APPENDIX D: CALCULATION OF EVA FOR A HYPOTHETICAL SIMULCASTER

As noted in the text, we calculated EVA for a hypothetical simulcaster in five steps, which are summarized below.

Step 1:   Identify firms with publicly available data on terrestrial operations over 2004 – 2013.

1.   Appendix D – Exhibit 1 reports the 12 firms used in our financial model, one of which is iHeartMedia's radio segment, reported in these data as Clear Channel Media & Entertainment ("CCME"). We identified these firms as follows. First, we obtained the list of "peers" of Cumulus Media, Inc. (the largest publicly-traded domestic company for which all company revenues are attributable to radio) as reported in their Forms 10-K or Proxy statements from 2004 to 2013. Second, we looked at the 2004-2013 Forms 10-K or Proxy statements of all the companies that Cumulus listed as peers, to see whether these companies listed any additional companies as their peers. We added to our list companies that were listed as a peer company by at least two other firms. These first two steps yielded 15 companies, which are listed above the solid horizontal line in Appendix D – Exhibit 1. Finally, we reviewed the business descriptions and segment financial metrics of the 15 companies and narrowed the list further to firms in which terrestrial radio revenues accounted for at least 70 percent of total revenues.[1] Applying this filter resulted in a final sample of 12 companies.[2]

2.   Although these 12 firms are only a sample of the industry, they constitute a meaningful share of the industry. As noted in the text, in 2004, the radio companies in our sample together accounted for approximately 45 percent of the $21.4 billion of total radio station

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1.   Using the proportion of assets related to the radio operations instead of revenues yields a similar sample of companies. We note that while 70 percent is a somewhat qualitative benchmark, using a lower percent does not materially affect the results of our financial model.

2.   The three companies that were eliminated as a result of this filter are CBS Corp., Dial Global (f/k/a Westwood One), and Univision Communications, Inc. All three companies had significant proportions of non-radio operations over this time period. *See* Appendix D – Exhibit 2.

revenues in that year, as reported by the Radio Advertising Board.[3] Among these companies,

seven (including CCME) had no material non-radio businesses (were "Pure Radio" firms), and

these seven comprised 41 percent of 2004 industry revenues.[4] Because of bankruptcies and/or

other transactions, only seven of the 12 companies remained publicly-traded enterprises by 2013.

The seven companies and CCME accounted for 33 percent of the $17.7 billion of total industry

revenues in 2013 as estimated by Radio Advertising Bureau. The four Pure Radio companies

(including CCME) comprised approximately 30 percent of industry revenues.[5]

     3. The time period we studied also is an appropriate one. The 10-year period from

2004 to 2013 covers a full macroeconomic business cycle.[6] An analysis of market-to-book

value, reported in Appendix D – Exhibit 3 for each of the firms in our sample, demonstrates that

expectations and valuations for terrestrial radio companies decreased during the financial crisis,

but returned to their pre-crisis levels by the end of 2013.[7]

Step 2: Calculate NOPAT for a Hypothetical Simulcaster.

     4. NOPAT is generally not directly reported in a company's financial statements but

it is a standard measure of profit discussed in academic textbooks and often calculated by

analysts.[8] We calculate NOPAT based on each company's reported "Operating Income"

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3.   The total 2004 revenues of all firms equal $9,578.8 million. *See* Appendix D - Exhibit 4D.
4.   The total 2004 revenues of the Pure Radio firms equal $8,771.1 million. *See* Appendix D - Exhibit 4D.
5.   The total 2013 revenues of all firms equal $5,530.8 million and the total 2013 revenues of the Pure Radio firms equal $4,805.5 million. *See* Appendix D - Exhibit 4D.
6.   Historically, the average length of U.S. business cycles was approximately five years, but the last two business cycles were much longer than the average. In particular, the business cycle ending November 2001 lasted over 10 years and the business cycle ending June 2009 lasted approximately seven years. *See* NBER, U.S. Business Cycle Expansions and Contractions, retrieved from http://www.nber.org/cycles.html on August 28, 2014.
7.   The median ratio of market value to book value of total invested capital ratio for the firms in the sample was 1.3 in 2004, then declined to 0.9 in 2007, and bounced back to 1.3 in 2013. *See* Appendix D – Exhibit 3. Note that CCME is not included as it is not publicly traded and does not have market values.
8.   *See, e.g.,* Joel M. Stern and John S. Shiely (2001) *The EVA Challenge*, First Edition, Wiley, at 20 (discussing NOPAT as the correct measure for estimating EVA). Note that NOPAT represents profits before subtracting interest expense, which is the cost of debt or the opportunity cost of debtholders,

