

E-RULEMAKING: BRINGING DATA TO THEORY AT THE FEDERAL COMMUNICATIONS COMMISSION

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ABSTRACT

This Article examines the theoretical promise of e-rulemaking with an examination of data about all filings at the Federal Communications Commission (FCC) from 1999 to 2004. The Article first reviews the theoretical and empirical literature on e-rulemaking. It then analyzes a dataset of all filings at the FCC using descriptive statistics and regression analysis to determine what drives e-filings and whether the theoretical promise of e-rulemaking is being realized six years into the experiment. The Article finds that though there has indeed been a long-term trend away from paper filings and toward to computerize and digitize administrative agencies documents and the rulemaking process in the United States. Plans were laid out

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1. See Barbara H. Brandon & Robert D. Carlitz, *Online Rulemaking and Other Tools for Strengthening Our Civil Infrastructure*, 54 ADMIN. L. REV. 1421, 1478 (2002) (arguing that the Internet could fundamentally change how the American public participates in federal policymaking).

money appropriated to begin the process of computerizing rulemaking to reduce paper in the bureaucracy,² increasing citizen participation and deliberation in the rulemaking process, and speeding and enhancing the subsequent creation of administrative rules across the entire administrative apparatus.³ Beginning in the late 1980s, the federal government began commissioning studies to examine the application of information technology to different aspects of government record-keeping and rulemaking.⁴ In 1998, with

2. See, e.g., STUART REITER, ACTING CHIEF INFO. OFFICER, U.S. NUCLEAR REGULATORY COMM'N, SECY-99-205, RULEMAKING PLAN: REVISION OF 10 CFR TO PERMIT THE SUBMISSION OF DOCUMENTS ELECTRONICALLY; MINOR CORRECTIONS (1999), available at <http://www.nrc.gov/reading-rm/doc-collections/commission/secys/1999/secy1999-205/1999-205scy.html> ("Licensees and applicants would benefit from a reduction in the administrative costs associated with paper submissions."); Press Release, FCC, FCC to Allow Electronic Filing of Documents in Rulemaking Proceedings; Access to Commission Filings and Opportunities to Participate in Commission Proceedings Greatly Increased (GC Docket 97-113) (Apr. 2, 1998), http://www.fcc.gov/Bureaus/OGC/News_Releases/1998/nrgc8002.html (last visited June 5, 2006) ("Electronic filing will lower the costs of filing comments because parties will no longer have to file multiple paper copies . . .").

3. See, e.g., U.S. GEN. ACCOUNTING OFFICE, ELECTRONIC RULEMAKING: EFFORTS TO FACILITATE PUBLIC PARTICIPATION CAN BE IMPROVED 1 (2003) ("Information technology (IT) can greatly enhance the public's ability to accomplish each of these comment-related tasks, and can also improve federal agencies' ability to analyze and respond to those comments."); OFFICE OF MGMT. & BUDGET, EXECUTIVE OFFICE OF THE PRESIDENT, THE PRESIDENT'S MANAGEMENT AGENDA 25 (2002) (identifying the expected results of electronic rulemaking as "provid[ing] high quality customer service regardless of whether the citizens contact the agency by phone, in person, or on the Web; reduc[ing] the expense and difficulty of doing business with the government; cut[ing] government operating costs; provid[ing] citizens with readier access to government services; increas[ing] access for persons with disabilities to agency web sites and E-government applications; and mak[ing] government more transparent and accountable"); Stephen M. Johnson, *The Internet Changes Everything: Revolutionizing Public Participation and Access to Government Information Through the Internet*, 50 ADMIN. L. REV. 277, 320 (1998) ("The Internet could be used to revolutionize each step of the process that agencies must follow under the APA by supplementing, rather than replacing, those processes."); Letter from Richard D. Otis, Jr., eRulemaking Initiative, Program Manager and Deputy Assistant Adm'r, to Victor S. Rezendes, Managing Dir., Strategic Issues, U.S. Gen. Accounting Office 37 (Apr. 28, 2003) ("Increasing and simplifying public access to government services and strengthening participatory democracy through a more citizen-centric government are major goals of the President's Management Agenda. The administration launched an interagency eRulemaking initiative to overcome barriers to public participation in the federal regulatory process.").

4. CARY COGLIANESE, E-RULEMAKING: INFORMATION TECHNOLOGY AND REGULATORY POLICY, NEW DIRECTIONS IN DIGITAL GOVERNMENT RESEARCH 13 (2004), http://www.ksg.harvard.edu/press/E-Rulemaking_Report.pdf (last visited May 28, 2006). A series of initiatives and acts were passed between 1990 and 1998 to increase the role of information technology in administrative agencies. These included: The Clinton administration's National Performance Review (later known as the Gore Commission on Reinventing Government); the digitization of the Federal Register and the Code of Federal Regulations and their availability on the Internet; the Paperwork Reduction Act; and the

much fanfare, the Department of Transportation rolled out the first online, department-wide, regulatory docket, providing full access to all studies, comments, and other documents contained in the agency's rulemaking records. This system also allowed the public to submit comments on all rules proposed by the department.⁵ Later, the Federal Communications Commission (FCC), Environmental Protection Agency (EPA), and a host of other agencies developed their own systems for computerizing the deliberative rulemaking process. Thus was born electronic rulemaking, or "e-rulemaking."

Since the 1990s, the federal government at all levels has expressed a commitment to electronic rulemaking as a way to cut costs, enhance the deliberative process, and democratize the regulatory process with increased citizen participation. Congress has appropriated money, agencies have dedicated personnel, and task forces have been created. Indeed, a recent initiative has sought to integrate and streamline e-rulemaking through interagency working groups, standardized electronic interfaces, and common back-office systems.⁶

This Article will evaluate whether e-rulemaking has made progress toward achieving its goals seven years into the experiment. Although the theoretical promise of e-rulemaking has been great, it is difficult to determine the success of electronic efforts because papers that have examined much more than case-study data are scarce.⁷

Freedom of Information Act. *Id.* at 13. Many agencies used e-mail and information technology to edit documents. Other agencies used scanning technology, and the FDA allowed e-mail comments as well. *Id.*

5. *Id.* at 14.

6. This has been a large effort. To cite just a few key milestones: The E-Government Act was passed in 2002, directing agencies to create electronic dockets and electronic interfaces for public comment; President Bush developed an E-Government Action Plan; the OMB selected the EPA to be the interagency team leader in the administration's e-rulemaking projects; the Regulations.gov portal was created as a centralized gateway to all agency rulemaking; and the EPA's EDOCKET became a template for a standardized public electronic interface for docket management. COGLIANESE, *supra* note 4, at 14–15; *see also* Beth Simone Noveck, *The Electronic Revolution in Rulemaking*, 53 EMORY L.J. 433, 466–94 (2004) (providing an in-depth discussion of the recent trends in e-rulemaking policy).

