Quarterly Journal of Political Science, 2008, 3: 353–377

Measuring Explicit Political Positions of Media*

Daniel E. Ho[1] and Kevin M. Quinn[2]

[1]*StanfordLaw School, 559 Nathan Abbott Way, Stanford, CA 94305, USA; dho@law.stanford.edu, http://dho.stanford.edu*
[2]*Department of Government and Institute for Quantitative Social Science, Harvard University, 1737 Cambridge Street, Cambridge, MA 02138, USA; kevin_quinn@harvard.edu*

ABSTRACT

We amass a new, large-scale dataset of newspaper editorials that allows us to calculate fine-grained measures of the political positions of newspaper editorial pages. Collecting and classifying over 1500 editorials adopted by 25 major US newspapers on 495 Supreme Court cases from 1994 to 2004, we apply an item response theoretic approach to place newspaper editorial boards on a substantively meaningful — and long validated — scale of political preferences. We validate the measures, show how they can be used to shed light on the permeability of the wall between news and editorial desks, and argue that the general strategy we employ has great potential for more widespread use.

* We thank Patrick Behrer, Esther Cheng, Diana Dinh, Dominique Gracia, Max Haines-Stiles, Pete Mandel, Briggs Matheson, Katie O'Banion, Elizabeth McBride, Dwight Pope, Tim Shapiro, Denise Sohn for their terrific research assistance, as well as Janice Greene at the San Francisco Chronicle for her help. Tony Bertelli, Tino Cuéllar, Barbara Fried, Jay Hamilton, Gary King, David Law, Andrew Martin, Mat McCubbins, Keith Poole, Jeff Strnad, Stephen F. Williams, seminar participants at UCSD's American Politics and Institutions Project, the editors and anonymous referees provided very helpful comments. Jeffrey Peake generously provided us with replication data. The Institute for Quantitative Social Science at Harvard University, Stanford Law School, and the National Science Foundation (grants SES 03-50613, BCS 05-27513, and SES 07-51834) provided research support. In addition, Quinn thanks the Center for Advanced Study in the Behavioral Sciences for its hospitality and support.

Supplementary Material available from:
http://dx.doi.org/10.1561/100.00008048_supp
MS submitted 30 June 2008; *final version received 27 October 2008*
ISSN 1554-0626; DOI 10.1561/100.00008048

Knowledge about the political positions of media is vital to understanding American politics. Political scientists have devoted a great deal of effort to the development of many sophisticated measurements of the revealed preferences of the presidency, congress, and the Supreme Court, but the same amount of effort has generally not been paid to the measurement of the explicit political positions of the "Fourth Estate." While social scientists have measured implicit media bias or slant with a variety of sophisticated techniques (Groseclose and Milyo 2005, Gentzkow and Shapiro, 2006), much less methodological attention has been paid to the related problem of measuring the explicit political positions of media outlets.[1] Not only are such explicit political positions of interest in their own right, but the relationship between the implicit and explicit political positions of media are also of substantial interest (Kahn and Kenney 2002, Kull *et al.* 2003). This lacuna persists despite the fact that considerable evidence points to potentially broad — albeit complicated — effects on substantive behavior of the media (Iyengar and Kinder 1987, Barrett and Barrington 2005, Druckman and Parkin 2005, Gerber *et al.* 2007, Della Vigna and Kaplan 2007). Such measures are also central to legal questions of federal media diversity regulation (Pritchard 2001, Federal Communications Commission 2003, Einstein 2004, Napoli 2006, Klinenberg 2007, Ho and Quinn 2008, *Prometheus Radio Project v. FCC*, 373 F.3d 372 (3d Cir. 2004)), economic analyses of the industrial organization of media markets (Steiner 1952, Sutter 2001, Hamilton 2004, Mullainathan and Shleifer 2005, Anderson and McLaren 2005, Balan *et al.* 2006, Gentzkow and Shapiro 2006), and research on the impact of media on substantive outcomes (Muller *et al.* 1986, Bartels 1993, Dalton *et al.* 1998, Ashworth and Shotts 2007).

In this paper, we address this lacuna by providing and validating estimates of the explicit political positions of the editorial pages of 25 major US newspapers from 1994 to 2004. To do so, we engage in a large-scale data collection effort and spend considerable time and energy manually coding newspaper editorials. While the data collection effort is substantial, we make use of recent advances in statistical measurement to maximize reliability and to lessen the burden placed on human coders, an approach we detail below. We show how the measures presented in this paper shed substantial light on the study of the Fourth Estate, placing its study on firm empirical ground. All estimates — along with data and software for replication — will be posted at the *QJPS* website as well as the authors' websites.

OUR APPROACH

Given the rapid advancement in our understanding of the revealed policy preferences of congressmembers, judges, and presidents, it may be puzzling why such measures do not

[1] This is not to say that no attention has been paid to this topic. Numerous studies, for instance Erikson (1976), Kahn and Kenney (2002) and Ansolabehere *et al.* (2006) among others, use presidential endorsements as measures of editorial positions. While endorsements are easy to collect and interpret they have a drawback in that they are very coarse measures that exhibit little variability. A more complicated model-based approach is taken by Noel (2006) who uses modified item response theory (IRT) models to estimate the ideology of political pundits.

yet exist for media outlets. After all, the media play a central role in the political, legal, and economic system. Yet estimating the political positions of media is plagued with challenges beyond those in estimating ideal points for governmental actors. Newspapers, television stations, and radio talk show hosts do not cast votes in directly observable ways. Radio and television stations typically do not even endorse political candidates; and while newspapers endorse candidates, such endorsements provide only sparse information about underlying political preferences. Media differences in tone, emphasis, and coverage are difficult to measure, and such differences may diverge considerably from the explicit political positions of media outlets. Traditional content analysis — the detailed analysis of news segments — offers a way forward. However, it requires at least moderately detailed substantive knowledge on the part of the coders, is often expensive, and can be prone to a variety of coding errors. While surveys of individuals working in the news industry shed light on the *individual* political preferences of journalists and editors, we do not observe how such preferences are filtered, expressed, and aggregated in the institutional context of media outlets. The longstanding challenge then remains of how one can infer explicit political positions of media outlets in meaningful ways.