(sometimes reported as "Income from Operations"), and then make three adjustments to this reported figure in order to estimate the maximum NOPAT that a hypothetical simulcaster could earn.[9]

5.   The first two adjustments are intended to align accounting practice as reported in company financial statements with the appropriate calculations from an economic perspective. Specifically, we start with the Operating Income as reported in the companies' financial statements and we add back non-recurring operating losses and subtract non-recurring operating gains because these one-time losses and/or gains do not reflect the underlying earnings power of the firm. In addition, we add back any recognized goodwill impairment to Operating Income because goodwill is a form of capital investment and impairment of goodwill (on an accounting basis) reflects a write-down of invested capital. For the purposes of estimating EVA, it is more reasonable to fully reflect the capital that is actually invested in the business (*i.e.*, not artificially reduced because of purely accounting measures of goodwill impairment). For this reason, one cannot also subtract goodwill impairment from Operating Income because doing so would result in double-counting.[10] These adjustments have the overall effect of increasing Operating Income. Appendix D – Exhibits 5A through 5N report these calculations for each of the firms in our sample.

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because, to avoid double-counting, the cost of debt is reflected in the WACC that is applied to the total capital (*i.e.,* debtholders and shareholders) invested in the firm. *See* Stewart (2013), *supra,* at 5.

9.   The estimation of NOPAT for CCME requires an additional step because financial data for CCME are not directly reported. Specifically, we first calculate NOPAT as described in this section for two iHeartMedia entities that do report financial information: Clear Channel Outdoors ("CCO") and Clear Channel Media Holdings ("CCMH"). We understand that CCMH includes both CCO and CCME. Therefore, to calculate NOPAT for CCME, we subtract NOPAT for CCO from NOPAT for CCMH.

10.   *See, e.g.,* Stewart (2013), *supra*, at 53 (explaining that if a company overpays for an acquisition, the company will be unable to earn the NOPAT needed to cover the cost of the acquisition capital it paid and its EVA will be impaired."). *See also id*., at 293 (stating that "impairment charges are reversed, added back to earnings and to capital, as if the charges never occur" and "[n]onrecurring charges do not obscure underlying business performance").

6.   The third adjustment accounts for differences between terrestrial radio companies and a hypothetical simulcaster. Since a hypothetical simulcaster would not need to invest in towers, transmitters, and FCC licenses, it would not need to incur expenditures related to these assets, and would therefore (all else equal) have higher Operating Income than that of a terrestrial radio company. Specifically, we increase calculated Operating Income for the companies in our sample by their reported operating lease expense and depreciation expense related to towers and transmitters and the value of FCC license impairment. We call this adjusted measure of profit "Implied Simulcast Operating Income."

7.   Finally, we subtract income taxes using a tax rate of 35 percent. Note that 35 percent represents only the marginal federal tax rate. Given that these companies had operations in several states which impose state income taxes that would raise the rate to higher than 35 percent, [11] 35 percent is a lower bound for the appropriate marginal income tax rate in this analysis. Implied Simulcast Operating Income less income taxes equals "Implied Simulcast NOPAT" for these companies.

Step 3:   Estimate Invested Capital for a Hypothetical Simulcaster.

8.   In the standard approach to calculating EVA, the amount of capital invested in a firm is based on an estimate of the amount it would cost an investor to reacquire the firm's assets (*i.e.,* the replacement value of assets in place).[12] In this context, however, especially since we are

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11.   *See, e.g.,* KPMG's Corporate Tax Rates Table which reports that for the United States, the "corporate income tax rate is approximately 40%. The marginal federal corporate income tax rate on the highest income bracket of corporations (currently above USD 18,333,333) is 35%. State and local governments may also impose income taxes ranging from 0% to 12%, the top marginal rates averaging approximately 7.5%. A corporation may deduct its state and local income tax expense when computing its federal taxable income, generally resulting in a net effective rate of approximately 40%." http://www.kpmg.com/global/en/services/tax/tax-tools-and-resources/pages/corporate-tax-rates-table.aspx, last accessed on October 2, 2014.