7. *See* CORNELIUS M. KERWIN, *RULEMAKING: HOW GOVERNMENT AGENCIES WRITE LAW AND MAKE POLICY* 192 (1st ed. 1994) (noting that good empirical studies "are as rare as hens' teeth"); Brandon & Carlitz, *supra* note 1, at 1444 ("At present, little good data exists showing both who is participating in rulemaking and what influence parties exert."); Stuart W. Shulman, *E-Rulemaking: Issues in Current Research and Practice*, 28 INT'L J. PUB. ADMIN. 621, 625 (2005) [hereinafter Shulman, *Issues*] ("To date, and perhaps not surprisingly given the recent and sporadic nature of the change, there has been little systematic documentation of the effect of this digital transformation on either citizens or agencies."); STUART W. SHULMAN, *THE*

Those that have examined larger data sets are of two types: either they are confined to one or two dockets, or they rely upon survey data.⁸ While these papers use valid research methods, these methods have drawbacks. Papers that examine only one or two dockets usually select a docket where there have been thousands of comments filed. Unfortunately, these types of dockets are not representative of the average docket before an agency—which may receive fewer than 100 filings.⁹ It thus may be difficult to make generalizations from these single-docket studies. Papers that rely upon survey data face a different challenge. Researchers ask parties a series of questions about a comment many months after the filing has been made, creating a problem of hindsight bias. What both of these methods do offer, however, is an evaluation of the influence of e-rulemaking at a very microscopic level of data, which is difficult using other methods.

This Article has the opposite goal. Rather than examine each comment in a single docket through, for example, content analysis, this Article explores the general trends in the electronic filing and digitization process in administrative agencies over thousands of

INTERNET STILL MIGHT (BUT PROBABLY WON'T) CHANGE EVERYTHING: STAKEHOLDER VIEWS ON THE FUTURE OF ELECTRONIC RULEMAKING 35 (2004), http://erulemaking.ucsur.pitt.edu/doc/reports/e-rulemaking_final.pdf [hereinafter SHULMAN, CHANGE EVERYTHING] (“Much of what has been written and said about electronic rulemaking over the last three years has been forward-looking and highly speculative. [There has been a] dearth of empirical studies . . .”).

8. See, e.g., David Schlosberg et al., ‘To Submit a Form or Not to Submit a Form, That Is the (Real) Question’: Deliberation and Mass Participation in U.S. Regulatory Rulemaking 3 (May 5, 2005) (unpublished paper, on file with the *Duke Law Journal*) (conducting a survey of 1,553 recent participants in regulatory rulemaking process); Stuart W. Shulman, *Whither Deliberation? Mass e-Mail Campaigns and U.S. Regulatory Rulemaking*, in DREAMING OF THE REGULATORY VILLAGE; SPEAKING OF THE REGULATORY STATE 38, 39 (Michael McConkey & Patrice Dutil eds., 2006), <http://www.ipac.ca/files/RegulatoryState.pdf> (examining all comments on the National Organic Program at the USDA); Lisa E. Thrane et al., *E-Political Empowerment: Age Effects or Attitudinal Barriers?*, 1 J. E-GOV'T 21, 22 (2004) (conducting a survey of 478 individuals).

9. Three pieces of data suggest that most dockets receive few comments. First, a cursory review of dockets before the FCC, using the ECFS search and query system, shows that few dockets receive more than 100 comments. Second, the number of ex parte meetings and filings, which are highly correlated with the number of formal comments and replies, skew strongly toward a small number of filings. John M. de Figueiredo & Emerson H. Tiller, *The Structure and Conduct of Lobbying: An Empirical Analysis of Corporate Lobbying at the Federal Communications Commission*, 10 J. ECON. & MGMT. STRATEGY 91, 97–99 (2001). Finally, informal interviews with officials at the FCC corroborate this assertion. See Brandon & Carlitz, *supra* note 1, at 1452 n.129 (quoting a former Assistant Secretary for the Department of Health and Human Services as stating that “the great majority of government rulemakings generate only a few hundred or thousand comments”).

dockets and millions of filings. In particular, it examines a comprehensive dataset available from the FCC covering its entire computerization and digitization process at monthly intervals over a 6-year period. An analysis of the trends and regularities in the data can help to reveal whether e-rulemaking has met the vision, at the macro-data level, articulated by its architects.

Part I briefly reviews the rulemaking process and ground-level advances in e-rulemaking. Part II discusses the theoretical promise of e-rulemaking. Part III describes the electronic and digitization initiatives at the FCC and reviews the data in some detail. Part IV examines how the data line up with the theoretical promise of e-rulemaking. The implications for the data in the e-rulemaking process with respect to both interest group strategy in administrative agencies and judicial review of agency decisions are discussed in Part V.

I. ADMINISTRATIVE RULEMAKING

The Administrative Procedure Act of 1946 (APA)¹⁰ and the enabling statutes for various agencies outline the rulemaking notice and comment procedures, adjudication process, and judicial review process for administrative agencies.¹¹ The details of rulemaking are outlined in § 4 of the APA.¹² The APA calls for agencies to publish notice of proposed rulemakings in the Federal Register, to include the written data, views, or arguments, of interested parties in the rulemaking process, and to publish the rule 30 days before it is to take effect.¹³

In a typical rulemaking, an agency posts a Notice of Proposed Rulemaking (NPRM) that is filed in the Federal Register. The NPRM usually sets out the parameters of policy under consideration, an initial timetable for the rulemaking, and, in some cases, the

10. Administrative Procedure Act of 1946, Pub. L. No. 79-404, 60 Stat. 237 (codified as amended in scattered sections of Title 5 of the United States Code).

11. See PETER L. STRAUSS, ET AL., ADMINISTRATIVE LAW, CASES AND COMMENTS 226–509 (9th ed. 1995) (discussing the rulemaking process).

12. Administrative Procedure Act § 4, 5 U.S.C. § 553 (2000); see also STRAUSS, *supra* note 11, at 1335–36.

13. Administrative Procedure Act § 4, 5 U.S.C. § 553; see also Jane E. Fountain, *Prospects for Improving the Regulatory Process Using E-Rulemaking*, 46 COMM. OF THE ACM 43, 43 (2003); Letter from Michael Brostek, Assoc. Dir., Fed. Mgmt. and Workforce Issues, to Representative Henry A. Waxman, Ranking Minority Member, Comm. on Gov't Reform 1 (June 30, 2000), available at <http://frwebgate.access.gpo.gov/cgi-bin/useftp.cgi?IPaddress=162.140.64.21&filename=gg00135r.pdf&directory=/diskb/wais/data/gao>.

agency's current knowledge and thinking on the issue. Once notice is provided, a comment and reply timetable is outlined by the agency for interested parties to provide input on the issue and respond to other parties' inputs. After consideration of the comments, replies, ex parte communications, data, studies, and other factors, the agency will usually issue one or more orders or rules regarding the NPRM. Many times, on major and complex issues, the NPRM will spawn a series of regulations or orders, sometimes over a multi-year period.¹⁴

Within this basic structure there have been a number of points where the "e" has entered into the rulemaking process. There are initiatives to make all NPRMs accessible electronically. More recently, a move has been made to facilitate fast and efficient keyword, or "hot topic" searches for NPRMs across multiple agencies. There are also efforts to facilitate the electronic filing and storage of comments and replies during the formal rulemaking process. Finally, technologies have been employed to make final rules accessible to everyone by posting them on the Internet. With this base of infrastructure and e-rulemaking, agencies have experimented with other avenues to facilitate deliberation. These include discussion groups, blogs, and real-time response capabilities.¹⁵ Together with an effort to digitize paper files, e-rulemaking has attempted to employ digital technology at many points in the administrative process.¹⁶

II. E-RULEMAKING IN THEORY

The goals of e-rulemaking have generally been the same across agencies. The first goal of e-rulemaking is to reduce paper and costs for agencies in the rulemaking process.¹⁷ It is claimed that by digitizing the administrative workload, agencies can more efficiently process electronic dockets, thereby reducing costs to the agency.¹⁸ This cost savings may be measured in reductions in the cycle time to

14. See generally COGLIANESE, *supra* note 4, at 5–11 (discussing the rulemaking process and its timing).

15. See, e.g., J. Woody Stanley & Christopher Weare, *The Effects of Internet Use on Political Participation: Evidence from an Agency Online Discussion Forum*, 36 ADMIN. & SOC'Y 503 (2004) (analyzing an online discussion forum at the Department of Transportation). For a more discussion of the possibilities for deliberation in e-rulemaking, see generally Stuart Minor Benjamin, *Evaluating E-Rulemaking: Public Participation and Political Institutions*, 55 DUKE L.J. 893 (2006).

