DOES APPELLATE PRECEDENT MATTER? STOCK PRICE RESPONSES TO APPELLATE COURT DECISIONS OF FCC ACTIONS

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March 2012

ABSTRACT

This study tests the effects of federal appellate court decisions of Federal Communications Commission (FCC) actions on stock prices using differences-in-differences (DID) and an instrumental variables approach. This study exploits the random assignment of appellate judges to three-judge panels and the fact that a judge's (1) party affiliation and (2) race predict outcomes in appellate court decisions of FCC actions to instrument for anti-industry decisions, which favor the public interest. This instrumental variables approach demonstrates a causal relationship between appellate court decisions of FCC actions and changes in stock prices of media firms relative to the stock prices of non-media firms.

The differences-in-differences (DID) analysis shows that federal appellate court decisions against media businesses decreased media stock prices. The instrumental variables analysis shows that these appellate court decisions decreased media stock prices relative to non-media stock prices, one and two years after the court decisions. Recent studies indicate that stock prices serve as a proxy for competition and that decreased media competition may correspond to an increase in variety of programming. These findings suggest that when deciding against media businesses, the courts effectively reinforced the purpose of the FCC to serve the public interest by promoting a diversity of viewpoints.

I. INTRODUCTION

Do courts matter? Scholars are of two minds. Some view courts as critical in being able to effect widespread social change. Others believe momentous judicial decisions may be caused by rather than be causes of political or socioeconomic changes. By and large, the empirical evidence is mixed and a heated debate has arisen on the impact of the decisions of the highest courts.[1] Part of the difficulty in making definitive conclusions is that courts make decisions in different ways depending to some extent on external factors, be they litigant strategy, developments in legal doctrine, or social trends. This paper examines the stock market response to appellate FCC decisions to test whether the market pays attention to the arrival of new legal precedent. We use the random assignment of judges to appellate cases to make the causal inferences that would be difficult in the case of Supreme Court decisions. We focus on the FCC because we can construct a natural control group. FCC decisions pertain to media companies. We can therefore use non-media companies as control. If courts have no effect whatsoever, then we should not see any differential impact on stock markets.

The Federal Communications Commission (FCC) is interesting in and of itself as it sets licensing policies based "on the theory that diversification of mass media ownership serves the public interest by promoting diversity of program and service viewpoints."[2] To promote diverse programming and viewpoints, Congress sets limits on the number of media outlets a firm can own.[3] In the last decade, federal Courts of Appeals demonstrated their "broader goal of First Amendment policy to prevent"[4] an "inordinate effect on public opinion,"[5] achieve "vigorous debate"[6] and ensure access to "controversial issues,"[7] and "suitable access to social, political, aesthetic, moral and other ideas and experiences."[8]

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[1] *See generally* Gerald N. Rosenberg, THE HOLLOW HOPE: CAN COURTS BRING ABOUT SOCIAL CHANGE? (1991).
[2] *See* FCC v. Nat'l Citizens Comm. for Broad., 436 U.S. 775, 780 (1978).
[3] *See* Peter DiCola, *FCC Regulation and Increased Ownership Concentration in the Radio Industry*, NW. L. & ECON. RES. PAPER NO. 10–05: 5TH ANN. CONF. ON EMPIRICAL L. STUD. PAPER, at 2 (July 16, 2010), *available at* http://ssrn.com/abstract=1553483.
[4] Larry A. Blosser, Ben Scott, Jeannine Kenney, Gene Kimmelman & Glenn B. Manishin, *The Case Against Media Consolidation, Evidence on Concentration, Localism and Diversity*, DONALD MCGANNON CENTER FOR COMM. RES., FORDHAM U., at 6 (2007), *available at* http://www.fordham.edu/images/undergraduate/communications/caseagainstmediaconsolidation.pdf
[5] Assoc. Press v. United States, 326 U.S. 1, 28 (1945).
[6] Red Lion Broad. v. FCC, 395 U.S. 367, 385 (1969).
[7] *Id.*
[8] *Id.* at 390.

There are two competing theories about the effects of diversification of media ownership on the diversity of programming and viewpoints.[9] One theory posits that media monopolies frustrate diversity because a firm owning multiple media outlets will provide homogenous programming and viewpoints.[10] A competing theory by Peter Steiner posits that media monopolies encourage diverse programming and viewpoints because they will seek to cater to an entire market.[11] That is, homogenous programming and viewpoints result from the diversification of media ownership because firms will only compete for the most popular type of programming.[12]

Previous studies have examined the effects of media monopolies on format variety (e.g., Country, Rock, Talk, Sports), amount of news programming, advertising revenue, commercial versus noncommercial ratings, and listenership.[13] Existing literature has shown that *decreased* media competition causes an increase in format variety and advertising revenue.[14] Thus, determining what causes changes in media competition is an important concern.

This study examines the impact of federal appellate court decisions of FCC actions ("appellate court decisions") on media stock prices. Specifically, this study examines how appellate court decisions affect media stock prices when a court rules in favor of the public interest, granting relief against media businesses.[15] Although existing studies have examined the relationship between relaxing media ownership rules and the diversity of programming offered by media firms,[16] there are no empirical studies examining how appellate court decisions on FCC actions affect stock prices or media competition.

An increase in media stock prices caused by appellate court decisions may suggest an increase in media competition.[17] Prior studies indicate that

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[9] *See* DiCola, *supra* note 3, at 3.
[10] *Id.* ("Firms that own multiple radio stations may find it less costly to offer the same or at least similar programming on all of their stations.").
[11] *See id.* at 4–5.
[12] *See id.*
[13] *Id.* at 17.
[14] *See* DiCola, *supra* note 3, at 3.
[15] *See, e.g.*, Cellco P'ship v. FCC, 357 F.3d 88 (D.C. Cir. 2004) (denying industry petition for review of FCC action).
[16] *See generally* DiCola, *supra* note 3.
[17] *See* Eugene P.H. Furtado & Michael S. Rozeff, *The Wealth Effects of Company Initiated Management Changes*, 18 J. FIN. ECON. 147–160, 147 (1987) (noting an increase in stock prices may indicate *more* competition because firm valuations increase from increased efficiencies). *But see* Aditya Todawal, *Effect of Mergers and Acquisitions on Stock Markets*, EZINEARTICLES.COM, http://ezinearticles.com/?Effect-of-Mergers-and-Acquisitions-on-Stock-Markets&id=3208748 (last visited June 7, 2010) (noting an

firms in highly concentrated industries experience less stock price variability.[18] Further, firms experience a "decrease in profit and return volatility" and a reduction in expected returns when there is less competition.[19] These results are consequences of stock prices being more informative because there is "improved accuracy of public information" of firms.[20] Thus, an increase in media stock prices caused by appellate court decisions can suggest an increase in media competition.[21]

A caveat should be noted when interpreting our study. Our study is not an event study, which is an empirical method often used in other research in empirical finance. We look at long-term changes, not immediate changes.[22] Nor is our study examining the impact of winning or losing a lawsuit on a firm's stock prices. This paper illustrates two empirical methods: one using differences-in-differences and a second using the random assignment of judges to ascertain the causal impact of judicial precedent.[23] Specifically, this study demonstrates how appellate court decisions against media businesses affect stock prices in the media industry.

Part II provides an overview of FCC policies and procedures. Part III describes how media firms may be exposed to the appellate court decisions. Part IV describes the design of the study and presents the basic results from a differences-in-differences analysis and a two stage least squares (instrumental variables) analysis. Part V examines the effects of the appellate court decisions on media stock prices over time. Part VI concludes.

II. FCC POLICIES AND PROCEDURES

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increase in stock prices may indicate *less* media competition since stock prices usually increase after mergers).

[18] *See, e.g.,* Kewei Hou and David T. Robinson, *Industry Concentration and Average Stock Returns* 61 J. FIN. 1927, 1928 (2006).

[19] Joel Peress, *Product Market Competition, Insider Trading, and Stock Market Efficiency*, 65, No. 1 J. FIN. 1, 18 (2010), *available at* http://faculty.insead.edu/peress/personal/Peress_competition.pdf.

[20] *Id.* at 5.

[21] *See* Furtado & Rozeff, *supra*, note 17. *But see* Todawal, *supra* note 17.

[22] We also lack the data to make comparison portfolios for each stock. This is a fruitful direction for future work.

[23] Another difference between our study and other empirical finance studies is that we do not calculate excess returns, which is the calculation of stock price differences once key observable characteristics are controlled for. These observable characteristics would be uncorrelated, however, with the random assignment of judges.

Congress vests broad discretion in the FCC to regulate interstate and international communications services.[24] The FCC is assigned the responsibility to "prescribe such rules and regulations as may be necessary in the public interest."[25] The FCC is authorized to adopt rules that "are not an unreasonable means" to achieve "permissible public-interest goals."[26] Congress specifically requires the FCC to provide "biennial review[s] of regulations" to "repeal or modify any regulation it determines to be no longer necessary in the public interest."[27]

The FCC revises its rules in response to new laws, including both legislation and court decisions. For example, the Telecommunications Act of 1996 increased radio station ownership limits within markets and eliminated restrictions on the number of stations firms can own nationwide.[28] This statute gave rise to FCC efforts to modify cross-ownership restrictions on the extent to which a single firm may own multiple media entities in a market, which set off a series of legal actions. In particular, the Third Circuit's decision in *Prometheus Radio Project v. FCC* blocked the FCC's initial proposal to lift existing restrictions on ownership rule changes in 2003.[29] After several rounds addressing court challenges, however, the FCC recently relaxed a ban on media outlet cross-ownership that had been in effect for more than 30 years.[30] The FCC now evaluates a proposed cross-ownership combination on a case-by-case basis to determine whether it is in the public interest by promoting competition, localism, and diversity.[31]

To analyze how appellate court decisions matter to the market using the example of FCC cases, it is informative to understand the types of FCC actions that are challenged in courts. FCC responsibilities include "processing applications for licenses and other filings; analyzing complaints; conducting investigations; developing and implementing regulatory programs; and taking part in hearings."[32] The FCC may grant or deny a license to a firm for a media outlet including, *inter alia*, TV,