12.   *See*: Nancy L. Beneda (2004) "Valuing Operating Assets in Place and Computing Economic Value Added," *The CPA Journal*, retrieved from http://www.nysscpa.org/cpajournal/ 2004/1104/essentials/p56.htm on September 1, 2014. Market values for invested capital do not provide a

adjusting our analysis to exclude FCC licenses, it is reasonable to estimate the value of invested

capital as equal to the book value of assets in place, as described below.[13]

9.   Since the book value of a firm's assets must equal the sum of the book value of its

liabilities and equity, *i.e.*, the amount invested in the firm, we can use the value of the firm's

assets as the starting point for our invested capital calculation.[14] Specifically, in order to

calculate each firm's invested capital for each year from 2004 through 2013, we begin with the

total assets as reported and subtract: i) Deferred Tax Assets (because these do not represent

investments in the business),[15] ii) Current Liabilities not including short-term debt (in order to

estimate the invested capital net of operating liabilities), and iii) non-operating assets. We also

add back the cumulative goodwill impairment to account for the fact that the total unimpaired

value of goodwill represents the investment in the operations.[16]

10.   We also subtract the value of broadcast towers, transmitters, and FCC licenses,

because as with our NOPAT calculations above, we assume that a hypothetical simulcaster

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usable proxy for the measure of invested capital appropriate in this analysis because market values include the present value of expected future profits, not just the replacement value of invested capital. *See*: Damodaran (2012), *supra*, at 870.

13.   *See*: Damodaran (2012), *supra*, at 870 & Beneda (2004), *supra*.

14.   Alternatively, one could estimate the value of invested capital by starting with the book values of equity and debt in the firm. *See, e.g.,* James L. Grant (2002) *Foundations of Economic Value Added*, Second Edition, Wiley, at 181-2 (showing that one could calculate the identical level of invested capital by applying the "Asset Approach" and "Sources of Financing" approach, where the latter builds up the invested capital beginning with the book value of equity and debt).

15.   *See, e.g.,* Bennett Stewart (1991) *The Quest for Value*, Harper Business, at 113.

16.   Goodwill is an accounting artifact generated pursuant to a purchase of another company and/or business, and is equal to the excess of the amount paid for an acquisition and the sum of the values assigned to the tangible and identifiable intangible assets acquired. *See*: Belverd Needles, Marian Powers, and Susan V. Crosson (2010) *Financial and Managerial Accounting*, Ninth Edition, Cengage Learning, at 596. Per GAAP accounting convention, if the value of goodwill falls below its carrying value on the firm's financial statements, a non-cash impairment charge is booked and the balance sheet of the firm will now report this lower goodwill carrying value. Stanley J. Feldman (2005) *Principles of Private Firm Valuation*, Wiley, at 155. This has the effect of reducing the amount of the original capital used in the acquisition reported on the firm's financial statements. Therefore, to get back to the original level of capital used in the acquisition, cumulative goodwill impairment must be added back. However, because accumulated goodwill impairment is generally not reported, we cumulate the annual goodwill impairment the companies report on their publicly-available financial statements during the period we analyze.

would not need to invest in these assets which are necessary for terrestrial operations. Subtracting the value of these assets from invested capital results in lower required levels of invested capital, higher EVA, and thus a higher potential royalty rate. To reflect this reduced required capital level, we calculate what we term "Implied Simulcast Invested Capital " by subtracting the carrying value of towers, transmitters, and FCC licenses from invested capital, calculated as described above.[17]

Step 4:   Estimate Weighted Average Cost of Capital.

11.   In order to calculate a reasonable return that investors in a hypothetical simulcaster would expect, we must value our estimate of Implied Simulcast Invested Capital using a cost of capital. A company's cost of capital reflects the riskiness of its expected cash flows, relative to other investment opportunities. If investors expect that cash flows for a company are likely to be relatively risky, they will demand a higher return, and thus, the cost of capital for that firm will be higher. We assume that a hypothetical simulcaster would experience cash flow risk no higher than that of current terrestrial radio firms, even though simulcasting (and webcasting generally) is a newer industry and presumably subject to greater uncertainty about future outcomes.

12.   Therefore, we estimate the maximum cost of capital for a hypothetical simulcaster based on a calculation of the cost of capital for the Pure Radio firms in our sample.[18] Companies in our sample have both equity and debt in their capital structure, so we need to account for the cost of each type of financing, and then weight those costs according to their relative importance

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17.   Similar to the calculation of NOPAT for CCME, we calculated the CCME Implied Simulcast Invested
         Capital by subtracting the invested capital of CCO from the Implied Simulcast Invested Capital of CCMH.
18.   For this analysis, we exclude CCME as a Pure Radio firm because we cannot directly observe the data
         necessary to estimate the cost of capital for CCME alone.

in the capital structure. This weighted average cost of capital, or "WACC," is a standard

measure of a company's cost of capital, widely used by analysts and finance scholars.[19]