16. See *supra* notes 2–5 and accompanying text for a discussion of the efforts.

17. See *supra* note 2 for evidence from two agencies.

18. COGLIANESE, *supra* note 4, at 21.

produce final rules, reduction in the number of full-time–equivalent staff members required in the rulemaking process, and savings in budget costs related to rulemaking.¹⁹

The second goal of e-rulemaking is to increase the level of participatory democracy. This is also called the mobilization hypothesis, where electronic rulemaking so lowers the cost of participation, that it opens up the administrative process to individual citizens.²⁰ This goal is founded in literature that argues that participation enhances the democratic process in rulemaking which, in turn, increases bureaucratic legitimacy²¹ and federal government credibility,²² strengthens individual autonomy and rights of self-governance,²³ increases public understanding of rulemaking,²⁴ and enhances the accountability of administrative agencies to other branches of government.²⁵ Underlying these goals is the objective to increase the quantity of comments and general participation levels of individuals in the rulemaking process.²⁶

A third goal of e-rulemaking is to increase deliberation in the rulemaking process, which not only promotes democratic discussion, but also to improve policy decisions. The logic is roughly as follows: increased participation results in better rules through more informed deliberation,²⁷ which in turn leads to better assessments of impacts and cost-effectiveness of rules.²⁸ In addition, deliberation also confers greater legitimacy on the rules, accounting for a broader scope and

19. *Id.*

20. Stanley & Weare, *supra* note 15, at 506.

21. Roger C. Cramton, *The Why, Where and How of Broadened Public Participation in the Administrative Process*, 60 GEO. L.J. 525, 525 (1972) (arguing that “broadened public participation will improve administrative decisions and give them greater legitimacy and acceptance”).

22. Thomas C. Beierle, *Digital Deliberation: Engaging the Public Through Online Policy Dialogues*, in DEMOCRACY ONLINE: THE PROSPECTS FOR POLITICAL RENEWAL THROUGH THE INTERNET 155 (Peter Shane ed., 2004).

23. Noveck, *supra* note 6, at 458.

24. COGLIANESE, *supra* note 4, at 19.

25. *Id.*

26. *See supra* notes 2–5 and accompanying text.

27. Brandon & Carlitz, *supra* note 1, at 1470–71.

28. COGLIANESE, *supra* note 4, at 20.

consideration of viewpoints.²⁹ This process is said to enhance the deliberative process and result in better rulemaking.³⁰

This Article will not evaluate whether these theoretical goals are exhaustive, comprehensive, or even desirable. Rather it takes these goals as given and explores the extent to which the macro-data analyzed suggests that these goals are being met. In particular, this Article explores the democracy-enhancing goals of increased participation and focused deliberation articulated above, with a focus on data provided by the FCC.

III. E-RULEMAKING IN PRACTICE: LONG TERM DATA ON THE FEDERAL COMMUNICATIONS COMMISSION

As early as 1992, the FCC began tracking its electronic workload. Although paper was pervasive at the agency, there was a steady shift of work to digital format. For example, an internal document storage and viewing system was developed for documents that either came in electronic form or could be scanned into electronic form. In early 1996, building upon prior information technology efforts such as the FCC website and the FCC's Record Image Processing System (RIPS),³¹ the Commission launched its electronic comment filing initiative. By April 1998, the FCC had amended its rules to allow the public to file comments and other pleadings via the Internet in most notice and comment rulemaking proceedings, petitions for rulemaking, Notice of Inquiry proceedings, and petitions for reconsiderations in all these proceedings.³² The Electronic Comment Filing System (ECFS) allowed members of the public to file, review, and print documents online, rather than through paper copies. The FCC folded all RIPS documents into the ECFS system from 1992 onward.³³

29. Robert D. Carlitz & Rosemary W. Gunn, *Online Rulemaking: A Step Toward E-Governance*, 19 GOV'T INFO. Q. 389, 394 (2002), available at http://www.info-ren.org/publications/giq_2002/giq_2002.html.

30. For a more general discussion of these various democratic ideas, see Noveck, *supra* note 6 (arguing that technology can make it easier to form and maintain deliberative communities), and *Issues, supra* note 7, at 635 (questioning whether the Internet will usher in a new era of more inclusive deliberation or reinforce existing inequalities).

31. RIPS maintained all public pleadings in rulemaking proceedings.

32. Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24,121, 24,121 (FCC May 1, 1998).

33. *Id.*

The FCC Reference Information Center has kept a variety of data regarding various electronic initiatives at the Agency. The data presented here are available at this office and were used for the purposes of this paper.

Since 1992, the FCC has kept annual statistics on the number and size of filings it received. Figures 1a and 1b show that by two measures—the total number of filings and the total number of pages filed—there has been an upward trend in participation in rulemakings by interested parties.

Figure 1a: Number of FCC Filings per Year, 1992–2004

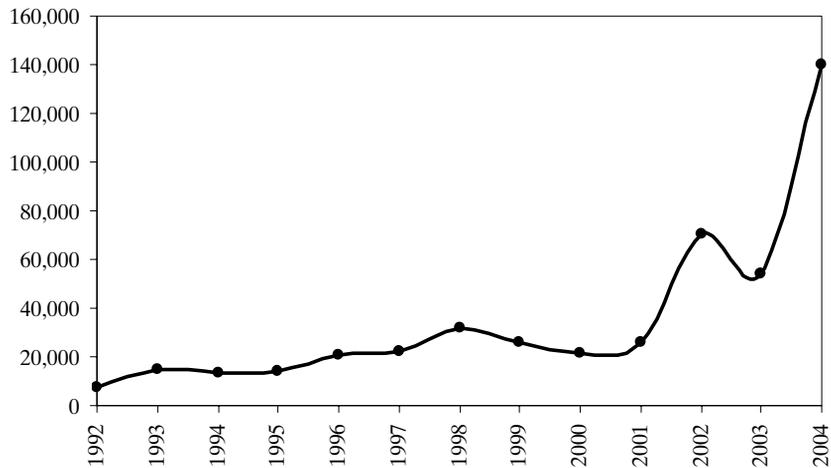
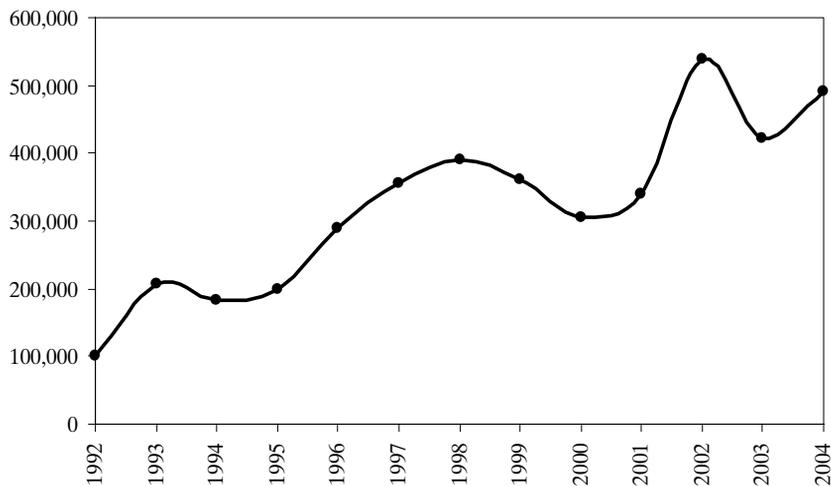