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[24] *See About the FCC*, FCC.GOV, http://www.fcc.gov/aboutus.html (last visited June 7, 2011) [hereinafter *About the FCC*].
[25] Telegraphs, Telephones, and Radiotelegraphs, 47 U.S.C. § 201(b) (2006).
[26] FCC v. Nat'l Citizens Comm. for Broad., 436 U.S. 775, 796 (1978).
[27] 47 U.S.C. § 161(b) (1996).
[28] Telecommunications Act of 1996, Pub. L. No. 104–104, 110 Stat. 56 (1996). *See also* DiCola, *supra* note 3, at 9.
[29] *See generally* Prometheus Radio Project v. FCC, 373 F.3d 372 (3d Cir. 2004).
[30] *See* 47 CFR § 73.3555; *see also* Stephen Labaton, *Plan Would Ease Limits on Media Owners*, N.Y. TIMES, Oct. 18, 2007, *available at* http://www.nytimes.com/2007/10/18/business/media/18broadcast.html.
[31] *See FCC's Review of the Broadcast Ownership Rules*, FED. COMM. COMMISSION, 1 (June 23, 2008), http://www.fcc.gov/cgb/consumerfacts/reviewrules.pdf [hereinafter *FCC's Review*].
[32] *About the FCC*, *supra* note 24.

radio, newspapers, the Internet, movies, cable TV, billboards, magazines, and the like.[33] The appellate court decisions utilized in this study are challenges to FCC actions.[34] For example in *Pappas v. FCC*, the FCC denied the petitioner a media license and the court upheld that FCC action.[35] The FCC based its action on its interpretation of a statute and the court held that the FCC did not abuse its discretion.[36]

This study examines whether federal appellate court decisions matter and whether the market pays attention to their rulings. Stock prices in the media industry may respond to federal appellate courts' rulings on challenges to FCC actions because these court decisions create legal precedent affecting media competition. Many FCC actions begin by distinguishing between different media markets.[37] In larger markets, the FCC presumes that a combination of some media outlets is in the public interest, whereas in smaller markets, the FCC presumes that the same combination is against public interest.[38] These presumptions are rebuttable.[39] Combinations are reviewed under a four-factor analysis, in which the FCC considers: (1) how much the combination will increase local news in the market; (2) whether each outlet will exercise independent news judgment; (3) market concentration; and (4) the financial condition of the outlets.[40] Although the FCC might not have fully justified how awarding one firm several licenses in a market could serve the public interest and promote competition, some scholars have argued that less media competition leads to diversity of programming and viewpoints.[41]

Many of the appellate court decisions in this study are challenges to FCC actions based on specific FCC rules, including those that directly regulate market concentration. For example, a rule provides that the number of TV stations a firm may license nationwide is limitless, so long as it is not more than thirty-nine percent of all U.S. households.[42] Another FCC rule prohibits a merger among two or more of the television networks ABC, CBS, Fox, and NBC.[43] According to the FCC, a firm may license two TV stations in the same market if their service areas do not overlap or at least

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[33] *See FCC's Review*, *supra* note 31.
[34] *See infra*, Part IV.
[35] Pappas v. FCC, 807 F.2d 1019, 1022 (D.C. Cir. 1986).
[36] *Id.* at 1025.
[37] *See FCC's Review*, *supra* note 31.
[38] *Id.*
[39] *Id.*
[40] *Id.*
[41] *See* DiCola, *supra* note 3; *see also supra* Part I. *But see* Ted Turner, *Monopoly or Democracy?*, WASH. POST, May 30, 2003, at A23 (discussing the concern that media concentration prevents new media entrepreneurship).
[42] *See FCC's Review*, *supra* note 31, at 2.
[43] *Id.*

one station is not among the top four in the market, and at least eight independently licensed stations remain in the market after the combination.[44] In the largest markets, a firm may own two TV stations and six radio stations.[45] Such rules also impose restrictions on the number of local radio stations a firm may license based on a sliding scale that depends on the size of a market.[46] For example, in a market with forty-five stations, a firm may license eight stations.[47]

In addition to those cases relating to market competition,[48] a number of court decisions concern certain aspects of viewpoint diversity in media markets. Indeed, a prominent public interest purpose of the FCC statute is to establish rules to ensure that media communications are "ma[d]e available, so far as possible, to all the people of the United States."[49] This statutory purpose has been cited, for example, in challenges to the employment practices of broadcast licensees (*National Black Media Coalition v. FCC*). [50] Litigation on diversity also concern bidding procedures for broadband licenses that favored minority-owned businesses[51] as well as challenges to the FCC's renewal of licenses for television stations on the grounds that the stations failed to offer close captioning of programs for hearing impaired viewers.[52]

III. FIRMS' EXPOSURE TO APPELLATE COURT DECISIONS

Underlying the effect of appellate court decisions on media industry stock prices are the questions of whether firms anticipate effects on media competition and whether they change their policies in response to the decisions. Firms may learn of court decisions from in-house or outside counsel, through news reports, or the like. This study utilizes news reports discussing federal appellate court decisions as a proxy for determining how readily media firms were exposed to the decisions. Publications

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[44] *Id.*
[45] *Id.*
[46] *Id.*
[47] *Id.*
[48] *See, e.g.*, Prometheus Radio Project v. FCC, *supra* note 29; Astroline Communications Co. v. FCC, 857 F.2d 1556, 1558 (D.C. Cir. 1988) (observing that "the one-to-a-market rule reflects the Commission's commitment to diversity in ownership and control of broadcast licenses in order to maximize competition, as well as to promote variety in programming sources and viewpoints"); Sinclair v. FCC, 284 F.3d 148 (D.C. Cir. 2002) (holding in part that the FCC's local ownership rule, which restricted common ownership of television stations in a market, "furthered diversity at the local level and was necessary in the public interest").
[49] 47 U.S.C. § 151
[50] 775 F.2d 342 (D.C. Cir. 1985).
[51] Omipoint Corp. v. FCC, 78 F.3d 620 (D.C. Cir. 1996).
[52] California Ass'n of the Physically Handicapped v. FCC, 840 F.2d 88 (D.C. Cir. 1988).

examined in this study were The New York Times, Los Angeles Times, Chicago Tribune, Dow Jones News Service, and Wall Street Journal. News reports discussing the appellate court decisions from our dataset of cases[53] were retrieved from the electronic database LexisNexis.com by using a custom search string.[54] The aggregate news reports for each year are included in the "Combined News" column of Table 1.

TABLE 1
Newspaper Reports of Appellate Decisions on FCC Actions

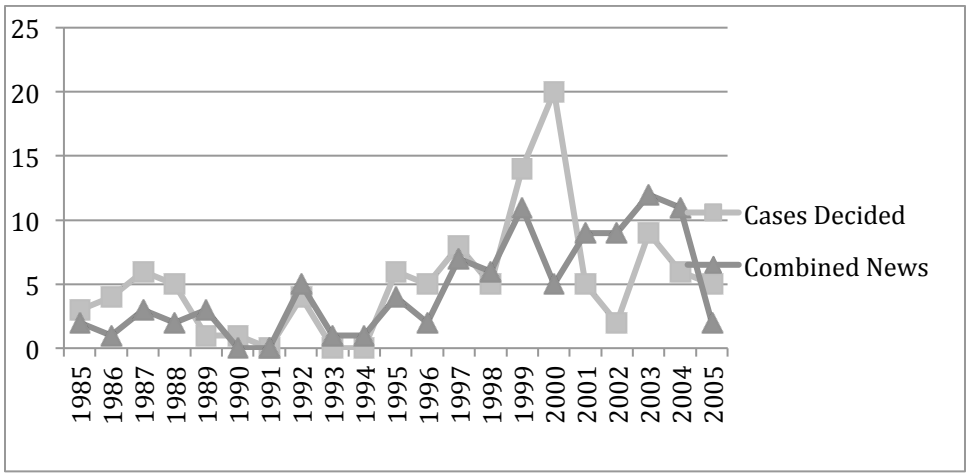
Year	Cases Decided	Combined News	The New York Times	Los Angeles Times	Chicago Tribune	Dow Jones News Service	Wall Street Journal	Case discussed in randomly selected publication. "False" indicates the case is not part of the dataset.
1985	3	2	0	1	0	0	1	Storer Communications v. FCC.
1986	4	1	1	0	0	0	0	False.
1987	6	3	0	2	1	0	0	False.
1988	5	2	0	1	0	1	0	News America Pub. v. FCC.
1989	1	3	2	0	1	0	0	False.
1990	1	0	0	0	0	0	0	-
1991	0	0	0	0	0	0	0	-
1992	4	5	0	2	1	1	1	AT&T v. FCC.
1993	0	1	0	0	1	0	0	False.
1994	0	1	0	1	0	0	0	False.
1995	6	4	1	0	0	2	1	False; Cincinnati Bell Tel. Co. v. FCC.
1996	5	2	0	0	0	2	0	Iowa Utils. Bd. V. FCC.
1997	8	7	1	1	1	4	0	Bell Atl. Tel. Cos. v. FCC
1998	5	6	2	0	0	1	3	Southwestern Bell Tel. Co. v. FCC.
1999	14	11	0	0	0	4	7	U.S. West, Inc. v. FCC; 3X False.
2000	20	5	0	2	0	3	0	AT&T Corp. v. FCC; Dup.
2001	5	9	4	2	0	1	2	False.
2002	2	9	2	2	1	3	1	False.
2003	9	12	2	3	2	3	2	2X False.
2004	6	11	0	4	0	4	3	2X False; Prometheus Radio Project v .FCC.
2005	5	2	1	0	0	1	0	False.

Note: A shaded box indicates that at least one of the news articles was selected for review. The right-hand column indicates the case name if the case mentioned in the news article is also found in our database. "False" indicates that the case mentioned in the news article is not found in our database. "2X False" indicates 2 of the articles examined did not mention a case included in our database.

[53] *See infra* Part IV.
[54] "(FCC OR 'F.C.C.' OR 'Federal Communications Commission') w/100 (judgment OR 'court ruling') AND circuit AND NOT 'Supreme Court'."

Figure 1 compares the total annual number of appellate court decisions and news reports. News reports were randomly selected for review to determine if they were false positives, i.e., the search yielded a report of a decision that was not among the dataset's cases that substantively rule on FCC actions regarding competition. The randomly selected reports are shaded in Table 1 and reviewed in the far right column. If a news report identified the case name or the circuit and the facts match the corresponding case's from the same year in the dataset, then that case is identified in the rightmost column in Table 1. News reports are labeled "false" in the rightmost column if they were false positives. Some years had more news reports than appellate court decisions. This is likely due to more intense media attention to those cases over the course of the year. Or, perhaps publishers generated more articles that continued to discuss appellate court decisions from prior years, or the search string was imperfect. Overall, it is plausible for firms to have been exposed to relevant appellate decisions through news reports in the years the cases were decided.