13.   To estimate a hypothetical simulcaster's cost of equity, we use a standard

financial economic model, known as the Capital Asset Pricing Model ("CAPM"). The CAPM

states that the cost of equity is equal to the rate of return investors receive from a "risk-free"

asset, plus a market estimate of the return investors demand for incurring the risk of holding

equity (pro-rated by the degree to which radio firm equity investors' level of risk is similar to the

general level of risk from holding equity). For the risk-free rate, we use the yield on a constant

maturity five-year U.S. Treasury Note as of December 31 of each year. As an estimate of the

general market risk premium investors demand for holding equity, we use the intermediate-term

(five-year) equity risk premium as reported in the *Ibbotson Stocks, Bonds, Bills, and Inflation

Yearbooks*.[20] To pro-rate radio firm equity investor's level of risk, relative to the general equity

risk premium (what is known in the CAPM as "beta"), we calculated the historical correlation

between general U.S. stock returns and an equal-weighted portfolio of Pure Radio firms.[21] *See*

Appendix D – Exhibit 6B.

14.   To estimate a hypothetical simulcaster's cost of debt, we used the yield-to-

maturity ("YTM") of the Merrill Lynch Bond Index and Barclays Bond Index of the same credit

rating as the average credit rating of the firms in our sample at the end of each year.[22]

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19.   *See, e.g.,* Koller, Wessels, and Goedhard (2010), *supra*.
20.   The cost of equity and consequently the WACC are generally lower using the 5-year risk-free and market
        risk premium compared to the 20-year rates.
21.   Specifically, we calculated betas for each year and for each firm in our sample using a regression of that
        firm's weekly equity return against weekly returns for the S&P 500 Index over the two-year period ending
        December 31 of each year.
22.   *See*: Donald DePamphilis (2011) *Mergers, Acquisitions, and Other Restructuring Activities: An Integrated
        Approach to Process, tools, Cases, and Solutions*, Sixth Edition, Associated Press, at 240-241 (stating "In
        general, the cost of debt is estimated by calculating the yield to maturity (YTM) on each of the firm's
        outstanding bond issues. … Ideally, the expected yield to maturity would be calculated based on the current
        market price of the noninvestment grade bond, the probability of default, and the potential recovery rate

See Appendix D – Exhibit 6C. For purposes of our analysis, we selected the lower prevailing

YTM between the two indices as our pre-tax cost of debt.[23] *See* Appendix D – Exhibit 6D.

     15.   To calculate the WACC, we then averaged the estimated cost of equity and cost

of debt, calculated as described above, using the average debt-to-capital ratio of the Pure Radio

firms as the weights. In other words, our calculation reflects the actual relative use of equity and

debt financing among the Pure Radio firms in our sample.

Step 5:   Estimate a Hypothetical Simulcaster's EVA.

     16.   We calculate a hypothetical simulcaster's total capital costs, reflecting the rate of

return demanded by investors, as the product of the Implied Simulcast Invested Capital at the

beginning of the year and the applicable WACC for that year, which is the WACC at the end of

the year before. Then, to calculate EVA, we subtract these capital costs from Implied Simulcast

NOPAT. This EVA measure therefore reflects the amount left over, after all operating and

capital costs are covered.[24] For example, to calculate EVA for 2004, we would subtract capital

costs calculated as of the end of 2003 from 2004 Implied Simulcast NOPAT. Appendix D -

Exhibit 4D reports EVA for each year for each of the firms in our sample.

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following default. However, such data are frequently unavailable. A practical alternative is to use the YTM for a number of similarly rated bonds of other firms.")

23.   A lower YTM reduces the WACC, which results in a higher estimate of EVA, and hence, a higher potential royalty payment. At the end of 2008, the financial markets were dislocated and the YTM of similarly-rated bonds increased substantially. We used the credit spread between the YTM of the bond index as of the end of 2009 and the yield on the five-year Treasury Note as of the end of 2009 and added that spread to the 2008 five-year Treasury Note to arrive at the pre-tax cost of debt for 2008. We then use a 35 percent tax rate to calculate the after-tax cost of debt.

24.   *See, e.g.,* Jan Viebig, Thorsten Poddig, and Armin Varmaz (2008) *Equity Valuation: Models from Leading Investment Banks*, Wiley, at 145 (stating that "[f]or valuation purposes … the opening invested capital is used for the capital charge.") and Koller, Goedhard, and Wessels (2010), *supra*, at 117-118 (explaining the use of "Beginning-of-the-year invested capital (*i.e.*, last year's value)" and demonstrating its use in an example of calculating "Economic Profit.").