Our approach to this measurement challenge is to capitalize on the unique bridge that newspaper editorials serve to specific decisions of governmental actors. The large majority of editorials are *purposely* written to take an explicit position supporting or opposing some governmental decision. We can conceive of such editorials as votes on the same issue facing the governmental decisionmakers in question. Combining this insight with well-developed statistical methods for ideal point estimation allows us to jointly analyze governmental actors and newspaper editorial boards, placing newspapers on a long-validated, substantively meaningful, and transparent scale of political preferences.

To our knowledge, no extant study has taken exactly this approach to study the media.[2] Our work nonetheless is related and contributes to two broader areas of scholarship. First, our work pertains directly to the scholarly literature on measuring policy preferences (Poole and Rosenthal 1985, 1991, 1997, Heckman and Snyder 1997, Martin and Quinn 2002, Clinton *et al.* 2004, Bafumi *et al.* 2005). For example, McCarty and Poole (1995) uses the public positions of presidents on roll calls to jointly estimate presidential and congressional ideal points. Similarly, Bailey and Chang (2001) and Bailey (2007), estimate common space scores for presidents, senators, and justices based on bridging positions by the president on Supreme Court cases and senate roll calls. Using the same approach, Bailey *et al.* (2005) places the Solicitor-General on the same scale as the Supreme Court justices. For additional use of such bridging observations to obtain scale comparable ideal points see Bafumi and Herron (2007), Bertelli *et al.* (2007), Bertelli and Grose (2007) and Treier (2007).

[2] Poole and Rosenthal (1997, p. 183) suggest, but do not implement, a comparable approach using legislative roll calls. They note that newspapers, when adopting explicit positions on legislative votes, "are effectively voting on roll calls." Noel (2006) looks at stated positions of political pundits on broad issues of the day and then analyzes these positions using modified IRT models. The major difference between Noel's work and this paper is that in this paper all of the editorial board positions match up exactly to particular Supreme Court decisions as opposed to the more general issues of the day examined by Noel.

In this paper, we similarly use editorials for which we observe positions of both newspapers and the justices as institutional bridges. Relatedly, Segal and Cover (1989) codes *New York Times*, *Washington Post*, *Chicago Tribune*, and *Los Angeles Times* editorials written about the justices from the time of nomination until confirmation to derive exogenous estimates of judicial ideology (see also Zorn and Caldeira (2006)). Our study endogenizes the positions of newspapers, placing them on a common space.

Second, our study contributes to the study of the media generally. Unlike many studies (Groseclose and Milyo, 2005, Gentzkow and Shapiro, 2006, Lott and Hassett, 2004), we do not focus on implicit media bias or slant. Instead, we systematically measure explicit positions across a wide array of issues using a new, large-scale dataset. Such measures of explicit political positions have been of interest in many studies (Dalton *et al.*, 1998, Kahn and Kenney, 2002, Schiffer, 2006, Peake, 2007), and the relationship between implicit and explicit positions remains relatively unexplored.

We proceed below by applying item response theory (IRT) models to analyze editorials and Supreme Court decisions from the last natural Rehnquist Court (1994–2004). Our approach has considerable benefits. Chiefly, we provide directly and substantively interpretable scores of media political positions by anchoring them to well-established and long-validated descriptive measurements of judicial preferences. To be clear, our aim is not to learn about the justices — rather, our scores rely on Supreme Court cases as substantive anchors to provide a direct and clearly interpretable scale.

Our statistical approach also capitalizes on methods that are well-studied in political science, psychometrics, and educational testing, and, contrary to conventional content analyses, does not require making difficult substantive coding decisions. Rather than directionally coding an editorial as liberal or conservative, our data collection merely requires coding whether the editorial board supported the Supreme Court majority or not. Practically, this research design saves time, improves the precision of scores by maximizing information, and increases measurement reliability. Contrary to extant media analyses, our approach also does *not* require that cases be counted equally. Content analyses, which count liberal and conservative editorials or positive and negative news coverage, generally weigh units equally. In contrast, our (IRT-based) approach directly incorporates differences across units of analysis (cases) and estimates how much information each provides about the political positions of media. We therefore adapt the strengths of IRT methods to directly measure, quantify, and compare newspaper political position, accounting for statistical uncertainty in positions, cases, and media outlets.

The substantive payoff to our approach is that we can answer a host of questions that to date have been challenging to address: What is the most liberal or conservative newspaper? Do most major newspapers really lean to the left? What is the distribution of political positions among a well-defined set of newspapers? Do newspapers owned by conglomerates exhibit less viewpoint diversity, as federal media regulations presume? How strong is the association between the explicit editorial position of a newspaper and the slant of its news page? Answers to such questions would advance our understanding of the media considerably.

A NEW DATASET ON SUPREME COURT EDITORIALS

We focus on editorial treatment of the US Supreme Court for several reasons. First, extant literature suggests that merits decisions of the Supreme Court can be characterized relatively well by a single underlying dimension (Grofman and Brazill 2002, Martin and Quinn 2002). Our approach can, of course, incorporate additional dimensions, but much media research — as well as research on the court — has tended to focus on a single liberal/conservative dimension to characterize newspapers (e.g., Hamilton, 2004). We provide additional evidence to support this assumption of unidimensionality below. Second, the extreme actors in the space (Justices Stevens and Thomas) serve as good actors to fix the dimension. Third, contrary to editorials staking out positions on larger policy debates (e.g., welfare reform or the war in Iraq), editorials on the Supreme Court stake out positions on well-defined issues raised in specific cases. As a result we gain significant information about newspapers from each unique editorial position. Fourth, much of what the public learns about the court comes from media outlets interpreting the decisions and workings of the court (Davis, 1994), so these editorials themselves shed considerable light on the public's understanding of the court. Finally, while one might alternatively focus on editorials about legislative roll calls, Supreme Court editorials have the pragmatic advantages of (a) allowing us to match the positions of editorials with discrete sets of published court opinions and voting blocks, and (b) providing significant variation beyond party-line votes. In a pilot study using legislative roll calls, we encountered considerable difficulties in matching particular roll calls to vaguely articulated newspaper positions. The richness of Supreme Court editorials is therefore ideally suited to estimate political positions of newspapers. We proceed to outline below our selection criteria for newspapers, court terms, and cases, as well as our comprehensive collection of editorials. Appendix provides further details about data collection, sources, and coding protocols.