FIGURE 1
Annual Numbers of Appellate Decisions on FCC Actions and Combined Newspaper Reports of Appellate Decisions



Do firms change their policies in response to appellate court decisions? Because specific data on the competition policies of media firms are not readily available, we reviewed the cases in our dataset to determine whether or not monetary damages were awarded (Table 2). Theories on the deterrence effects of damages and fines suggest that reported judgments awarding monetary damages against businesses are more likely to induce media firms to change their policies to avoid similar

judgments.[55] Thirty-eight of the 109 cases in the dataset include the terms "damage" or "award." A thorough examination of the details of these cases reveals that only two cases from 2003 were related to awarding or denying monetary damages to a party. The majority of the cases dealt with a challenge to an FCC decision awarding a license to a firm. Thus, because of the limited number of cases awarding damages, the existence of deterrent effects on media firms remains an open question.

TABLE 2
Monetary Damages and Awards in Appellate Cases on FCC Actions

Year	Circuit	Citation	Term Found	Explanation of Award
1985	12	249 U.S. App. D.C. 292	Award	Decided against FCC's awarding a license without having held a hearing and without imposing heightened reporting obligations.
1986	12	257 U.S. App. D.C. 104	Award	Denied challenge to FCC who did not give preference to awarding licenses to women as a minority group.
1987	12	259 U.S. App. D.C. 191	Award	Denied challenge to FCC for forbidding cable franchisors from imposing standards of their own.
1987	12	259 U.S. App. D.C. 481	Award	Denied challenge to FCC's practice of awarding certain licenses.
1987	12	262 U.S. App. D.C. 244	Award	Discusses awarding franchises.
1987	12	264 U.S. App. D.C. 85	Damages	Where "application favored when 'fines or damages' are assessed and agency imposes new liability 'for past actions which were taken in good-faith reliance on [agency] pronouncements.'"
1988	12	267 U.S. App. D.C. 1	Award	Granted review of FCC's practice of awarding certain licenses.
1988	12	268 U.S. App. D.C. 208	Award	Denied challenge to FCC's practice of awarding certain broadcast licenses.
1992	12	294 U.S. App. D.C. 377	Award	Discusses a franchising authority awarding franchises within its jurisdiction.
1992	12	978 F.2d 727	Damages	AT&T sought both damages and a cease and desist order against a ruling by the FCC favoring MCI. The court remanded to the FCC.
1995	6	69 F.3d 752	Award	Granted review of FCC's practice of awarding certain wireless communications licenses.
1995	12	310 U.S. App. D.C. 256	Damages	Discussed damages in a statute that was inconsistent with Legislative History to make a point about statutory interpretation.
1995	12	310 U.S. App. D.C. 90	Damages	Granted review of FCC decision and vacated a tariff order. Discusses how persons have a right claim damages to the FCC.
1996	12	316 U.S. App. D.C. 220	Award	Remanded to FCC to review preference for developers of new technology awarded licenses without competition or charges.
1997	12	324 U.S. App. D.C. 72	Award	Denied challenge to FCC's practice of awarding certain Direct Broadcasting Satellite (DBS) channels.

[55] *See, e.g.*, Richard A. Posner, *Optimal Sentences for White-Collar Criminals*, 17 AM. CRIM. L. REV. 409, 410 (1980) (arguing that fines are an economically efficient deterrence measures); *but see* Darlene R. Wong, *Stigma: A More Efficient Alternative to Fines in Deterring Corporate Misconduct*, 3 CAL. CRIM. L. REV. 3, ¶ 2 (Oct. 2000), *available at* http://www.boalt.org/CCLR/v3/v3wongnf.htm ("The combination of these findings indicates that fines are limited in their applicability as an economically fair and efficient deterrence measure.").

1997	12	327 U.S. App. D.C. 133	Damages	Used in reference to another case where a petitioner sought damages.
1998	12	134 F.3d 1143	Award	Denied challenge to FCC's practice of awarding certain licenses.
1999	12	335 U.S. App. D.C. 54	Award	Used in reference to overruling the awarding of a license and rejecting a proposed settlement.
1999	12	337 U.S. App. D.C. 78	Award	Remand to FCC to award Qualcomm a "pioneer's preference" (license of their choice without payment).
1999	12	333 U.S. App. D.C. 253	Award	Cited a case where "injunctive remedy [was] awarded."
1999	12	334 U.S. App. D.C. 178	Award	Used in reference favoring the FCC awarding a license.
2000	5	201 F.3d 608	Award	Denied challenge to how subsidies awarded by the FCC.
2000	10	201 F.3d 1264	Award	Affirming FCC decision. Discussion about awarding local exchange carriers a competitive advantage.
2000	11	208 F.3d 1263	Award	The rate formula denies just compensation when wires are overlashed because no additional compensation is awarded.
2000	12	341 U.S. App. D.C. 404	Award	Denied challenge to FCC's practice of awarding certain licenses.
2000	12	343 U.S. App. D.C. 138	Award	Cited case in a footnote ("Awarding reparation for the past and fixing rates for the future").
2000	12	342 U.S. App. D.C. 290	Award	Denied challenge to FCC's practice of awarding certain licenses.
2000	12	343 U.S. App. D.C. 17	Award	Denied challenge to FCC's practice of awarding certain licenses.
2001	10	258 F.3d 1191	Damages	Court found no reason to require petitioner to seek review of FCC action before it can know whether it will be damaged by the action.
2002	8	299 F.3d 949	Damages	Indicating, "any damage" and "liability of any kind" include all damages from a government project, not just property damage.
2003	12	357 U.S. App. D.C. 134	Award	Denied challenge to FCC's practice of awarding certain licenses.
2003	12	358 U.S. App. D.C. 369	Damages	Denied challenge awarding monetary damages for breach of contract.
2003	12	354 U.S. App. D.C. 325	Damages	Atlas must pay damages to AT&T
2004	3	373 F.3d 372	Award	Discussed "industry awards" indicating quality of stations.
2004	12	360 U.S. App. D.C. 202	Damages	Indicating FCC was not arbitrary or capricious thinking any damage to broadband competition from denying unbundled access to the broadband capacities of hybrid loops is likely to be mitigated by the availability of alternatives.
2004	12	361 U.S. App. D.C. 139	Damages	Upheld FCC decision that local telephone companies owe payphone providers damages, but providers barred from collecting.
2005	12	2005 U.S. App. LEXIS 11804	Award	Granted challenge to FCC's practice of awarding certain licenses.
2005	12	402 F.3d 205	Damages	Discusses damages, petitioners' financial interests, and their inability to recover additional costs.

IV. STUDY DESIGN

A. The Data

This empirical study draws on multiple sources of appellate courts data. The first dataset consists of substantive federal appellate court decisions of

FCC actions between 1985 and 2005, totaling 109 cases.[56] This study focuses on published opinions to investigate established precedent that is readily available to firms. Appellate courts determine a significant portion of cases that shape the law in the U.S. This effective making of law occurs since decisions become precedents for decisions in future cases. The FCC rendered actions favoring businesses or public interests, which were then challenged in appellate courts. Decisions favoring business interests would make it easier, on the margin, for subsequent business decisions to be approved by the courts. More specifically, the sample of FCC cases comes from shepardizing *Chevron v. Natural Resources Defense Council*[57] and searching for challenges to FCC decisions. A vote was coded as pro-public interest if it favored upholding an agency's decision that was against industry attack, or if it favored striking down an agency's decision in the face of a challenge by a public interest group. A typical case of this sample is *Cellco Partnership v. FCC* (D.C. Cir. 2004) (denying industry petition for review of FCC action). This study estimates the responses of media stock prices, providing evidence on whether firms and investors pay attention to appellate precedent.[58]

We analyze a stock as a media industry stock if the firm's Standard Industrial Classification (SIC) Code[59] identifies its business type as print, broadcast, film, or other media as listed in Table 3.

TABLE 3
Media Industries and SIC Codes

2711	NEWSPAPERS: PUBLISHING OR PUBLISHING & PRINTING
2721	PERIODICALS: PUBLISHING OR PUBLISHING & PRINTING
2731	BOOKS: PUBLISHING OR PUBLISHING & PRINTING
2741	MISCELLANEOUS PUBLISHING
3663	RADIO & TV BROADCASTING & COMMUNICATIONS EQUIPMENT
3669	COMMUNICATIONS EQUIPMENT, NEC
4812	RADIOTELEPHONE COMMUNICATIONS
4813	TELEPHONE COMMUNICATIONS (NO RADIOTELEPHONE)
4822	TELEGRAPH & OTHER MESSAGE COMMUNICATIONS

[56] *See* CASS R. SUNSTEIN, DAVID SCHKADE, LISA M. ELLMAN & ANDRES SAWICKI, ARE JUDGES POLITICAL? AN EMPIRICAL ANALYSIS OF THE FEDERAL JUDICIARY (2006).
[57] 467 U.S. 837 (1984).
[58] The efficient markets hypothesis would suggest that information contained in legal precedent would affect stock prices. The impact of stock prices need not be immediate, however. *See, e.g.,* Stefano DellaVigna & Joshua Pollet, *Demographics and Industry Returns*, 97 AM. ECON. REV. 1167-1702 (2007). In addition, we note that media stock price effects can also be indicative of changes in media competition; studies indicate that firms in highly concentrated industries experience decreased stock price variability, profit, and return volatility. *See supra* Part.I.
[59] *Division of Corporation Finance: Standard Industrial Classification (SIC) Code List*, SEC, http://www.sec.gov/info/edgar/siccodes.htm (last visited Dec. 7, 2010).

