... A centralized localized service, which is essentially duplicative of existing programming, does little to foster diversity and localism: it can only exist to the detriment of the dissemination of free and over-the-air local services to local communities.	17
NAB Reply Comments to NAB Petition for Declaratory Ruling, MB Docket No. 04-160	21-June-04	What was true in 1995 is still true today if SDARS is allowed to penetrate the local market, local broadcasting, and the voice of the community it provides, will suffer ... With the addition of local traffic and weather, satellite radio is no longer an exclusively national service; and its impact on terrestrial broadcasting is growing and could quickly evolve into a force in the local advertising market. How much harm, however, is largely dependent on Commission s decision in this proceeding and timely FCC action.	15-16

Note: Footnotes omitted