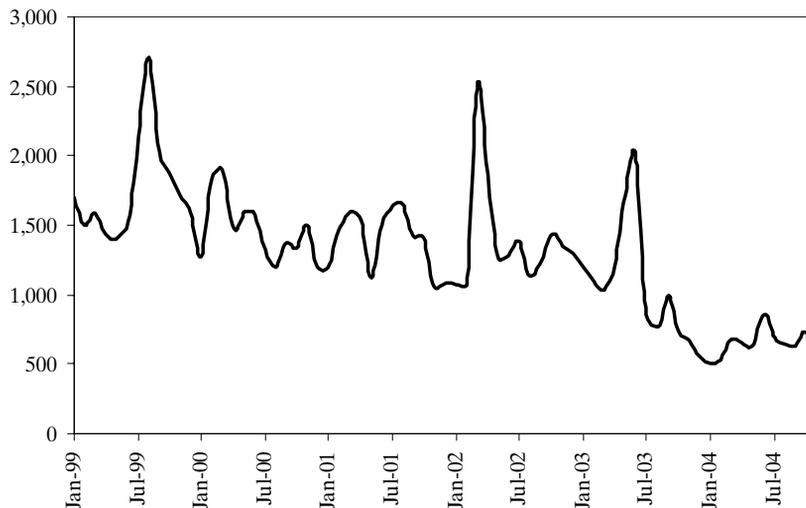
Figure 1b: Number of Pages Filed at FCC per Year, 1992–2004



Taken together the data³⁴ suggest that because the number of filings is increasing faster than the number of pages, the average length of filing is getting shorter over time.

How do these filings reach the FCC? There are three main avenues citizens and interest groups can use to file comments, critiques, data, and reports with the FCC. Since 1999, the FCC Reference Information Center has kept monthly statistics on these three avenues. The first method is paper filings. Going back to the creation of the FCC in 1934, the filing of paper comments and replies by interest groups has been a vital (and for some groups the only) way in which interest group participation occurred. In 1999, the FCC started keeping monthly records of the number of filings which on paper and subsequently scanned into the FCC's electronic databases for general access. Figure 2 presents this data.

Figure 2: Number of Monthly Paper Filings Scanned in the ECFS Database, 1999–2004



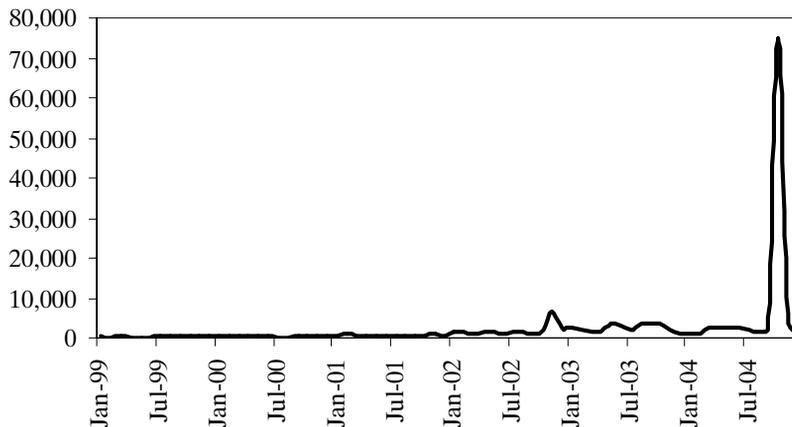
There has been a long-term decrease in the number of paper filings. That number has dropped from nearly 1,750 filings per month in 1998 to fewer than 500 filings per month by the end of 2004, or less

34. A note of caution about the data. When the FCC reviews a paper mass filing (many identical or similar form letters with the docket number included), it does not report each filing separately. Rather, it scans representative filings into the system. The scanned filings appear as one filing with additional pages for each scanned page.

than 30 percent of the 1998 levels. Most of this drop occurred between 2001 and 2004. Combined with the number of overall filings increasing, the data suggest that there has indeed been a shift away from paper filing, as intended by the FCC.³⁵ In transitioning the workload from paper to digital media, one major goal of the e-rulemaking initiatives would seem to be trending toward success.

A second method of filing is through the Electronic Comment Filing Systems (ECFS) found at the FCC website.³⁶ Since 1998, the ECFS has evolved to include more advanced features,³⁷ and has become the dominant mode of filing comments by the public. Figure 3a graphs the number of filings by month via the ECFS.³⁸ The most striking features of the graph are a small spike in the number of ECFS filings in November 2002 and an enormous spike in October 2004. Other than these two anomalies, the number of ECFS filings is relatively flat.

Figure 3a: Number of Monthly ECFS Filings, 1999–2004



35. See Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. at 24,121, for a discussion of the FCC's desire to move away from paper.

36. The ECFS can be accessed at <http://www.fcc.gov/cgb/ecfs>. This method of filing is through a form on the website. The data presented for this filing method do not include comments e-mailed to the FCC.

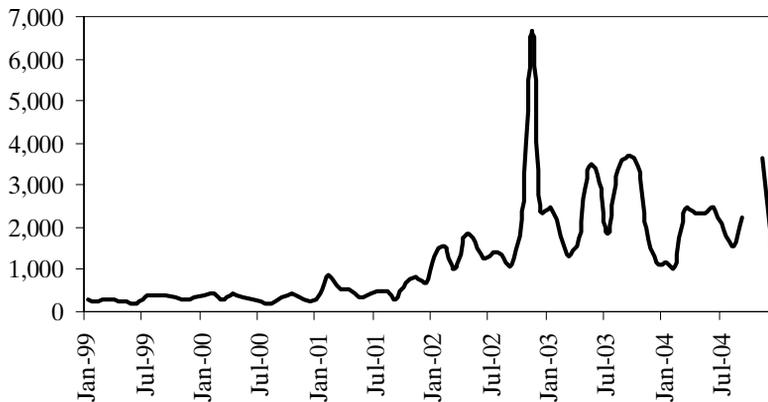
37. For example, until 2003, one needed to know the precise docket number to make a filing. One could search for the issue, match the docket number, and then insert that docket number to make a filing on an issue. Recently, however, the FCC introduced "ECFS Express," which lists the top 20 dockets. One can click on the chosen "hot docket" and then make a filing on that docket almost immediately.