4832	RADIO BROADCASTING STATIONS
4833	TELEVISION BROADCASTING STATIONS
4841	CABLE & OTHER PAY TELEVISION SERVICES
4899	COMMUNICATIONS SERVICES, NEC
7812	SERVICES-MOTION PICTURE & VIDEO TAPE PRODUCTION
7841	SERVICES-VIDEO TAPE RENTAL
7310	SERVICES-ADVERTISING
7331	SERVICES-DIRECT MAIL ADVERTISING SERVICES

The changes in media stock prices of these specific SIC coded stocks were obtained from the Center for Research in Security Prices (CRSP), which maintains large comprehensive proprietary historical databases of security prices.[60] Summary statistics of the key dependent variables are below in Table 4, which includes data from CRSP for both media and non-media stock prices from 1985 through 2005. The prices used in the analysis are closing prices for the period. [61] In our analyses, we use log prices, which would automatically exclude missing values and zeros that were recorded when closing prices were unavailable.

TABLE 4
Summary Statistics of Stock Prices

	Observations	Mean	Standard Deviation	Min.	Max.
Stock prices	479086	20.85882	659.498	-2315	130250
Log of stock prices	408954	2.418702	1.157762	-4.50986	11.77721

B. Differences-in-Differences

How do markets respond to momentous court decisions? To answer this question, a first step is to identify a small period during which an unusually high number of appellate decisions were issued. Indeed, appellate court decisions in favor of the public interest, and against anti-competitive actions, may be concentrated within a period of time. For example, during the period 1985 to 2005, an unusually high number of pro-public interest legal precedents occurred in the year 2000. In 2000, 20 relevant appellate cases were decided. In about 75% of those cases, courts

[60] *See* HISTORY, CENTER FOR RESEARCH IN SECURITY PRICES, http://www.crsp.com/crsp/about/history.html (last visited Nov. 24, 2010)

[61] Table 1 reveals that some stock prices from CRSP have "negative" signs. A price preceded by a negative sign indicates that the price recorded is the "bid/ask average and not an actual closing price." Furthermore, "[i]f neither closing price nor bid/ask average is available, Price or Bid/Ask Average is set to zero." *Price, End of Period,* Center for Research in Security Prices, http://www.crsp.com/documentation/product/stkind/definitions/price_end_of_period.html (last visited May 26, 2011). These observations are dropped in our log price regressions.

did not provide relief to businesses. An example of a pro-public interest decision is *Orion Comm. Ltd. v. FCC*, where a communications company challenged the FCC's application of an anti-collusion rule.[62] In *Orion*, the D.C. Circuit denied the petition for review and held the FCC's action was not arbitrary and capricious.[63]

One might estimate the impact of the year's appellate court decisions on media stock prices by conducting a simple before and after comparison of prices. This may be informative of how the appellate court decisions about FCC actions changed media stock prices. That raw difference in prices, however, would mask the possibility of stock price trends and make it difficult to determine if appellate court decisions or trends caused any of the observed changes.

Our analysis examines the period before and after the year 2000 because that year had the greatest number of appellate court decisions of FCC actions during the period 1985–2005. In the year 2000, there was a visible spike of 20 FCC appellate decisions, in contrast to an average of 4.45 per year for the other years. Choosing the year with the greatest number of decisions is based on a constant linear effects assumption, which is standard in the literature. Our measure of appellate decisions follows from previous studies that also measure the impact of law by counting the number of court decisions or the number of statutes.[64]

To isolate the effect of appellate court decisions on media stock prices, we run a differences-in-differences (DID) analysis. In a DID analysis, the effect of a treatment (such as pro-public interest appellate decisions) is examined by comparing a treatment group with a control group in a particular period. A DID analysis measures the change induced by a particular treatment, although the estimates may remain subject to certain biases. Here, media industry stocks are the "treatment" and the other

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[62] Orion Comm. Ltd. v. FCC, 213 F.3d 761 (D.C. Cir. 2000) (*per curiam*).
[63] *Id.*
[64] *See, e.g.*, Matthew J. Baker & Brendan Michael Cunningham, *Court Decisions and Equity Markets: Estimating the Value of Copyright Protection,* 49 J. L. ECON. 567 (2006) (counting the number of court decisions that broadened copyright protection and the number of decisions that narrowed copyright protection and taking the difference as an index of the law); Kenneth J. Meier, Donald P. Haider-Markel, Anthony J. Stanislawski & Deborah R. McFarlane, *The Impact of State-Level Restrictions on Abortion*, 33 DEMOGRAPHY 307, 310 (1996) (summing the number of abortion laws to estimate the impact of abortion restrictions on abortion incidence); John C. Moorhouse & Brent Wanner, *Does Gun Control Reduce Crime or Does Crime Increase Gun Control?*, 26 CATO J. 103 (2006)(using the Open Society Institute's index of laws consisting of a weighted sum of gun control statutes as the measure of gun control laws); Ingrid Verheul, Martin Carree & Enrico Santarelli, Regional Opportunities and Policy Initiatives for New Venture Creation (Erasmus Research Institute of Management Report Series, December 2007) (using the number of laws promoting firm formation as a measure of policy).

stocks are the "control" group. A comparison between their respective changes reveals the effect of appellate decisions from the year 2000.

To visualize the responses to appellate decisions in 2000, we show the raw data before and after 2000. Figure 2 plots the mean media and non-media stock prices (in logarithmic units), and Figure 3 plots their median prices. Here, both media and non-media stocks have parallel price trends before the "treatment" of appellate decisions in 2000, with media stocks having higher prices. After 2000, media stock prices show a dramatic drop below non-media stock prices. These raw plots suggest that it is plausible for media stocks, the treatment group, to respond to FCC appellate precedent.

FIGURE 2
Mean Stock Prices Before and After 2000

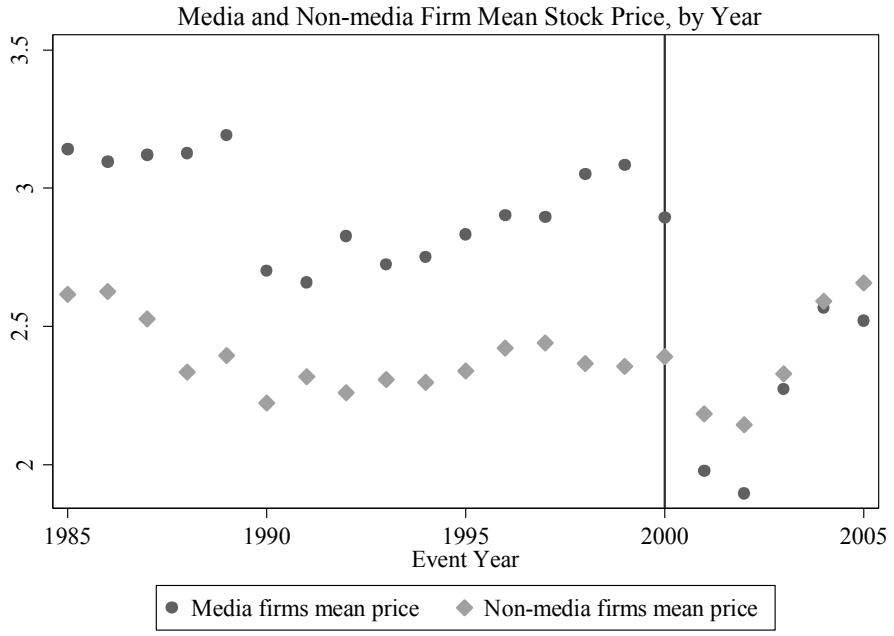
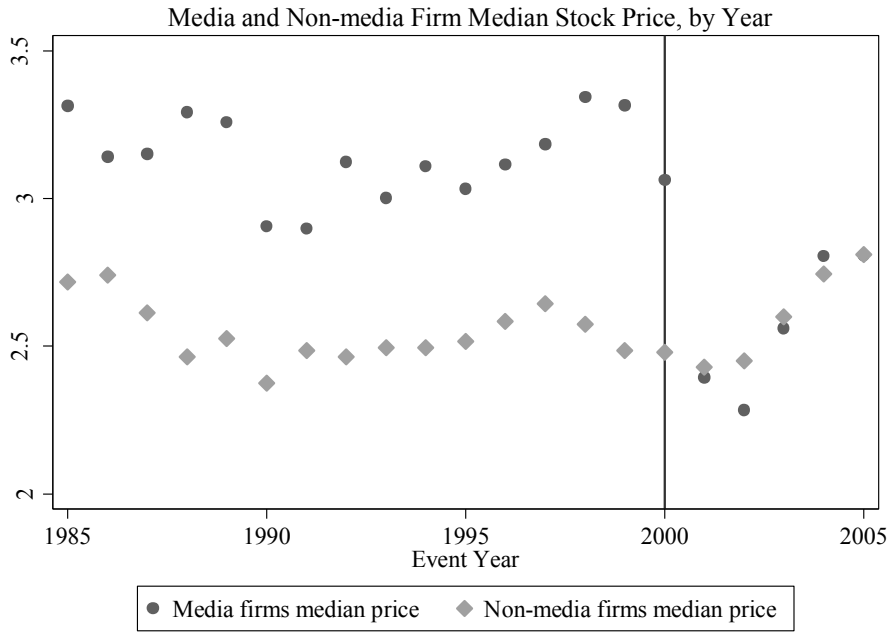


FIGURE 3
Median Stock Prices Before and After 2000



The following linear regression specification depicts the effects of appellate decisions on media stock prices:

(1) $$Y_{it} = \beta_0 + \beta_1 \cdot Post_t + \beta_2 \cdot Media_i + \beta_3 \cdot (Media_i \cdot Post_t) + \varepsilon_{it}$$

where Y_{it} is the media stock price for each firm i at time period t, $Post_t$ is a dummy indicating that the stock price is observed in the period after the appellate decisions occur, M_i is a dummy for media stocks, and ε_{it} is the error term representing omitted factors that determine Y_{it}. The key coefficient of interest is β_3, which corresponds to the interaction between the post-period and media stocks. Table 5 below summarizes in an alternative format how the β coefficients in equation (1) are calculated.

TABLE 5
A Brief Primer on Differences-In-Differences Calculations

Coefficient	Calculation
β_0	A
β_1	c – a
β_2	b – a

$ß_3$	(d − b) − (c − a)

Where a, b, c, d correspond to:

	Non-Media Stocks	Media Stocks
Year 1	a	B
Year 2	c	d

The coefficient β_0 is the baseline average for media stock prices. β_1 represents the change over time for the control group, β_2 represents the differences between media and non-media stocks in year 1, and β_3 represents the difference in the changes over time of media and non-media stocks. Assuming both types of stocks have the same trends over time, this regression controls for a possible trend in all stocks using the trend of the control group. Thus, the DID analysis will more accurately provide the impact of appellate court decisions on media stock prices.