Selecting Newspapers

To proceed, we select high circulation newspapers, adding several smaller newspapers to provide reasonable geographic coverage of major US regions. Our dataset contains 17 of the top 20 circulation newspapers.[3] For comparability with extant studies and to ensure some separation between papers we also included the *Washington Times* and the *Investor's Business Daily*. The *Atlanta Constitution* and the *Atlanta Journal* merged editorial boards in 2001, so we also estimate premerger positions for these two papers. Our dataset then covers 25 newspapers, summarized in Figure 1. The second column of Figure 1 denotes the newspaper abbreviations we use for convenience. The first panel of Figure 1 presents 2002 circulation statistics, showing that there is a sharp drop-off in circulation as we move from high to low circulation newspapers. Just over 2 million people read *USA Today* in 2002, almost twice as many readers as for the *New York Times* (the third highest

[3] The three top 20 newspapers which we did not examine are the *New York Daily News*, *Newark Star Ledger*, and *Newsday*, due to the heavy northeastern bias of the top 20 papers.

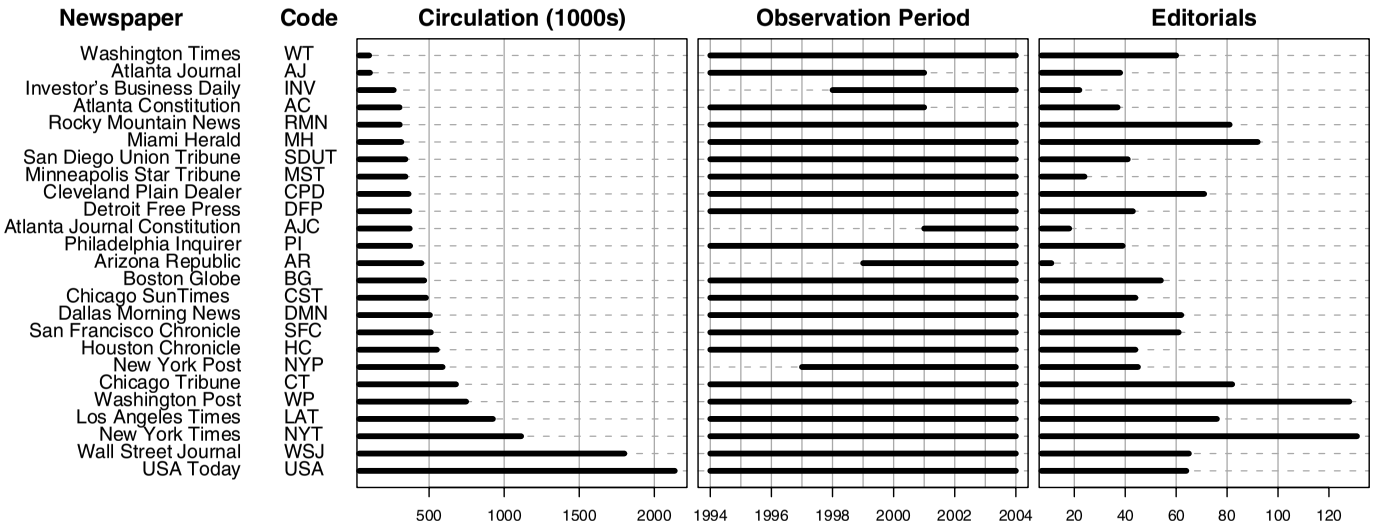

Figure 1. Newspapers in sample, sorted by circulation. Code refers to abbreviation. Observation period indicates the years available and searched for each newspaper. Number of editorials indicates the number of editorials on Supreme Court decisions collected from 1994 to 2004. All circulation figures are from *Editor & Publisher Yearbook 2003* except for the *Atlanta Journal* and the *Atlanta Constitution*. The figures for these papers are from 1998 as reported by the *Detroit Free Press*. Newspapers for which Lexis coverage is limited are the *New York Post* (available starting 1997), the *Investor's Business Daily* (available starting 1998), the *Arizona Republic* (available starting 1999), and the *San Diego Union Tribune* (available starting 2000, but available from 1983 on America's Newspapers). The *Philadelphia Inquirer*, *Miami Herald*, and *Rocky Mountain News* were not available on Lexis at the time of research. We obtained direct access from the editors for the former, and access via America's Newspapers for the latter two.

circulation newspaper). Excluding the *Atlanta Constitution* and the *Atlanta Journal*, which merged into the *Atlanta Journal–Constitution* in 2001, the circulation figures for 23 of the 25 papers in our study comprise 48% of the total circulation of the 100 highest circulation papers in 2004.[4] In other words, our study covers almost one half of all readers of the 100 largest papers in 2004.