38. The FCC records each ECFS filing separately, regardless of whether it is part of mass filing or not.

The first question that comes to mind is, “What happened in October 2004?” A review of the Internet filings shows that the nearly twenty-fold increase during October 2004 is due almost entirely to the FCC’s proceedings on media ownership rules. The Third Circuit Court of Appeals held that parts of the rules were arbitrary and capricious and remanded the case back to the FCC for further consideration in light of its decision.³⁹ The FCC started new proceedings on the issue. During these new proceedings, there were literally thousands of comments filed through the ECFS, which in October 2004 amounted to over twenty times the average number of ECFS comments the FCC had ever received in any single month. By November and December, the number of filings returned to trend level.

One challenge in examining Figure 3a is that the number of filings in October 2004 causes the vertical scale of graph to be so high, that one cannot view the detail of the data in other months. Figure 3b remedies this by simply omitting the October 2004 observation and then re-scaling the graph. This then tells a richer story.

Figure 3b: Number of Monthly ECFS Filings Omitting October 2004, 1999–2004



From 1999 to 2001, the introduction of electronic filings capabilities had little effect on the number of filings via the Internet. In late 2001, however, there was a five-fold increase in the number of filings. This was due largely to the anthrax scare of late 2001 and early

39. *Prometheus Radio Project v. FCC*, 373 F.3d 372, 411 (3d Cir. 2004).

2002. The public, fearful of contracting anthrax through the mail or contact with the mail, opted to file comments electronically. Subsequent to the anthrax scare, two issues arose at the FCC, which created many e-filings. The first was the Telecommunications Protection Act of 2002, or the Do Not Call Registry, which enjoined telemarketers from calling numbers registered on the list.⁴⁰ This was largely responsible for the spike in e-filings in late 2002. The second increase in 2003 was primarily due to the FCC's biennial review of its media ownership rules.⁴¹ Note that after the initial increase, the number of Internet filings at the FCC stayed high.

The claims that the anthrax scare and other issues affected filings can be tested with a statistical analysis of monthly ECFS data. To do this, an ordinary least squares (OLS) regression is run where the dependent variable is the log of the number of ECFS filings in a given month, beginning in January 1999.⁴² The dependent variable is log of ECFS filings ($\ln(\text{ECFS})$) instead of the actual number because, as Figure 3a demonstrates, the distribution of ECFS filings is highly skewed. If this is not taken into account, researchers may tend to overweigh the outliers, such as October 2004, and underweigh all other observations. Taking a natural log transformation of the variable is a common technique in statistics to address this problem.

Regression analysis examines effect of multiple independent variables on the number of ECFS filings. Three main independent variables are examined. The first independent variable, *Terror*, is an indicator variable, which is equal to one for the three months after the September 11 terror attacks, and zero otherwise. It is designed to measure how these attacks affected ECFS filing behavior. The second independent variable, *Anthrax*, is an indicator variable which is equal to one for the months December 2001 to May 2002, when the country was gripped by the anthrax scare, and zero otherwise. It is designed to measure how the anthrax scare affected ECFS filing behavior. The

40. National Do-Not-Call Registry Act, Pub. L. No. 108-82, 117 Stat. 1006 (2003) (codified at 15 U.S.C. §§ 6102-6108).

41. The FCC initiated its biennial review of its media ownership rules on September 12, 2002 and extended the deadline to January 2, 2003 for initial comments and February 2, 2003 for reply comments. Press Release, FCC, FCC's Media Bureau Adopts Procedures for Public Access to Data Underlying Media Ownership Studies and Extends Comment Deadlines for 2002 Biennial Regulatory Review of Commission's Media Ownership Rules (Nov. 5, 2002), http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-02-2980A1.pdf.

42. The results presented here are similar to results if the dependent variable in the statistical analysis is the number of ECFS documents or the size of the files.

final variable, *Issues*, is an indicator variable which is equal to one for the months in which the Do Not Call Registry and media ownership rules (first and second review) were being considered by the FCC, and zero otherwise. It is designed to measure the effect that these issues had on ECFS filing behavior.

In addition to these variables of interest, the statistical analysis includes a constant term, and a variable (or covariate) called *Trend*, which is a count variable starting with 1 in the first month of the sample and counting each additional month. This variable is designed to control for variables that are increasing over time, such as more issues before the Commission, more inherent participation by interested parties in issues, and the increase of e-advocacy and information technology over time.⁴³ The sample frame used is all months from January 1999 to December 2004. The results of the analysis are presented in Table 1.

Table 1: Statistical Analysis of ECFS Filings, January 1999 to December 2004

Variable	Coefficient
Trend	0.034* (0.0029)
Terror	-0.100 (0.2742)
Anthrax	0.537* (0.2002)
Issues	1.099* (0.1607)
Constant	5.329* (0.1105)
N	71
r-squared	0.828
F-Statistic	79.22

*99% statistical significance

Note: Dependent Variable: ln(Number of ECFS Filings) in a Given Month. Standard errors are presented in parentheses beneath the estimated coefficients.

43. An alternative way to conduct this exercise is a correlation analysis. A correlation analysis, however, will not allow the analysis of multiple variables at once, and will not account for the trend, which is generally required in time series data to mitigate spurious correlation.

Table 1 presents the results of this analysis with the variables included in the OLS regression in the left column and their coefficients (with standard errors below in parentheses) in the second column.⁴⁴ The standard errors are in parentheses below the estimated coefficients and their statistical significance noted at the 99 percent level of confidence.⁴⁵ Below these parameter estimates are estimated test statistics that give some indication of the robustness of the statistical analysis. The F-statistic shows that the coefficients are jointly statistically significant at the 99 percent level of confidence, despite the relatively small number of observations. The r-squared measures the amount of variance in the model explained by the independent variables in the regression. As can be seen in Table 1, these five variables explain over 82 percent of the variance in the outcome variable.

In Table 1, the coefficient on the dummy variables (the 0-1 variables) shows how, with a log transformation of the dependent variable, filings increase with a change in the regime. The coefficients on Trend, Anthrax, Issues, and the Constant are all positive and statistically significant at the 99 percent level. The coefficient on the Trend variable means that with each passing month, the FCC sees, on average, a 3.4 percent increase in electronic filings. Controlling for this trend effect, one can now see how much these other factors mattered to the ECFS filings. The coefficient on Anthrax means that in the months during the anthrax scare, there was a 71 percent increase in filings. The coefficient on Issues means that there was a 200 percent increase in filings when a key issue was before the Commission. Note, however, that the effect of the Terror variable has no statistically significant effect on the number of filings at the FCC in this specification. Thus, although some practitioners believe that Terror attacks did make a difference, a more discerning statistical analysis shows little impact of this variable on ECFS filings. Further statistical analysis, however, shows that this result may not be extremely robust and that Terror may result in more electronic filings.⁴⁶ Nevertheless, in all statistical analyses Anthrax and Issues

44. The coefficient on the Trend variable indicates how much filing increased on average every month during this time period, controlling for the other effects.

45. A coefficient at the 99 percent level of significance means that if one draws the variable from the distribution, 99 percent of the time the coefficient will be estimated to be different from zero.