Table 6 shows the DID results. The baseline average for the log prices of non-media stocks, β_0, is 2.668. The time trend for this control group, β_1, is -0.0713 but is not statistically significant at the 10 percent level; this indicates that non-media stock prices did not differ before and during the year 2000. On average, in the year 2000, the log prices of media stocks were greater than the log prices of non-media stocks by $\beta_2 = 0.559$ with 5% statistical significance. Finally, on average, the difference in the changes between the log prices of media and non-media stocks over time, $ß_3$, is -0.710 with 1% significance.

These results show that the appellate courts' decisions from the year 2000, which mostly ruled against media businesses, caused the log prices of media stocks to *decrease* by 0.710 with 1% significance relative to a baseline of 2.668 for non-media stock prices. This DID analysis suggests that the surge of decisions against media businesses caused a corresponding negative response by stakeholders in the media industry.[65] In other words, the markets were aware of the surge of appellate decisions and the media stock prices reflected this information.

The decreased media competition may correspond to an increase in format variety.[66] Thus, when deciding against media businesses, the courts may

[65] *See* Hou & Robinson, *supra* note 18. *But see* Marianne Bertrand, Esther Duflo & Sendhil Mullainathan, *How Much Should We Trust Differences-in-Differences Estimates?*, 119 Q. J. ECON., 249 (2004) (noting that a DID "estimation as it is commonly performed grossly under-states the standard errors around the estimated intervention effect").
[66] *See* DiCola, *supra* note 3, at 3.

have effectively reinforced the purpose of the FCC to "serve[] the public interest by promoting diversity of program and service viewpoints."[67]

TABLE 6
Differences-in-Differences Estimates

Coefficient	Change in log stock prices
β_3 (on $Media_i$*$Post_t$)	-0.710**
	(-0.132)
β_2 (on $Media_i$)	0.559**
	(-0.154)
β_1 (on $Post_t$)	-0.0713
	(-0.0668)
β_0 (on a constant)	2.668**
	(-0.0415)
N	408954
R-squared	0.023
Note: Standard errors in parentheses; + p<0.10; * p<0.05; ** p<0.01.	

C. Two Stage Least Squares

Determining the effect of appellate court decisions on media stock prices is difficult because reverse causality may exist, or there may be omitted variables influencing media stock prices but correlated with these appellate court decisions.[68] The main specification in this study considers changes in media stock prices measured with respect to appellate decisions establishing legal precedent that differ across circuits and years. The main specification, shown in equation (2), is an ordinary least squares (OLS) model that studies the effects of these appellate decisions on media stock prices over time. This OLS model estimates the unknown parameters in a linear regression model by minimizing the sum of squared distances between the observed data and that predicted by a linear approximation. Equation (2) gives the basic OLS specification:

$$(2) \quad Y_{it} = \beta_0 + \beta_1 Year_t + \beta_2 W_t + \beta_3 W_t \cdot Media_i + \beta_4 Media_i + \beta_5 Law_t + \beta_6 Law_t \cdot Media_i + \varepsilon_{it}$$

where Y_{it} represents media stock prices of firm i in year t. ε_{it} is the error term representing omitted factors that determine Y_{it}. Law_t represents the

[67] *See* FCC v. Nat'l Citizens Comm. for Broad., 436 U.S. 775, 780 (1978).
[68] *See* Daniel L. Chen & Jasmin K. Sethi, *Insiders and Outsiders: Does Forbidding Sexual Harassment Exacerbate Gender Inequality?*, 13 (Duke Law School, Manuscript, 2011), *available at* http://www.duke.edu/~dlc28 (last visited June 8, 2011).

number of pro-public interest appellate decisions in year t, averaged across all federal appellate circuits. $Year_t$ represents year fixed effects. W_t represents characteristics of the pool of judges available to be assigned and docket size (the number of appellate terminations minus the appellate court decisions) in year t, averaged across the nation. $Media_i$ is a dummy variable indicating whether or not firm i belongs to the media industry.[69] The key coefficient of interest is β_6, on the interaction of Law_t and $Media_{it}$. Since stock prices are serially correlated, ε_{ict} is not independent and identically distributed. Hence, to alleviate this problem, all specifications cluster standard errors at the 2-digit industry level.[70]

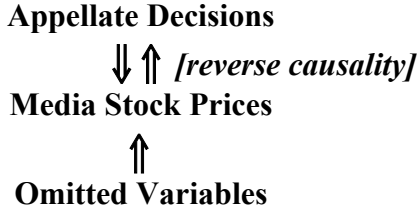
Despite its controls, the OLS model is susceptible to biases from reverse causality and omitted variables. Therefore, a two stage least squares (TSLS) framework, more generally known as an instrumental variable (IV) framework, was employed to analyze the effect of relevant appellate court decisions on media stock prices. The first stage of the TSLS model is an OLS regression of pro-public interest appellate court decisions on judicial attributes, which are randomly assigned. The second stage of the TSLS model is to estimate a regression of media stock prices on the appellate court decisions, based on the coefficients from the first stage regression. In this second stage, an instrumental variable (or "instrument") is used to estimate the causal effect of the appellate decisions on our main outcome of interest, stock prices. The instrumental variable must be correlated with appellate decisions but not directly correlated with the stock prices themselves. In other words, the instrument affects the outcome (stock prices) only through the instrument's effect on the appellate court decisions.

Below, we further illustrate why merely relying on an OLS regression of media stock prices on appellate decisions could lead to biased estimates. A correlation between appellate court decisions and media stock prices may result from reverse causality or variables influencing media stock prices may be omitted.[71] For example, the FCC pays attention to industry trends when deciding whether to take action against industry or not. This practice can lead to more pro-business actions as well as higher stock prices. It is possible that disproportionately higher stock prices in the media industry would lead to more pro-public interest appellate decisions because the higher prices can be interpreted as evidence of anti-competitive practices. When a regression model fails to account for omitted variables and reverse causality, the estimate of the effect of pro-business appellate decisions may be biased. The roles of reverse causality and omitted variables in the

[69] We do not include firm fixed effects because that would absorb the media dummy.
[70] In doing so, we follow Bertrand, et al. *See* Bertrand, et al., *supra* note 65, at 272–73.
[71] *Id.*

relationship between appellate decisions and stock prices are represented in the following diagram:

FIGURE 4
Illustration of Reverse Causality



To determine the causal effect of appellate court decisions of FCC actions on media stock prices, this study utilizes a TSLS (instrumental variables) empirical method where the instruments are specific personal attributes of judges on federal appellate court panels. The diagram below summarizes the links in the TSLS method:

Judicial Attributes ⇒ Appellate Decisions ⇒ Media Stock Prices

Thus, the instrument must isolate media stock prices to ensure that there is no reverse causality between appellate decisions and media stock prices. Though the randomized controlled trial would generate the most reliable results, it is impossible to conduct controlled experiments that randomly administer appellate court decisions on the media industry stock market. Instead, this study estimates the causal effect of the decisions on media stock prices from observational data by using instrumental variables of judicial attributes.

Since media stock prices (Y_{ict}) may simultaneously affect appellate court decisions (Law_{ct}) for unknown reasons, this study exploits the fact that appellate judges are randomly assigned to three-judge panels, that Democratic appointees are more likely to decide pro-public interest, and that Black appointees are more likely to vote pro-business. A number of papers have documented the relationship between judges' demographic backgrounds and their voting behavior in federal appellate courts.[72] Previous research has found mixed evidence of statistically significant differences in decision-making between Black and White judges.[73]

[72] *See, e.g.*, Boyd, Christina L., Lee Epstein & Andrew D. Martin, *Untangling the Causal Effects of Sex on Judging*, 54 AM. J. POL. SCI. 398 (2010);
[73] Thomas G. Walker & Deborah J. Barrow, *The Diversification of the Federal Bench: Policy and Process Ramifications*, 47 J. POL. 596, 598–99 (1985).

However, the number of cases analyzed in prior studies was limited, which constricted the potential for behavioral analyses.[74]

To address the concern that Y_{it} and Law_t may be correlated for unknown reasons, we utilize the relationship between a judge's personal attributes and legal decision-making to instrument for appellate court decisions. Given that there are twelve federal appellate circuits in the U.S., we considered exploiting variation in the number of decisions that arose across these circuits due to the random assignment of judges within each jurisdiction. However, using across-circuit variation is impractical. Decisions on FCC actions are concentrated in the D.C. Circuit. Moreover, stock price responses to those decisions are likely to transcend jurisdictions and occur nationwide. For these reasons, we analyze the results nationally rather than locally. Nevertheless, we acknowledge that circuit-specific characteristics do exist and it is important to observe the variation at the judge, panel, and circuit-year level before utilizing the aggregate variation at the national level. Equation (3) gives the first stage regression, which also controls for differences across the twelve circuits:

$$(3) \quad Law_{ct} = \varphi_0 + \varphi_1 Z_{ct} + \varphi_2 C_c + \varphi_3 T_t + \varphi_4 C_c \cdot Year_t + \varphi_5 W_{ct} + \eta_{ct}$$

where Z_{ct} represents the instruments, *supra*, in circuit c and year t. The identification assumption is $E(\varepsilon_{ict} Z_{ct}) = 0$, meaning that the instruments are orthogonal (uncorrelated) with the error term in the stock price regression of equation (2). A threat to this assumption is that the instruments may be correlated with omitted factors that affect media stock prices. For example, a jurisdiction may have a reputation for favoring private industries given a higher number of Republican judges who sit in its courts. This may attract fewer public interest litigants and therefore fewer cases to appear in that jurisdiction. To minimize omitted variable bias, this study controls for the composition of the judicial pool and the docket size by circuit, which will be aggregated to the national level when conducting the TSLS analysis. This addresses unobserved factors influencing the quantity of litigation and influencing how often judges with a particular demographic background are assigned to these cases.

For our study, data on federal appellate courts were collected from several sources.[75] The composition of circuits and years with Democratic appointees and Black judges was calculated using data from the Federal Judicial Center.[76] A measure of annual circuit workload—the number of federal appeals terminated in each fiscal year—was obtained from the

[74] *Id.* at 615.
[75] *See* Chen & Sethi, *supra* note 68, at 12.
[76] *See History of the Federal Judiciary*, FEDERAL JUDICIAL CENTER, http://www.fjc.gov/history/home.nsf (last visited Dec. 17, 2010).