Selecting Court Terms and Cases

We define our observation period as the last natural Rehnquist court, 1994–2004. This period, representing the longest natural court in US history, is ideally suited for our study because ideal points of the justices, as well as the caseload, remain largely stable and Lexis provides full coverage for most newspapers during this period. We study all 495 nonunanimous cases resulting in signed opinions during this period, using the same selection criteria as Martin and Quinn (2002).[5] Using the Supreme Court Database, each justice is recorded as having voted for the majority or the minority, which we seek to match with newspaper positions.[6]

The number of cases is quite stable across time, ranging from 41 cases decided in the 2003 term to 48 cases decided in the 1994 term. The second panel of Figure 1 plots the period of time that each newspaper's holdings are electronically searchable either via Lexis, America's Newspapers, or directly from the newspaper itself. We were able to search for all cases decided by the last Rehnquist Court in all papers except for three newspapers — the *Arizona Republic*, *Investor's Business Daily*, and the *New York Post*. Cases were randomly assigned to research assistants in order to eliminate any systematic bias in data collection.

As is standard in the literature (Poole and Rosenthal, 1997, Martin and Quinn, 2002, Clinton *et al.* 2004), we exclude unanimous cases for good reasons. First, unanimous cases contain no information to distinguish newspapers unless the paper disagrees with each of the nine justices. While we have found numerous editorials on 9-0 decisions, less than a handful have outright disagreed with the majority.[7] Second, there are strong reasons to believe that very few newspapers write editorials on unanimous cases (Greenhouse, 1996), which we independently confirm below, meaning that we learn virtually nothing at the expense of doubling search costs.

---

[4] These circulation figures are from a list of the 100 highest circulation newspapers in 2004 published by the *Detroit Free Press*: http://www.freep.com/legacy/jobspage/links/top100_04.htm.

[5] In the process, we discovered one case, *University of Alabama v. Garrett*, 531 U.S. 356 (2001), which should be included in the US Supreme Court Database, but contained one small coding error — there was not an ANALU value of 0 for this case — that would cause it to be excluded by the usual criteria.

[6] Unfortunately, the Supreme Court Database does not collect much more finegrained information on concurrences and partial dissents. The large majority of editorials, however, do not draw nuanced distinctions between multiple opinions beyond the majority and minority on a given case.

[7] In a sample of 100 unanimous decisions we found only four editorials that disagreed with the court majority. These editorials were written by the *Boston Globe*, the *Chicago Sun Times*, the *Miami Herald*, and the *New York Times*.

Collecting and Classifying Editorials by Position on the Merits

As we are interested in the explicit political position of each newspaper, we focus on unsigned editorials adopted by the full editorial board for each newspaper. We exclude all news articles, signed columns, letters to the editor, and contributed op-eds. To collect all editorials written about 495 cases by 25 newspapers, we assembled and trained a team of 14 law and undergraduate students at Harvard and Stanford to perform advanced Lexis-based searches for every case. To ensure that no editorials were missed, we employed multiple search strings, each explicitly overinclusive, for every case within a time window of 10–14 days after each case was decided. We developed this time window based on our findings that (a) pre-decision editorials were difficult to match up to (potentially unanticipated) votes on the merits, and (b) newspapers were extremely unlikely to take a position more than two weeks after the decision without an editorial within the time window. For example, we ran on average 3–4 search strings for the *New York Times* (for a total of 1500–2000 searches), reading through each of the results to verify whether an editorial was written. We verified that an editorial was not written by effectively scanning through all results on the editorial pages within our time window.

We read and coded the editorials as clearly agreeing with the majority, clearly disagreeing with the majority, or as ambiguous in terms of the newspaper's position on the merits of the case. The principal investigators personally read each of the 1512 editorials,[8] discussing any deviations in coding choices with student coders. This process of data collection and coding took approximately 12 months. The Appendix provides more detail on the coding criteria.

While the process of collecting and reading the editorials was manually intensive and time-consuming, it has the key virtue of transparency of measurement. The right panel in Figure 1 shows how many editorials we located for each paper. Considerable variation in editorial coverage exists. For example, the *Minneapolis Star Tribune* devoted an editorial to roughly 5% of cases, compared to roughly 26% by the *New York Times* and *Washington Post*. Our statistical framework, which we now turn to, directly takes such variation into account.

A NEW MEASUREMENT OF NEWSPAPER IDEOLOGY

As noted above, we use standard ideal point estimation techniques to put newspapers and Supreme Court justices on a common scale. In essence, our approach is to augment the justice-by-case vote matrix with the editorial positions of the newspapers on these same cases, and to then fit a standard ideal point model to this augmented vote matrix. All votes are treated as probabilistic and repeated indicators of underlying ideal points.

---

[8] To be precise, the units are editorial-case positions. During the end of the term, as the court issues multiple decisions, some newspapers write editorials taking positions on multiple cases.

The Statistical Model

The statistical model that we use to infer media positions is a simple two-parameter IRT model with probit link. Clinton *et al.* (2004) applies such a model to congressional roll call data and show how it relates to an underlying model of spatial voting and previous ideal point estimation techniques (Poole and Rosenthal 1985, 1991, 1997, Heckman and Snyder 1997). This model is a limiting case of the model of Martin and Quinn (2002), which shows that such a unidimensional model is both interpretable and statistically reasonable when applied to Supreme Court votes on the merits.

Let $\mathcal{J}$ denote the set of justices in the dataset, N the set of newspapers in the dataset, and K the set of cases in the dataset. In what follows we use j, n, and k to index justices, newspapers, and cases, respectively.

The observed data consist of the observed votes of the justices (denoted $\mathbf{Y}$) and the editorial positions of the newspapers (denoted $\mathbf{X}$). The typical element of $\mathbf{Y}$ is coded as

$$y_{jk} = \begin{cases} 0 & \text{if } j \text{ is in the minority on case } k \\ 1 & \text{if } j \text{ is in the majority on case } k \\ \textit{missing} & \text{if } j \text{ did not vote on case } k \end{cases}$$

Similarly, the typical element of $\mathbf{X}$ is coded as

$$x_{nk} = \begin{cases} 0 & \text{if } n \text{ clearly took the position of the court minority on case } k \\ 1 & \text{if } n \text{ clearly took the position of the court majority on case } k \\ \textit{missing} & \text{if } n \text{ did not take a clear position corresponding to observed} \\ & \quad \text{judicial votes on case } k \end{cases}$$

It will be convenient to define the sets $\mathcal{J}_k = \{j \in \mathcal{J} : y_{jk} \neq \textit{missing}\}$ and $N_k = \{n \in N : x_{nk} \neq \textit{missing}\}$ for all $k \in K$. In words, these are just the sets of justices and newspapers, respectively, who took a clear position on case k.