46. An alternative way to specify the regression models is to conduct three separate regressions. For each ordinary least squares regression, the sample frame is all months

show a statistically and substantively significant increase in filings even when we include the Trend variable.⁴⁷

The third main avenue the public uses to provide input into the FCC rulemaking process is e-mail. In this realm of public comment, the FCC accepts e-mails for particular dockets in one of two formats: (1) those that use the FCC's SGML e-mail-interface; or (2) those that follow the more recent FCC procedures for filing comments via e-mail. The FCC includes only these formats as e-mail filings.⁴⁸ In the remainder of this paper, references to e-mail are to these FCC e-mail formats.

Since 1999, the FCC has kept records on the number of e-mails it receives regarding its docketed proceedings. Figure 4 graphs the monthly number of e-mails over time. Like the ECFS, there are almost no e-mails from 1998 to 2001. After September 2001, and largely in response to the anthrax scare and Do Not Call Registry proceedings, the number of e-mails increases substantially. However, the interest in media ownership rules that was evident in the ECFS filings in 2003 does not appear in the e-mail filings at the same time.

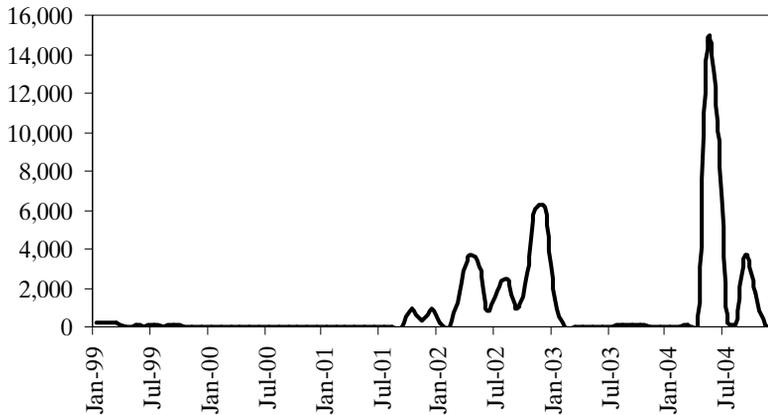
preceding the variable of interest and the months with the variable of interest. For example, the impact of Terror on ECFS filing behavior is measured. Included in the sample frame are all months preceding the September 11 terror attacks (January 1999 to September 2001) and the three months immediately after the terror attacks (October 2001 to December 2001). One variable is included at a time. This method has two virtues. The first is that by separating out each variable one can determine if an event causes an increase in the number of filings, given the entire history of filings. All other events will be captured in the history of filings rather than independently measured as part of the history. The second is that Terror and Anthrax have very few observations ($n=3$ and $n=5$ respectively). This will cause the econometrics to lack identification in a long time series that has all the variables included. In addition, the robustness of the model is examined with the dependent variable of the number of e-filings rather than $\ln(\text{efilings})$. The full results of this analysis are available from the author. Here, the results are described in brief. In all of these extended models, the F-statistic shows that the coefficients are jointly statistically significant at the 99 percent level of confidence, despite the relatively small number of observations. In the model with only the Trend and Terror variables, the coefficients on Trend and Terror are both positive and statistically significant. The coefficient on Terror means that in the months after the September 11 attack, there was an increase of 263 monthly filings on the ECFS system. In the model with only Trend and Anthrax, coefficients on both variables are positive and statistically significant. According to this model, the months during the Anthrax scare resulted in an increase of 769 monthly ECFS filings after controlling for other factors. Finally, in the model with only Trend and Issues, the coefficient on Issues is statistically significant. A "key" issue before the Commission results in an increase in monthly ECFS filings of 6,796.

47. This result casts some doubt on the assertion that it is merely e-advocacy or "improved IT over time" that drives the increase in filings.

48. To review the e-mail filing procedure, see ECFS E-mail Filing Instructions, <http://www.fcc.gov/cgb/ecfs/email.html> (last visited May 28, 2006).

Rather, e-mail commentary on docketed proceedings remains almost non-existent, averaging one to two e-mails a day on all dockets that the FCC faced.

Figure 4: Number of Monthly SGML E-mails Received on Dockets Before the Commission, 1999–2004



That is, until February and March 2004, when the number of comments arriving by e-mail exploded, hitting an all-time high. The average number of comments rose from fifty e-mailed comments a month to 15,000 a month. What caused this 300-fold increase in the citizen interest in FCC dockets? These e-mails were largely generated by the Janet Jackson “wardrobe malfunction” at the 2004 Super Bowl. This incident caused individuals and interest groups to file comments on *other* docketed proceedings before the FCC, referencing the Janet Jackson wardrobe malfunction as the reason for when and how the FCC should act on these (at times, quite unrelated) proceedings.⁴⁹

There was a final spike in e-mail commentary to the FCC in mid-2004. This was due largely to the reconsideration of media ownership rules which were remanded by the court of appeals that same year. Although the earlier proceedings on the issue had not engendered

49. It is important to note that complaints about the Janet Jackson wardrobe malfunction are not included in these numbers. Complaints are not considered filings in this context. Indeed, the FCC received more than 500,000 complaints regarding the Super Bowl incident. JERRY KANG, COMMUNICATIONS LAW AND POLICY 270 (2d ed. 2005).

much e-mail comment, the remand did cause interested parties to e-mail commentary to the agency.

IV. INTERPRETING THE DATA; BRINGING BACK THE THEORY

Has e-rulemaking fundamentally changed the way the bureaucratic process works? Or have such systems been a bust for government? Based on the data presented here, the answer is not affirmative in either regard.

What causes parties to either shift to the electronic medium or become more engaged through electronic media? The data suggest that a “build it and they will come” attitude is not sufficient. Indeed, it took completely unforeseen events, such as the anthrax scare and, to a lesser extent, the September 11 hijackings, to catalyze interest groups to shift their comments to electronic media.⁵⁰ The FCC’s previous commitment to and investment in electronic filing systems had only a marginal effect on the willingness of interest groups to change their filing behavior from 1998 to 2001. Once these catalyzing events occurred, though, there was a gradual shift toward electronic rulemaking—fewer comments arrive on paper, more in electronic media.

Nevertheless, almost all paper filings are now done by large Washington law firms representing large, repeat players at the FCC.⁵¹ These attorneys are strategic in their use of paper instead of electronic filings.⁵² Most comment and reply proceedings are on a schedule determined by the commission. Because it takes five to seven days for a paper document to be processed, scanned, and then posted to the electronic database, this is five to seven fewer days that opponents to the viewpoint have to work on a reply.⁵³ This type of strategic behavior pervades this hybrid process in which interest groups can choose to submit on paper or electronically.

50. See *supra* Part III.

51. FCC Interviews, Sept. and Nov. 2004, Feb. 2005. Given the choices of electronic avenues that one can follow and the fact that nearly 80 percent of filings now come electronically, why does the FCC still allow paper filings? Paper filings persist at the FCC because of the FCC’s perception that individuals still use paper to participate in the filing process. If one wishes to encourage the democratic process, the argument goes, then one should allow individuals to participate however they can, including through paper filings.

52. For a discussion of the strategic timing of filings, see Brandon & Carlitz, *supra* note 1, at 1430; see also *In re* Electronic Filing of Documents in Rulemaking Proceedings, 13 F.C.C.R. 11,322, 11,348 (1998) (Tristani, Comm’r, dissenting).