Federal Court Management Statistics.[77] The appellate judge and court decisions data span the years 1985 to 2005.

Table 7 documents the relationship between pro-public interest appellate court decisions of FCC actions and the composition of judicial panels.[78] In our main results, we use estimates of the relationship at the national level in the first-stage in our two-stage least squares estimation We verify that in addition to being strong at the national level, the relationship between judicial attributes and appellate FCC decisions is robust at the judge, case, and circuit levels, and including controls for circuit-specific characteristics. Panels A and Panel B display the relationship at the judge level and the case level, respectively. Panel C displays the relationship at the circuit-year level.

TABLE 7
First Stage: Relationship Between Pro-Public Interest FCC Appellate Decisions and the Composition of Judicial Panels, 1985-2005

Panel A: Judge Level	Pro-Public Interest Decision		
	(1)	(2)	(3)
Democrat Judge	0.0622*		0.127**
	(0.0257)		(0.0222)
Black Judge		-0.0618**	-0.151**
		(0.0107)	(0.0131)
N	327	327	327
R-sq	0.324	0.324	0.334
Notes: Heteroskedasticity-robust standard errors are in parentheses. Observations are clustered at the circuit level. Judge level regressions control for circuit fixed-effects, year fixed-effects, and the probability of a panel being assigned a judge of the type under consideration: Democrat appointee (Columns 1 & 3), Black (Columns 2 & 3).			
Panel B: Case Level	Pro-Public Interest Decision		
	(1)	(2)	(3)
Panel Has at Least Two Democrat Judges	0.176**		0.257**
	(0.0261)		(0.0304)
Panel Has at Least One Black Judge		-0.0886*	-0.191**
		(0.0302)	(0.0379)
N	109	109	109
R-sq	0.385	0.369	0.407
Notes: Heteroskedasticity-robust standard errors are in parentheses. Observations are clustered at the circuit			

[77] *See Federal Court Management Statistics*, UNITED STATES COURTS, http://www.uscourts.gov/fcmstat/index.html (last visited Dec. 17, 2010).
[78] Coefficients are shown in each column, with standard errors in parentheses.

level. Case level regressions control for circuit fixed-effects, year fixed-effects, and the probability of a panel being assigned at least two Democrat appointees (Columns 1, 4), or at least one Black appointee (Columns 2, 3).

Panel C: Circuit-Year Level	Number of Pro-Public Interest Appellate Decisions					
	(1)	(2)	(3)	(4)	(5)	(6)
Number of FCC Panels with at Least Two Democrat Judges	1.278** (0.216)		0.497** (0.149)	0.179* (0.0693)		0.334** (0.0868)
Number of FCC Panels with at Least One Black Judge		0.994** (0.0586)	0.716** (0.0620)		-0.168+ (0.0840)	-0.322** (0.0918)
Normalization	Docket	Docket	Docket	Panels	Panels	Panels
N	240	240	240	252	252	252
R-sq	0.776	0.818	0.830	0.923	0.922	0.928

Notes: Heteroskedasticity-robust standard errors are in parentheses. Observations are clustered at the circuit level. Circuit-year level regressions control for circuit fixed effects, year fixed effects, circuit-specific time trends, the probability of a panel being assigned at least two Democrat appointees, the probability of being assigned at least one Black appointee, a dummy for whether there were no cases in that circuit-year to minimize mechanical correlation, and Docket Size in Columns 1-3 or the Number of FCC Panels in Columns 4-6. Docket Size is the number of appellate terminations in the circuit year minus the number of FCC decisions. + Significant at 10%, * 5%, ** 1%

In Panel A of Table 7, each of the regressions of a judge's decision on the judge's party affiliation and race clusters the standard errors at the circuit-level and controls for circuit fixed effects, year fixed effects, and the probability of being assigned a judge with the attribute under consideration. Column 1 shows that Democratic appointees are 6.22% more likely to vote pro-public interest. This is statistically significant at the 5% level. Meanwhile, Black judges are 6.18% more likely to vote pro-business, which is statistically significant at the 1% level (column 2). When controlling for whether or not the judge was also a Democratic appointee, Black judges are 15.1% more likely to vote pro-business in cases about FCC actions (column 3).

The patterns at the judge level are also observed at the case level. Table 7, Panel B shows the relationships at the case level. Having at least one Black judge on a three-judge panel reduces the chances of a pro-public interest decision by 8.86%, but having at least two Democratic appointees (one judge may influence a colleague's decision, but two judges would win by the force of majority) increases the chances of a pro-public interest decision by 17.6%, which is statistically significant at the 1% level.

The circuit-year level results to be used in the first stage of our TSLS model are displayed in Panel C of Table 7. At the circuit-year level, the relationship is between the number of panels with a judge attribute and the number of pro-public interest decisions. Regressions at the circuit-year level control for circuit-specific time trends in addition to circuit fixed effects, year fixed effects, and the probability of a panel being assigned the judge attributes of interest.

Columns 1, 2, and 3 show estimates at the circuit-year level that control for docket size. An additional panel with at least one Black judge resulted in 0.994 more cases decided in favor of the public interest, when controlling for docket size. Similarly, an additional panel with at least two Democratic appointees resulted in 1.278 more cases decided in favor of the public interest. Column 3 shows estimates when including both instruments in the same regression. When controlling for panels with two or more Democratic appointees, an additional panel with a Black judge results in 0.716 more pro-public interest decisions. And controlling for the number of panels with Black judges, having more panels with majority Democratic appointees also leads to 0.497 more pro-public interest appellate decisions.

Columns 4, 5, and 6 show estimates that control for the number of cases regarding FCC actions instead of docket size. These regressions include a dummy for whether there were no cases in that circuit-year to minimize mechanical correlation.[79] Here, an additional panel with at least one Black judge led to 0.168 (10% significance) fewer cases favoring the public interest. An additional panel with at least two Democratic appointees resulted in 0.179 more pro-public interest decisions in a circuit and year on average. Column 6 shows the estimates when including both instruments (number of panels with at least two Democratic appointees and number of panels with at least one Black judge) in the same regression; these estimates also control for panel effects. When controlling for panels with two or more Democratic appointees, an additional panel with a Black judge corresponds to 0.322 fewer decisions that favor the public interest. Likewise, when controlling for the number of panels with Black judges, having more panels with majority Democratic appointees leads to 0.334 more pro-public interest appellate decisions (Table 7, Panel C).

When we aggregate the decisions and panel characteristics to the national level by averaging, we obtain qualitatively similar estimates as in Panel C. When controlling for the number of panels, the assignment of Democratic appointees and Black judges to judicial panels have opposite effects on the average number of public interest decisions. The F-statistics of joint significance are very high. When we collapse decisions and panel characteristics data to be one observation per year, the joint F-statistic is 14 when we control for docket size and 4 when we control for number of panels.

[79] A dummy variable indicating whether there were no cases in that circuit-year was included to minimize mechanical correlation, since both the number of pro-public interest decisions and the number of panels with a particular judicial composition would equal zero.

To summarize the above, we exploit the fact that Democratic judges and Black judges have a predicted relationship with the number of pro-public interest decisions of FCC actions. The judges' personal attributes are instruments to determine the effect of appellate court decisions on media stock prices. These instruments identify exogenous variation in appellate decisions in the media stock prices regression. For the TSLS strategy to be valid, these instrumental variables must affect media stock prices only by affecting appellate decisions (holding other variables in the model fixed). A correlation between the judge panel composition and media stock prices would be evidence that appellate decisions cause changes in media stock prices.[80] Note that changes in media stock prices do not change judicial characteristics. Thus, the randomized assignment of judges and the resulting judicial panel composition provide a causal experiment to study the effects of appellate court decisions on media stock prices. Put in another way, to implement the TSLS empirical strategy:

1. We begin by estimating equation (3), which is the first stage regression of the relationship between appellate laws (Law_t) and judicial attributes (or instruments Z_t). Panel C of Table 7 shows these results from the first stage regression.

2. After running the first stage regression, we then estimate the second stage regression, shown in equation (4). We use the estimated coefficients from the first stage regression (equation (3)) to predict $\hat{Law}_t$, which we then use when estimating the coefficients in the second stage regression in equation (4):

$$(4) \quad Y_{it} = \beta_0 + \beta_1 Year_t + \beta_2 W_t + \beta_3 W_t \cdot Media_i + \beta_4 Media_i + \beta_5 \hat{Law}_t + \beta_6 \hat{Law}_t \cdot Media_i + \varepsilon_{it}$$

This two-stage least squares method overcomes the problems of reverse causality and omitted variables that bias the basic OLS estimates of equation (2). The TSLS method allows us to estimate the causal effect of appellate court decisions on media stock prices. Note that as long as judges are randomly assigned to appellate panels, the validity of our method does not rely on the specific set of judicial characteristics used as the instruments.[81] Wooldridge (2001) indicates that the choice of

[80] Other papers have documented the effectiveness of using judicial characteristics as instruments. *See, e.g.,* Chen & Sethi, *supra* note 68, at 14–21.

[81] The LASSO technique, which selects optimal instruments from a large set of potential instrumental variables, addresses this concern. *See* Alexandre Belloni, Daniel L. Chen, Victor Chernozhukov & Christian Hansen, *Sparse Models and Methods for Optimal Instruments with an Application to Eminent Domain*, (MIT Department of Economics

instrument should not affect the 2SLS result for a linear model if the model is well-identified under standard assumptions.[82]

The results are in Table 8. Each column provides the changes in log stock prices. In each table, column 1 provides OLS coefficient estimates controlled for docket size ("OLS Docket"), and column 2 provides IV estimates that control for docket size ("IV Docket"). Columns 3 and 4 provide OLS and IV estimates that control for the number of FCC cases adjudicated, respectively. In Tables 9A and 9B, columns 1–4 include estimates for specifications similar to those in columns 1–4 of Tables 8A and 8B, except the former apply to lead data and the latter apply to lag data. Note that in these results, we examine *when* appellate court decisions of FCC actions ("appellate court decisions") affected media stock prices. The lag calculations concern the effect one year and two years after the decisions were issued. The lead calculation concerns one year before the decisions issued; we examine the lead to verify that our instrument, the appellate decisions, is random and uncorrelated with preexisting trends in stock prices.