We write the sampling density for this model as

$$p(\mathbf{X}, \mathbf{Y} | \boldsymbol{\alpha}, \boldsymbol{\beta}, \boldsymbol{\theta}, \boldsymbol{\phi}) \propto \prod_{k \in K} \left\{ \prod_{j \in \mathcal{J}_k} \Phi(-\alpha_k + \beta_k \theta_j)^{y_{jk}} [1 - \Phi(-\alpha_k + \beta_k \theta_j)]^{(1-y_{jk})} \right\}$$
$$\times \left\{ \prod_{n \in N_k} \Phi(-\alpha_k + \beta_k \phi_n)^{x_{nk}} [1 - \Phi(-\alpha_k + \beta_k \phi_n)]^{(1-x_{nk})} \right\}.$$

The parameters of direct substantive interest for this paper are the ϕs and, to a somewhat lesser extent, the θs. Here ϕ_n can be interpreted as the political position of newspaper n and θ_j can be interpreted as the political position of justice j. Note that since α_k and β_k are constant across all votes and editorials on case k for all k, the newspaper and justice ideal points are on the same scale.

Following Clinton *et al.* 2004 and Martin and Quinn (2002) we take a Bayesian approach. In so doing, we assume the following prior distributions for model parameters:

$$\alpha_k \overset{iid}{\sim} \mathcal{N}(0, 5), \quad k \in K$$
$$\beta_k \overset{iid}{\sim} \mathcal{N}(0, 5), \quad k \in K$$
$$\phi_n \overset{iid}{\sim} \mathcal{N}(0, 1), \quad n \in N$$

and

$$\theta_j \overset{iid}{\sim} \mathcal{N}(0, 1)$$

for justices other than Justices Thomas and Stevens. To identify the model we assume that, *a priori*, Justice Thomas's ideal point follows a standard normal distribution truncated below at 0 and that Justice Stevens's ideal point follows a standard normal distribution truncated above at 0. It is assumed that all parameters are mutually independent *a priori*.

We fit the model using Markov chain Monte Carlo (MCMC) in R. More specifically, we use the data augmentation approach of Johnson and Albert (1999) (see also Clinton *et al.* (2004) and Martin and Quinn (2002)). We discard the first 50,000 scans as burn in, and then base inferences on the next 4,000,000 scans. For reasons of space, every 1000th scan was saved, yielding an MCMC sample of size 4,000 approximately from the posterior distribution of interest. Standard MCMC convergence diagnostics support our choice of run length.

Unlike manual content analyses that count editorials as being either liberal or conservative and then tally the fraction of liberal or conservative editorials for each news outlet, our model-based method weights editorials by the amount of information they provide about the underlying positions of justices and newspapers. The scale and weights are estimated empirically based on voting patterns, assuming that Justices Stevens and Thomas are on opposite sides of the scale. For instance, an editorial siding with the five-justice majority in *Granholm v. Heald*, 544 U.S. 460 (2005), will provide less information than an editorial that agrees with the five-justice majority in *Grutter v. Bollinger*, 539 U.S. 306 (2003). The reason is that the *Granholm* majority (Justices Scalia, Kennedy, Souter, Ginsburg, and Breyer) was much less cohesive — and much more unusual — compared to other votes than the *Grutter* majority (Justices Stevens, O'Connor, Souter, Ginsburg, and Breyer). Similarly, siding with a sole dissent by Justice Thomas is a much stronger indication of an underlying conservative viewpoint than siding with a *relatively* conservative majority position from which only Justice Stevens dissented.

Finally, since we only code whether a newspaper clearly supported either the majority or minority position, we never have to worry directly about making value judgments about what constitutes a conservative or liberal position across multiple areas of law. Such outcomes are empirically estimated. This is consistent with extant work that attempts

to measure judicial ideology (Bailey and Cheng 2001, Martin and Quinn 2002, Bailey 2007) and makes it possible for the coding to be done reliably.

Basic Results: Political Positions of Newspapers

Fitting the ideal point model to the augmented vote matrix described in the previous section provides us with estimates of the political positions of major newspaper editorial boards and Supreme Court justices that are on a common scale. Figure 2 presents our main results. The left panel plots posterior medians of ideal points with 60% and 95% credible intervals, sorted from conservative to liberal. The justices are depicted in black, denoting results that are well-known in the literature, and newspapers in gray. The right panel transforms these latent estimates into direct probabilities of ranks amongst the 25 papers. Darker colors indicate higher probabilities of respective ranks.

At first blush, our results are consistent with general perceptions. Newspapers commonly viewed as leaning to the left are, in fact, on the left-hand side of the scale, while newspapers generally believed to be rightward leaning are located on the right of our scale. But our approach also permits us to draw inferences with considerably more precision than general statements of whether a paper is liberal or conservative. The lower left corner of the right panel, for example, indicates that there is a greater than *60% chance that the* New York Times *is the most liberal newspaper amongst all papers examined.* Moreover, our approach allows us to concretely fix ideas of how liberal "liberal" is. The two most liberal newspapers (the *New York Times* and the *Detroit Free Press*), for example, are estimated to be on either side of this natural court's most liberal member — Justice Stevens. The two most conservative newspapers (the *New York Post* and *Investor's Business Daily*) are just to the left of Justices Scalia and Thomas — no paper appears to be quite as conservative as the most conservative justices.