53. This rationale affects only the timing of comments that are scheduled to receive a reply.

The next question is whether e-rulemaking enhances democracy with an increase in individual participation in the rulemaking process. This is a difficult question to answer with certainty because the counterfactual needs to be addressed: what is the level of individual participation in the same rulemaking when there is no electronic option? This Article cannot answer that question because the counterfactual data does not exist. What can be done, however, is to examine filing behavior in the average FCC docket and filing behavior in the outlier FCC dockets and explore whether participation is largely individual based or interest group based.⁵⁴

Other than the anthrax scare, there were two dockets and one event that together caused the majority of filings at the FCC during this time: the Do Not Call Registry, the media ownership rules, and the Janet Jackson wardrobe malfunction. Before these three issues are addressed, note that almost all other issues received limited commentary from individuals. Most of the other proceedings were dominated by interest group participation and had little, if any, individual interest.⁵⁵ Other studies have frequently overlooked this important point. By examining outlier dockets, these previous studies may draw conclusions based on outlier data.⁵⁶ In fact, in 99 percent of dockets, the e-filing option does not seem to cause an increase in individual or interest group participation—rather, it is business as it was before the ECFS. To this extent, the promises for robust increases in participation by interest groups in a democratic process of rulemaking have largely been overblown.

Nevertheless, this section, in order to be consistent with previous studies' methodologies, follows previous papers and examines the three issues that have attracted substantial interest at the FCC. One can begin to think about the catalysts and levels of individual and organized interest in the issues. The Do Not Call Registry, for example, received substantial attention from individuals. Individuals

54. The assumption is that interest-group-based participation would have happened even without the electronic rulemaking.

55. Interviews with FCC, Sept. and Nov. 2004, Feb. 2005. Note that Walton Francis, former Assistant Secretary for HHS, made the same comment about HHS docketed proceedings. See Brandon & Carlitz, *supra* note 1, at 1452 n.129 (quoting Mr. Francis as stating that “the great majority of government rulemakings generate only a few hundred or thousand comments”).

56. Popular “outlier” dockets that have been examined in other papers are National Emission Standards for Air Pollutants (Mercury)—EPA docket; Roadless Area Conservation (Snowmobiles)—U.S. Forest Service docket; National Organic Standards (Organic Food)—USDA docket.

wanted to stop the interruptions caused by telemarketers at their dinner hour.⁵⁷ Organized interests also had a substantial stake in the issue, as many firms' livelihoods and marketing plans depended on telemarketing freedom. The spike in comments was from both individuals and firms. Contrast this to the wardrobe malfunction, where many comments were from citizens upset by the exposure of Ms. Jackson's breast before hundreds of millions of people. This caused the FCC to receive hundreds of thousands of complaints from individuals.⁵⁸ But data on the topic show that the number of comment or reply filings on *other* issues before the FCC (other than complaints) increased substantially because of the breast-baring incident. A cursory look at the data suggests that both individuals and interest groups exploited the Janet Jackson incident for their own positions in various related and unrelated proceedings before the FCC. Whether these individual comments were a true reflection of preferences is unclear because intermediaries were sometimes involved.

Comments on the media ownership rules perhaps best illustrate the point that a spike in comments should not necessarily be interpreted as demonstrating heightened interest from individuals. Media ownership caps had a substantial effect on the business of large and some smaller media firms. However, individuals were not only largely unaware of the issue, but could not navigate or comprehend this complex proceeding. Yet this single issue received the most filings of any issue before the Commission during this time period. Many of these comments were largely identical texts, mass electronic mailings, and simple click-throughs.⁵⁹ In one instance, the FCC

57. It is clear after the fact that the Do Not Call Registry was of substantial importance to individuals. Over 100 million numbers have signed up for the list. Press Release, Deborah Platt Majoras, Chairman, FTC, On the 100 Millionth Number on the National Do Not Call Registry (Aug. 15, 2005), available at <http://www.ftc.gov/opa/2005/08/dncstatment.htm>.

58. It is important to note that firms were indeed interested in subsequent legislation that would have raised the fine for indecent broadcast during daytime hours from \$27,500 to \$275,000 per violation with a \$3 million cap, Broadcast Decency Enforcement Act of 2004, H.R. 3717, 108th Cong. § 2 (2004). Both houses of Congress passed and the President signed a bill that raised the maximum fine to \$325,000 per violation. Broadcast Decency Enforcement Act of 2005, S. 193, 109th Cong. (2005) (enacted). Many firms lobbied Congress heavily on this legislation. See Frank Ahrens, *Congress Agrees to Raise Broadcast-Indecency Fines*, WASH. POST, May 20, 2006, at D01 (concluding that lobbying by the cable and satellite industries was successful since they remain exempt from FCC's prohibition on "'patently offensive' material of a sexual or excretory nature"). The FCC fined twenty CBS stations \$27,500 each, or \$550,000 total in the Janet Jackson incident. *Id.*

59. FCC Interviews, Sept. and Nov. 2004, Feb. 2005.

actually identified the source of the mass e-mailings and asked the mass marketer to slow its mailings to the FCC because it was overwhelming the communications bandwidth at the agency.⁶⁰ This is an instance where a spike in comments actually reflected strategic behavior by interest groups rather than sincere individual preferences.

The key point is that an increase in filings does not necessarily mean that there is an increase in individual interest.⁶¹ Strategic behavior by interest groups can make it seem that individuals are participating in the rulemaking when organized interests are actually pulling the strings.⁶² This raises an important problem: it is difficult for regulators to know if each of these individual comments is an authentic expression of preferences by an individual, is merely part of a mass mailing from an interest group, or some combination of both.⁶³ The former would support the idea that e-rulemaking is increasing the participation of citizens in a democratic process. The latter means that organized interests will continue to lead the discussion of issues before an agency.

A final issue is whether e-rulemaking results in more deliberation. Because this Article considers only aggregate data, it is difficult to determine which, if any, of these comments have sufficient substance to have an impact on rulemakings. Anecdotal evidence suggests that individual comments, to the extent they are authentic, are more an expression of preferences rather than actionable suggestions.⁶⁴ For example, citizen comments on the Do Not Call Registry support or oppose the list, but do not address issues of

60. *Id.*

61. This raises the interesting question of how we should think about intermediaries encouraging citizens to register their preferences. It is well known that in the area of complaints, intermediaries can be quite important. For example, in 2003, the Parent Television Council was responsible for 99.8 percent of all FCC television complaints. KANG, *supra* note 49, at 270.

62. This is known as “astroturfing”—a play on words describing an artificial grassroots movement. For a discussion of this problem in other agencies when there is an explosion of comments, see Brandon & Carlitz, *supra* note 1, at 1444 n.96, 1452. See also Joab Jackson, *E-Government Run Amok!*, GOVERNMENT COMPUTER NEWS, June 27, 2005, at 23 (noting that in one EPA proceeding, 173,000 electronic form letters were sent from one organization, Moveon.org). For a further discussion of this issue, see SCHULMAN, CHANGE EVERYTHING, *supra* note 7, at 12.