TABLE 8
Effects of Appellate Decisions Over Time on Log(Media Stock Prices)

	(1)	(2)	(3)	(4)
Pro-Public Interest Decisions (t)	-0.0260**	0.00573	-0.0888**	-0.104**
	(0.00522)	(0.00822)	(0.0208)	(0.0217)
Media* Pro-Public Interest Decisions (t)	-0.0366	0.0319**	-0.0420	-0.0499
	(0.0232)	(0.0117)	(0.0409)	(0.0460)
Pro-Public Interest Decisions (t-1)	-0.0147**	-0.00766*	-0.0876**	-0.0947**
	(0.00481)	(0.00377)	(0.0154)	(0.0155)
Media* Pro-Public Interest Decisions (t-1)	-0.0223**	-0.0315**	-0.0186	-0.0158
	(0.00456)	(0.00750)	(0.0265)	(0.0292)
Pro-Public Interest Decisions (t-2)	-0.0447**	-0.0189**	0.0228**	0.0165**
	(0.0123)	(0.00662)	(0.00675)	(0.00600)
Media* Pro-Public Interest Decisions (t-2)	-0.0475	-0.0336**	-0.00701	-0.00272
	(0.0423)	(0.0116)	(0.0254)	(0.0390)
Media Indicator	0.323	0	2.037	2.004+
	(1.984)	(0.111)	(1.235)	(1.178)
Pr(Panel has 2+ Democrat Appointees)(t)	1.599	0	7.569**	7.828**
	(1.054)	(1.382)	(0.722)	(0.798)
Pr(Panel has 1+ Black Appointees)(t)	-5.759+	0	4.667**	3.404*

Working Paper No. 11-19, August 15, 2011), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1910169.

[82] JEFFREY R. WOOLDRIDGE, ECONOMETRIC ANALYSIS OF CROSS SECTION AND PANEL DATA (2002), at 201. *See also* Esther Duflo, Empirical Methods (Lecture Notes for MIT 14.771, 2002), at 21, *available at* http://web.mit.edu/14.771/www/emp_handout.pdf.

	(2.942)	(0.396)	(1.453)	(1.516)
Media*Pr(Panel has 2+ Democrat Appointees)(t)	3.002	0	5.043*	5.235*
	(3.780)	(0.0406)	(1.943)	(2.248)
Media*Pr(Panel has 1+ Black Appointees)(t)	-21.67**	0	-15.09**	-14.75*
	(7.720)	(0.00274)	(4.656)	(6.601)
Pr(Panel has 1+ Black Appointees)(t-1)	10.91**	0	-8.188**	-6.885**
	(3.896)	(0.334)	(1.374)	(1.141)
Pr(Panel has 2+ Democrat Appointees)(t-1)	3.074	0	-11.43**	-11.74**
	(3.442)	(0.583)	(0.827)	(0.905)
Media*Pr(Panel has 1+ Black Appointees)(t-1)	15.37	0	0.399	0.848
	(18.04)	(0.00923)	(4.388)	(5.307)
Media* Pr(Panel has 2+ Democrat Appointees)(t-1)	9.013	0	-1.566	-1.900
	(12.87)	(0.0373)	(3.150)	(3.785)
Pr(Panel has 1+ Black Appointees)(t-2)	-6.699*	0	6.647**	6.420**
	(3.362)	(0.106)	(1.845)	(1.840)
Pr(Panel has 2+ Democrat Appointees)(t-2)	-1.223	0	4.103**	4.191**
	(1.624)	(0.570)	(0.800)	(0.794)
Media*Pr(Panel has 1+ Black Appointees)(t-2)	-11.44	0	1.356	0.582
	(12.14)	(0.0116)	(4.624)	(5.079)
Media*Pr(Panel has 2+ Democrat Appointees)(t-2)	-6.226	0	-2.406	-2.243
	(5.313)	(0.0412)	(2.156)	(2.348)
Docket Size(t) – Number of FCC Cases(t)	-0.00000525**	-0.00000190		
	(0.00000133)	(0.00000249)		
Media Industry*(Docket Size(t) – Number of FCC Cases(t))	-0.00000649	0.00000228*		
	(0.00000493)	(0.000000935)		
Docket Size(t-1) – Number of FCC Cases(t-1)	0.0000115**	0.00000213		
	(0.00000300)	(0.0000139)		
Media Industry*(Docket Size(t-1) – Number of FCC Cases(t-1))	0.0000190	-0.00000349		
	(0.0000121)	(0.00000346)		
Docket Size(t-2) – Number of FCC Cases(t-2)	-0.00000115	0.00000134		
	(0.00000127)	(0.0000190)		
Media Industry*(Docket Size(t-2) – Number of FCC Cases(t-2))	-0.00000673+	0.00000325		
	(0.00000363)	(0.00000655)		
Year Had No FCC Cases(t)	-0.144	0.0497	0.207**	0.186**
	(0.0979)	(0.646)	(0.0403)	(0.0352)
Media Industry* Year Had No FCC Cases(t)	-0.184	0.0211	0.123	0.120
	(0.340)	(0.186)	(0.0867)	(0.0753)
Year Had No FCC Cases(t-1)	0.0705*	0.0638	0.153*	0.161*
	(0.0322)	(0.384)	(0.0655)	(0.0660)
Media Industry* Year Had No FCC Cases(t-1)	0.0589	-0.129	0.136	0.161
	(0.0732)	(0.138)	(0.192)	(0.199)
Year Had No FCC Cases(t-2)	0.0449	-0.0190	0.266**	0.293**
	(0.0388)	(0.571)	(0.0924)	(0.0926)
Media Industry* Year Had No FCC Cases(t-2)	0.210	0.00224	0.198	0.215
	(0.179)	(0.135)	(0.246)	(0.213)
Number of FCC Cases(t)			0.0399**	0.0498***
			(0.0141)	(0.0143)
Media Industry*Number of FCC Cases(t)			0.0327	0.0374
			(0.0227)	(0.0284)
Number of FCC Cases(t-1)			0.0606**	0.0665***
			(0.0113)	(0.0110)

Media Industry* Number of FCC Cases(t-1)			0.0000891 (0.0184)	-0.00148 (0.0197)
Number of FCC Cases(t-2)			-0.0337** (0.00841)	-0.0297** (0.00764)
Media Industry* Number of FCC Cases(t-2)			-0.00397 (0.0334)	-0.00884 (0.0439)
Constant	0.434 (0.371)	1.936** (0.461)	1.293** (0.320)	1.281** (0.321)
N	313387	313387	313387	313387
R-sq	0.014	0.011	0.015	0.015

Note: Robust standard errors are clustered by industry and displayed in parentheses below each coefficient; + p-value<0.10; * p-value<0.05; ** p-value<0.01. *Law* is the number of appellate decisions ruling in favor of the public interest in FCC actions.

The values of interest are the coefficients on the interaction between the variables *Law* and *Media*. In the tables, these values are represented by *Media*Law*$_{t-1}$, *Media*Law*$_{t-2}$, and *Media*Law*$_{t+1}$, where the subscripts *t-1*, *t-2*, and *t+1* denote a one-year lag, a two-year lag, and a one-year lead, respectively.

The lag values for the interaction between law and media industry stocks suggest that the appellate courts' pro-public interest decisions caused a *decrease* in the log prices of media stocks. The OLS estimates that control for docket size show a negative correlation (column 1 of Table 8). One year after the pro-public interest appellate decisions, media stock prices were lower by 0.0160 log points relative to non-media stock prices. After two years, media stock prices were lower by 0.0206 log points. These differences are statistically significant at the 10% level.

Next, the TSLS (IV) estimates demonstrate that the negative relationship is causal (column 2 of Table 8). One year after the pro-public interest decisions, the log prices of media stocks decreased by 0.0268, which is statistically significant at the 1% level. Two years after the decisions, the log prices decreased to 0.0346, which is statistically significant at the 5% level.[83] Thus, relative to non-media stocks, media stocks generally *decreased* in their log prices over a longer period after appellate courts issued their decisions against businesses.[84]

[83] Table 8 reveals multicollinearity in a number of control variables when including all interactions with two years of lags. The estimates on the main coefficients are robust when estimating the specification on 25% and 75% samples, and when estimating separate regressions for media and non-media stocks (robustness results available upon request).

[84] The same decline is observed for non-logged stock prices but is less statistically significant.

Recall that some appellate decisions were reported in major newspapers.[85] The period between decisions and when firms are exposed to corresponding news reports may explain the lag effect. For example, the issued decisions may have caused a decrease in stock prices for all firms sometime after they received corresponding news reports. With this situation, then, the media stock prices may have continued to decrease into the second year because media firms altered their policies in response to the decisions.

We now consider a falsification check: if our identification strategy truly approximates a random experiment, then no outcome occurring before the treatment has taken place should respond to the randomly administered treatment. The treatment in our situation is the random assignment of judges. This falsification check helps ensure that our results have a causal interpretation instead of being only a correlation. Our next table, Table 9, presents an analysis of the data that conducts this check.

The lead values in columns 1–4 of Table 9 suggest a potential issue with the current identification strategy. Namely, the number of appellate decisions on FCC actions could be endogenous to previous years' assignment of judicial panels. If this is the case, then attenuation bias is introduced in lags but not in the most advanced lead. However, when we collapse our data to be the yearly average stock price with one observation each for media and non-media stocks, the lead coefficients are no longer statistically significant while the 2-year lag coefficient is statistically significant at the 10% level. This provides further evidence supporting the hypothesis that stock prices respond to appellate decisions on FCC actions. Our subsequent work on appellate takings decisions improves upon the identification strategy presented in this paper and further addresses concerns about endogeneity.[86]

The primarily goal of this study is to document the responses of media stock prices to appellate decisions regarding FCC actions. Our findings on stock price responses directly inform whether appellate decisions matter to the market. In view of the broader literature linking stock prices with

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[85] *See supra* Part III.