In addition, we can compare papers in a way previously impossible with any degree of precision. For instance, the posterior probability that the *Washington Post* is more conservative than the *New York Times* is effectively 1; and the posterior probability that the *San Francisco Chronicle* is more liberal than the *Boston Globe* is about 0.88.

A natural question to ask is: where are the positions of the newspapers — either individually or as a group — relative to the "center" of the political space? In other words, do we see newspapers taking explicit positions that are relatively left-leaning, right-leaning, or centrist? Obviously any substantive conclusions are conditional on the newspapers in the dataset and whatever reference point is used to define the center. As discussed below, one needs to carefully define targets of inference if one is to make any headway at all. In what follows we look at the newspapers that are close to the largest 20 newspapers in the country. We exclude the *Investor's Business Daily* and the *Washington Times* from the analysis, as they were included in the dataset despite their relatively low circulation figures. We include the *Atlanta Journal–Constitution* and therefore, to prevent double-counting, exclude the *Atlanta Constitution* and *Atlanta Journal*. Our results are insensitive to these choices.

Figure 3 plots the density of political positions of these newspapers in the top panel, adding ideal point densities of justices in the bottom panel. The gray density is

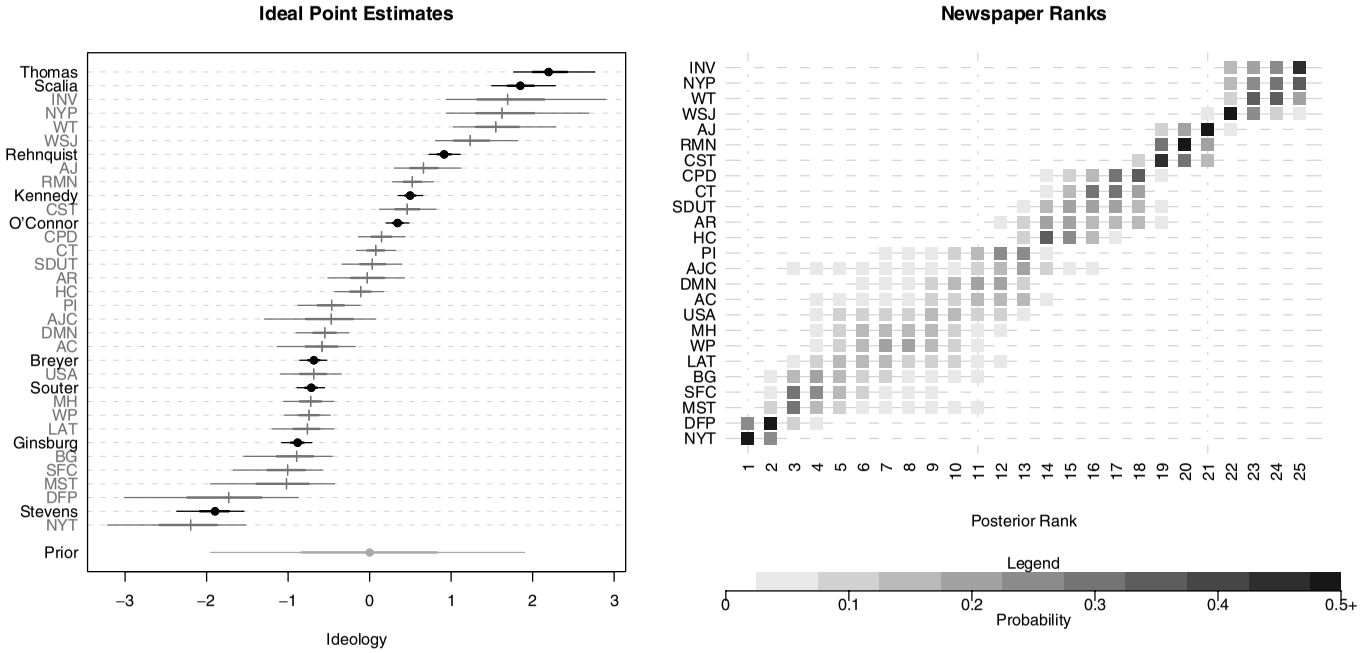

Figure 2. IRT estimates. The left panel plots ideal point estimates from a standard 2 parameter IRT model with probit link using 495 nonunanimous cases from 1994 to 2004 augmented by newspaper positions. The model is identified by constraining the ideal point for Justice Thomas to be positive and for Justice Stevens to be negative. The justices are plotted for substantive reference, and newspapers are denoted in gray. 60% and 95% credible intervals are plotted in thick and thin lines, respectively. The right panel plots posterior rank probabilities for newspapers, where ranks are from most liberal to most conservative.

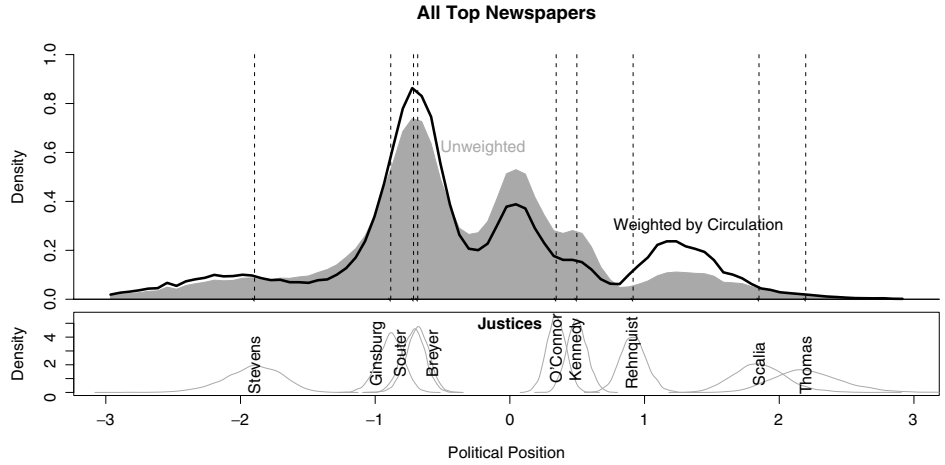

Figure 3. Density of political positions of newspapers in our study excluding *Atlanta Constitution*, *Atlanta Journal*, *Investor's Business Daily*, and *Washington Times*. The first two are excluded to prevent double-counting the *Atlanta Journal–Constitution*, which we include. The latter two are excluded as they (along with the *Atlanta Journal*) are the only papers with circulation figures were well below that of the top 20 papers. Overall results are invariant to exclusion of these papers. The median positions of the justices have been superimposed for comparison in the bottom panel. The gray density presents the unweighted density, whereas the black line presents the density weighted by circulation.