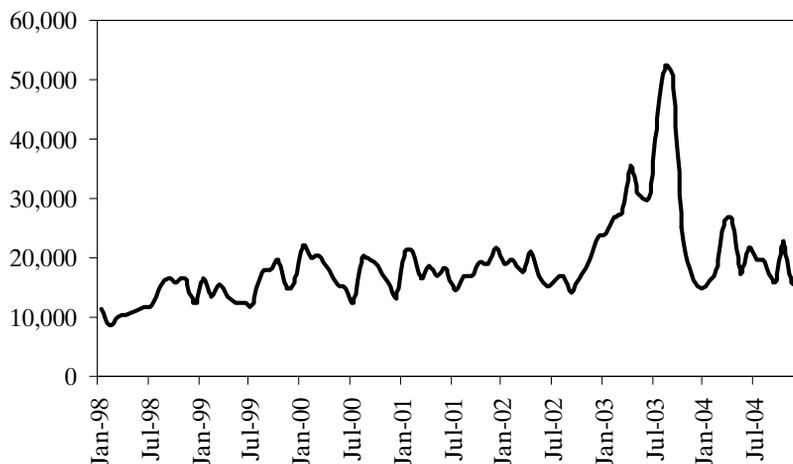
63. Efforts are currently underway to separate authentic e-filings from disingenuous ones. See, e.g., Hui Yang & Jamie Callan, *Near-Duplicate Detection for e-Rulemaking*, 89 ACM INT’L CONF. PROC. SERIES (2005), <http://www.cs.cmu.edu/~huiyang/publication/dgo2005.pdf>.

64. FCC Interviews, Sept. 2004. For a more general discussion of this point, see Shulman, *Issues*, *supra* note 7, at 623–24.

implementability. Thus, on the whole, the deliberative process gains little with these thousands of individual comments outside of registering citizen preferences.

One way to measure interest group deliberation is to measure how often interest groups access the comments of others in the docketed proceedings of an agency. One might expect that an increase in the number of comments accessed suggests that groups are reading and considering other viewpoints. Figure 5 provides the number of ECFS hits from 1998 to 2004. This represents the number of times each month the public has accessed the ECFS to view comments and documents on a docketed proceeding.⁶⁵ Figure 5 shows, between January 1998 and December 2004, the number of ECFS hits did increase 50.4 percent, but the number of filings increased 287 percent during this same time period. So even though there was an increase in the number of comments accessed electronically between 1998 and 2004, that increase was far less than the increase in the total number of comments filed. This suggests interest groups simply did not electronically review comments and replies on the ECFS system in 2004 at a higher rate than they did in 1998, which provides one piece of evidence that deliberation did not necessarily increase.

Figure 5: Number of ECFS hits per month, 1998–2004



65. Hits may not be a completely reliable indicator of page views in many cases, because spiders may cause noisy hits. In this case, though, hits may be a good measure because the number of hits is relatively low, relatively consistent over time (except for 2003), and there is little commercial reason to have spiders roaming the ECFS website.

That said, to the extent that comments are authentic, the registering of citizen preferences for or against a certain policy may help policymakers craft regulations which take into account the preferences of individuals.⁶⁶ Regulators will certainly take broad public support for a policy into account when implementing a policy, as they did with the Do Not Call Registry. Finally, expressions of citizen preferences might be useful for democratic institutions, such as Congress, in their oversight of the bureaucratic apparatus.

V. EXTENSIONS

Given the inroads e-rulemaking has made, and the limitations e-rulemaking has encountered, how should interest groups behave, and how should judges respond? Interest groups are clearly strategic in how they approach administrative agencies.⁶⁷ This extends to the medium in which they participate in filings—they choose the medium that promotes their cause. The effects of strategic behavior by interest groups can be bad for the agency in a number of ways. It can lead to suboptimal policies, misallocation of agency resources, and poor investment decisions in new information technology infrastructure.

The FCC, therefore, should take this strategic behavior into account when crafting rules and regulations and considering comments and replies. Taking away avenues for this strategic action may help the FCC streamline its process and reach better decisions. For example, in response to large law firms filing paper comments, the FCC has a number of options. One is to eliminate paper filings altogether. This would eliminate the large firm strategic behavior, but it might also harm those few individuals who have no alternative to the paper filing system. A second possibility is to invest in speeding up paper document processing. While this certainly would yield benefits, it is unlikely that the FCC will see budget increases to

66. Theoretically, there is a decreased cost to filing comments electronically versus via mail. If this is true, then the e-rulemaking may obtain a larger swath of comments from the public, further down the distribution, than it would using only paper. Testing this, unfortunately, is beyond the scope of this paper.

67. For simple examples of this strategic behavior at the FCC, see generally John M. de Figueiredo, *Strategic Plaintiffs and Ideological Judges in Telecommunications Litigation*, 21 J.L. ECON. & ORG. 501 (2005) (examining the effect of judicial ideology on the selection and outcome of regulatory cases), and John M. de Figueiredo & James K. Kim, *When Do Firms Hire Lobbyists? The Organization of Lobbying at the Federal Communications Commission*, 13 INDUS. & CORP. CHANGE 883 (2004) (evaluating “the explanatory power of transaction cost economics to explain vertical integration decisions of lobbying firms”).

support this effort. A third option is to lengthen the reply cycle so as to minimize the effect strategically timed filings. Unfortunately, delaying the filings only serves to slow the already cumbersome and sluggish rulemaking process. A fourth method is to eliminate paper filings for all commentators except small businesses and individuals. This would force parties with sufficient resources to file electronically, eliminating the strategic advantage of delayed filings, while still protecting those individuals who file by paper. Thinking through problems such as these with foresight would help the FCC to respond to the strategies of interest groups.

A final question is whether the courts should treat judicial review differently in the presence of e-rulemaking. E-rulemaking to date has not appreciably changed the filing behavior of interested parties. However, there are initial indications that electronic filings and e-mail may make it cheaper for parties to express preferences. To the extent that preferences are authentic and are relevant to a question of administrative law, e-rulemaking is more helpful than a paper system to a court because it provides more information to the bench. Nevertheless, to the extent that the FCC is flooded with mass mailings, courts will have to consider whether the FCC has meaningfully responded to the key arguments for and against the proposed rule under the arbitrary and capricious standard. Overall, though, it would seem that courts' obligations under e-rulemaking remain relatively unchanged.

CONCLUSION

When e-rulemaking was first implemented, it promised to transform the democratic process in administrative rulemaking. Unfortunately, a review of the data from the FCC has shown that much of that promise has not been realized. This Article, unlike previous papers, has examined macroscopic data and the long-term trends in electronic filing at the FCC.

This analysis has found that there is indeed a long-term trend from paper to electronic filings. However, individual citizen participation via electronic media is scant at best. Over 99 percent of dockets at the FCC show only minimal participation. In fact, two dockets (the Do Not Call Registry and the review of media ownership rules) and one incident (the wardrobe malfunction) account for most of the filings. Citizens seemed to express preferences for or against a position, but provided little deliberation on the substance of the rules

being considered. Thus, future researchers must proceed with caution when drawing general inferences about e-rulemaking from case studies of extreme dockets. Some of these dockets did have significant citizen expression of preferences, while others were merely mass filings. Indeed, exogenous events such as September 11, the anthrax scare, and the wardrobe malfunction may change public behavior in the administrative agency nearly as much as administrative actions such as changes to the media ownership rules and the Do Not Call Registry.

The FCC data considered in this study indicate that e-rulemaking, other than moving paper comments to digital format, seems to have become another marginal change to the rulemaking process—yet another avenue to file comments, replies, opinions, and preferences. Future studies of other agencies would help demonstrate whether this finding is generalizable.