[86] *See* Daniel L. Chen & Susan Yeh, The Economic Impacts of Eminent Domain, (Duke Law School, Manuscript, 2012), *available at* http://www.duke.edu/~dlc28/papers/EminentDomain.pdf; Daniel L. Chen & Susan Yeh, State Response to Expanding Government Capacity: Evidence from Takings Law, (Duke Law School, Manuscript, 2012), *available at* http://www.duke.edu/~dlc28/papers/State.pdf; Daniel L. Chen & Susan Yeh, Distinguishing Between Custom and Law: Empirical Examples of Endogeneity in Property and First Amendment Precedents, (Duke Law School, Manuscript, 2012), *available at* http://www.duke.edu/~dlc28/papers/Custom.pdf.

competition,[87] it is plausible that decreases in media stock prices might imply greater media competition. Still, we caution that media stock prices do not necessarily measure media competition, which is more commonly measured by the revenue of the largest four media owners in a market,[88] audience size of local programming, the variety of programming options,[89] the "percentage of circulation of newspapers, the number of publications owned, the advertising share of radio stations, or the number of journals in a discipline."[90] Further studies are needed to more thoroughly understand the impacts of appellate FCC decisions on media competition and ideological diversity in media markets.

TABLE 9
Log(Media Stock Prices) One Year before Appellate Decisions

	(1)	(2)	(3)	(4)
Pro-Public Interest Decisions (t)	0.00413	-0.00253	0.0152*	0.0232*
	(0.00516)	(0.00488)	(0.00716)	(0.0113)
Media* Pro-Public Interest Decisions (t)	0.0179	0.0321*	-0.0312	-0.0234
	(0.0128)	(0.0156)	(0.0254)	(0.0329)
Pro-Public Interest Decisions (t+1)	-0.00785*	-0.00687	0.0221**	0.0118+
	(0.00357)	(0.00550)	(0.00463)	(0.00634)
Media* Pro-Public Interest Decisions (t+1)	0.0204+	0.0282**	-0.0367	-0.0499
	(0.0106)	(0.00757)	(0.0347)	(0.0311)
Media Indicator	3.334**	0	2.892**	2.874**
	(0.743)	(0.0147)	(0.556)	(0.542)
Pr(Panel has 1+ Black Appointees)(t+1)	-3.562**	0	2.587**	1.261
	(0.992)	(0.324)	(0.772)	(1.037)
Pr(Panel has 2+ Democrat Appointees)(t)	-0.654	0	-1.552+	-1.637+
	(0.815)	(1.858)	(0.884)	(0.880)
Pr(Panel has 1+ Black Appointees)(t)	-1.205	0	-5.775*	-4.433
	(2.273)	(0.517)	(2.288)	(2.875)

[87] *See, e.g.*, Hou & Robinson, *supra* note 18 (showing that in the United States, firms in more concentrated industries have lower returns because they have lower risks than firms in more competitive industries). A further study develops a model of how the interaction between competition, production, and investment and shows that consistent with Hou and Robinson's risk hypothesis, higher demand and growth can result in a negative relationship between industry competition and stock price returns. Felipe L. Aguerrevere, *Real Options, Product Market Competition, and Asset Returns*, 64 J. FIN. 957 (2009).

In the United States, it is unlikely that these higher returns would imply a monopoly in the media industry. Studies have established that the U.S. media industry is unlikely to be a monopoly. *See, e.g.*, Robert B. Horwitz, *On Media Concentration and the Diversity Question*, 21 THE INFORMATION SOC'Y 181 (2005); BENJAMIN M. COMPAINE, THE MEDIA MONOPOLY MYTH: HOW NEW COMPETITION IS EXPANDING OUR SOURCES OF INFORMATION AND ENTERTAINMENT (2005).

[88] COMPAINE, *supra* note 87, at i.

[89] *Id.* at 1.

[90] *Id.* at 6.

Media*Pr(Panel has 2+ Democrat Appointees)(t)	-2.895	0	-4.781	-4.807
	(4.334)	(0.0426)	(3.821)	(3.770)
Media*Pr(Panel has 1+ Black Appointees)(t)	-17.37**	0	-17.36**	-15.72**
	(3.745)	(0.0159)	(2.791)	(3.623)
Pr(Panel has 2+ Democrat Appointees)(t+1)	2.031**	1.799	0.978	0.933
	(0.742)	(20.51)	(0.806)	(0.827)
Media*Pr(Panel has 1+ Black Appointees)(t+1)	1.980	0	1.088	-0.434
	(3.557)	(0.00755)	(2.451)	(2.820)
Media*Pr(Panel has 2+ Democrat Appointees)(t+1)	3.063	0	4.134	4.173
	(3.904)	(0.852)	(4.079)	(4.112)
Docket Size(t) – Number of FCC Cases(t)	0.00000177	-0.000000105		
	(0.00000129)	(0.00000734)		
Media Industry*(Docket Size(t) – Number of FCC Cases(t))	-0.00000417+	0.0000017 4		
	(0.00000237)	(0.00000264)		
Docket Size(t+1) – Number of FCC Cases(t+1)	-0.00000213**	-0.000001 32		
	(0.000000348)	(0.00000210)		
Media Industry*(Docket Size(t+1) –	0.00000101	0.0000007 54		
Number of FCC Cases(t+1))	(0.000000748)	(0.00000140)		
Year Had No FCC Cases(t)	0.0342	0.0144	0.118**	0.129**
	(0.0231)	(0.505)	(0.0283)	(0.0323)
Media Industry* Year Had No FCC Cases(t)	0.200*	-0.237	0.260*	0.270**
	(0.0917)	(0.224)	(0.102)	(0.105)
Number of FCC Cases(t)			-0.00959	-0.0128
			(0.00845)	(0.0103)
Media Industry*Number of FCC Cases(t)			0.0372+	0.0334
			(0.0193)	(0.0217)
Year Had No FCC Cases(t+1)	0.105**	0.0272	0.264**	0.241**
	(0.0368)	(0.486)	(0.0363)	(0.0436)
Media Industry*Year Had No FCC Cases(t+1)	0.209**	-0.363**	0.208**	0.172**
	(0.0625)	(0.139)	(0.0649)	(0.0608)
Number of FCC Cases(t+1)			-0.0176**	-0.0102+
			(0.00316)	(0.00568)
Media Industry* Number of FCC Cases(t+1)			0.0301+	0.0399**
			(0.0159)	(0.0147)
Constant	2.684**	2.065**	2.828**	2.867**
	(0.526)	(0.255)	(0.406)	(0.391)
N	317607	317607	317607	317607
R-sq	0.013	0.006	0.009	0.009

Note: Robust standard errors are clustered by industry and displayed in parentheses below each coefficient; + p-value<0.10; * p-value<0.05; ** p-value<0.01. *Law* is the number of appellate decisions ruling in favor of the public interest in FCC actions.

VI. CONCLUSION

This paper utilized a differences-in-differences (DID) analysis and a two stage least squares (TSLS) framework to test the effects of appellate court decisions of FCC actions on media competition. Changes in media stock prices were used as a proxy for changes in media competition because industry competition may directly affect stock prices. The paper exploited the random assignment of appellate judges to three-judge panels to identify the instruments of a judge's party affiliation and race, which predict outcomes in appellate decisions. The instruments were used to demonstrate a causal relationship between appellate decisions and changes in media stock prices, as a proxy for changes in media competition.

The DID analysis shows the appellate court decisions against media businesses decreased media stock prices relative to non-media stock prices. Similarly, the TSLS analysis shows the appellate court decisions decreased stock prices among media firms one and two years after the decisions. The relative decrease in media stock prices could be consistent with greater competition in the media market and could correspond to an increase variety of programming. If so, appellate decisions on FCC actions that increase competition and programming variety would suggest that the courts effectively reinforced the purpose of the FCC to serve the public interest by promoting a diversity of viewpoints.

DOCTRINAL APPENDIX

Communications Act of 1934, 47 U.S.C. §§ 151 *et seq.* (1934) (creating the FCC to regulate broadcasting content after the unregulated growth of the radio industry began booming).

FCC v. Nat'l Citizens Comm. for Broad., 436 U.S. 775, 779, 796 (1978) (alleging certain regulations exceeded the FCC's authority under the Communications Act of 1934, 47 U.S.C. § 151 *et seq.*, and that the FCC exceeded its authority in determining the divestiture under the Administrative Procedure Act, 5 U.S.C. § 706. The court upheld the FCC regulations barring common ownership of a radio or television broadcast station and a daily newspaper in the same community. A co-owner has to divest, within five years, either its newspaper or station holdings to comply with the regulations. The court reversed the lower court's order vacating the limited divestiture requirement because the divestiture rules "enhance the possibility of achieving greater diversity of viewpoints").

Telecommunications Act of 1996, Pub. L. No. 104–104, 110 Stat. 56 (1996) (increasing radio station ownership limits within markets and eliminated restrictions on the number of stations firms can own nationwide. Defines how the FCC grants and licenses the broadcast spectrum to media outlets. Requires a biennial review by the FCC of regulations, provides regulatory forbearance, regulatory relief, and provides for the elimination of unnecessary regulations).

Cellco P'ship v. FCC, 357 F.3d 88, 99 (D.C. Cir. 2004) (construing the FCC's regulatory power broadly and finding that the FCC does not need to establish that a regulation is absolutely "necessary" in order to comply with a statutory provision requiring necessity for the agency to regulate).

Prometheus Radio Project v. FCC, 373 F. 3d 372, 402–03 (3d Cir. 2004) (ruling against FCC action from 2003 to raise the limits of cross-ownership of media outlets, which would have allowed for more media concentration. The court held that a "diversity index" used by the FCC to weigh cross-ownership of media outlets employed "several irrational assumptions and inconsistencies"). The Supreme Court later turned down an appeal for *Prometheus Radio Project v. FCC*, so the decision stands. *See FCC v. Prometheus Radio Project*, 545 U.S. 1123 (U.S. 2005).

In 2007, the FCC proposed a scaled down version of the consolidation proposal that still contained loopholes allowing for larger media monopolies. However, the Third Circuit placed a stay on the FCC to prevent enforcement. *See Prometheus Radio Project v. FCC*, No. 08-3078, 2009 U.S. App. LEXIS 28819 (3d Cir. June 12, 2009).

In March 2010, during the FCC's 2010 quadrennial review, the Third Circuit removed the stay. *See Prometheus Radio Project v. FCC*, No. 08-3078, 2010 U.S. App. LEXIS 20436 (3d Cir. Mar. 23, 2010). Thus, the 2007 rules are in effect.

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