unweighted, and the density depicted by the black line is weighted by circulation. The rightward bump in the weighted density represents the *Wall Street Journal*. By and large the political positions tend toward the center, though with positive support throughout the space as defined by the justices. Calculating the expected fraction of newspaper positions that are between the positions of Justices Kennedy and Breyer (the justices on either side of the median justice) we find that 52% of the 25 papers are within this interval. If we include the *Atlanta Journal*, *Atlanta Constitution*, *Investor's Business Daily*, and *Washington Times* this figure drops to 50%. In either case, roughly half of the papers in our study have explicit positions located between the 4th and 6th justices. The other interesting feature of the density in Figure 3 is multimodality. In essence, there appear to be four clusters of newspaper positions corresponding to moderate and more extreme liberal and conservative positions. Of particular interest is the fact that even the more moderate papers cleave into left-leaning and right-leaning variants.

Validity, Model Fit, and Robustness

Validity. While Figure 2 suggests good face validity of our measures, one might wonder how our measures compare more formally to other commonly used measures of the explicit political positions of newspapers. One such measure is editorial endorsements of

presidential candidates (Ansolabehere *et al.* 2006). Our approach correlates strongly, but has the key benefit of leveraging significantly more information than the conventional approach of using presidential endorsements to measure explicit political positions.

To see this, we gather all presidential endorsements by newspapers from 1992 to 2004. We then fit a logistic regression model of the endorsement decision (coded as 1=Republican, 0=Democrat) on our posterior mean estimates of newspaper editorial position. The coefficient on our newspaper ideology estimate is 2.625 with a standard error of 0.664. Eighty five percent of the presidential endorsements are correctly classified by this simple logistic regression model. This provides additional evidence that our measure is valid, while capturing much more finegrained variation between newspapers than presidential endorsements, which are essentially bimodal (Democratic and Republican).

To alleviate concerns that our results might be partially driven by misspecification of our measurement model, we conduct a series of sensitivity analyses and diagnostic checks.

Model Fit and Dimensionality. One fairly serious problem might be lack of model fit. As editorial boards are largely untrained in law, they may simply not operate in any way comparable to Supreme Court justices. Put differently, the latent dimension that structures editorial writing may be largely orthogonal to that which structures merits votes of the Supreme Court. If true, our results could be biased.

To assess this concern we pursue two paths. First, we calculate the fraction of decisions correctly classified by the model based on the posterior mean estimates: 87% of justice votes are correctly classified, compared to 91% of editorial decisions, with an overall rate of 88%. These numbers are comparable to rates for congress and the Supreme Court.[9] Looking at the classification rates for individual justices and newspapers we see classification rates that are similar across all justices and newspapers. The justice whose decisions are least predictable by the model is Justice O'Connor at 78% correct. The least predictable newspaper is the *Chicago Sun Times* at 77% correct. Overall, the ability of the model to correctly classify decisions of both justices and newspapers suggests that unidimensionality is a reasonable approximation.

Second, we estimate newspaper positions using a dataset that excludes merits votes of the justices. If the newspaper dimension is orthogonal to the court dimension we should see no clear relationship between the estimated newspaper positions based on the full dataset versus those derived from the trimmed dataset. The upper left panel in Figure 4 plots these two sets of estimated newspaper positions, revealing a correlation of 0.99. After accounting for sampling variability the estimates are all on the 45 degree line. We plot the corresponding estimates for justices (where newspapers have been excluded) in the upper right panel of Figure 4. Here, we see that the two sets of estimates are nearly identical. Taken as a whole, these results suggest that multidimensionality is not a serious problem here.

---

[9] Poole and Rosenthal (1991) report that their one-dimensional models correctly classify slightly more than 80% of individual votes on legislative roll calls and Martin and Quinn (2002) report that their approach correctly classifies 76% of votes of Supreme Court justices.

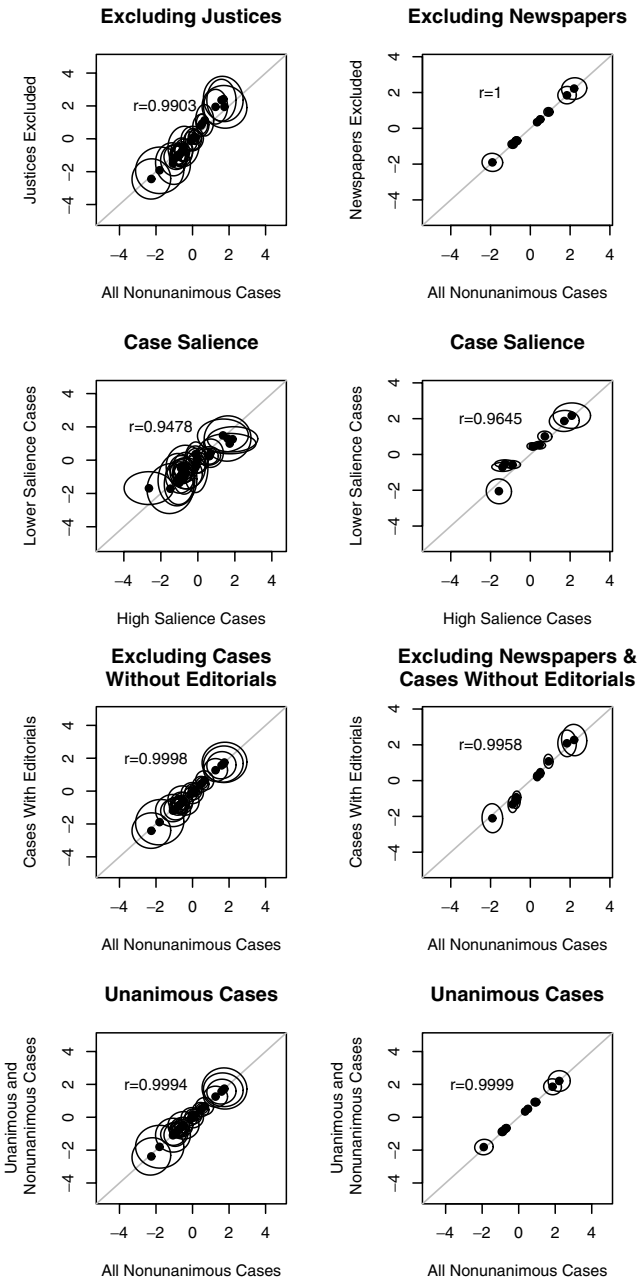

Figure 4. Sensitivity analysis of IRT estimates. Newspaper estimates in the left column and justice estimates in the right column. Ellipses correspond to 95% posterior credible regions.

Selection. Another (related) concern is that newspapers may choose to editorialize on cases that differ systematically from other cases. Before looking at diagnostics to assess such selection bias, we note that if (a) the decision to write an editorial depends only on the justices' ideal points, the newspapers' ideal points, the case parameters and/or the observed votes and editorial positions and (b) the parameters governing the choice to write an editorial are distinct from the other model parameters, then the missingness mechanism is ignorable and our inferences are not biased by the selection process (Little and Rubin 1987, Bradlow and Thomas 1998). For instance, if liberal papers are less likely to write editorials on some decisions solely because they are relatively liberal decisions (and the rest of the model is properly specified) this would not cause a problem since the probability of not writing would only depend on ϕ, α, and β. Where a problem would occur is if the probability of not writing depended on the actual content of the editorial that would be written (either for or against the court majority) and not just the expected value of the editorial content (as determined by ϕ, α, and β).

While this is somewhat comforting, we also examine diagnostics to assess selection bias. All of these diagnostics provide some information about the extent to which the cases with editorials look similar to cases for which no editorials were written. First, we look at the distributions of the posterior mean estimates of the case parameters (α_k and β_k) for cases with and without editorials. We find that distributions are roughly similar with very similar regions of support. (For space constraints, we do not present these figures here.) This suggests that cases with editorials are similar to cases without editorials.

Second, we examine distributions of other background variables for cases with and without editorials. Here again, we see rough similarity across the two types of cases. The one place where we do see some differences is in the issues addressed by the cases (as coded by Spaeth). In particular, we see that cases that Spaeth codes as civil rights or First Amendment cases are more likely to have editorials written about them than other cases. To examine whether this matters, we split the cases up into *high salience* cases (those Spaeth codes as civil rights or First Amendment cases) and *lower salience* cases (everything else) and then fit the IRT model to both subsets. We then compare the two sets of estimates to each other. The results in the second row of Figure 4 show that the estimates are all highly correlated and, after accounting for sampling variability, all fall near the 45 degree line.

Third, we look at the decision to write an editorial as a function of the size of the court majority. Here we find that while decisions with all margins of victory are written about, 5-4 decisions are most likely to appear on the editorial page followed by 6-3 decisions, 7-2 decisions, and 8-1 decisions. Absent large numbers of cases, such a pattern of editorializing will make it somewhat difficult to distinguish newspapers from the center. This warrants some caution about interpreting the relative centrality of many editorial pages.

Fourth, we fit the ideal point model to several other subsets of the data, comparing results to those based on the full dataset. Deviations would point toward selection bias. To begin, we reestimate the model using only cases on which at least one newspaper published an editorial. The left panel in the third row of Figure 4 plots newspaper

estimates from this subset on the full data estimates. The estimates are statistically indistinguishable, as seen by the fact that the credible regions overlap the 45 degree line and the simple correlation between the point estimates is 0.9998. The right panel in the third row of Figure 4 displays analogous results for the justices, with newspapers and cases without editorials removed. Again we see that the two sets of estimates are nearly identical.

Finally, while the small numbers of editorials written on unanimous cases justifies the decision to limiting our analysis to nonunanimous cases, newspapers may occasionally write editorials and disagree with unanimous decisions by the court. Verifying a negative is significantly more time consuming, but to investigate this possibility, we randomly sample 100 of 450 unanimous cases from 1994 to 2004, applying the same editorial search criteria. As expected, newspapers write editorials on very few cases ranging from 0% for the *New York Post* to 9% for the *New York Times*, yielding an overall rate of 4% (93 editorial-cases). Of these, only four editorials clearly disagreed with the majority. Not surprisingly, the bottom row of Figure 4 demonstrates that results are insensitive to including these cases — both for the newspaper estimates and the justice estimates. These results provide significant reassurance that our measure is reliable and not driven by unwarranted assumptions.

HOW PERMEABLE IS THE WALL BETWEEN NEWS AND EDITORIAL STAFFS?

To illustrate the potential use of our measures of explicit editorial positions, we examine how they relate to measures of *news* reporting. The degree of association between editorial and news positions informs the longstanding question of the permeability of the wall of separation between news and editorial boards. While many in the newspaper industry steadfastly deny any connection between the editorial board and the news division at their newspaper,[10] social scientists have started to look for evidence consistent with a linkage between editorial decisions and news reporting (see, e.g., Kahn and Kenney (2002), Larcinese *et al.* (2006), Peake (2007) and Puglisi and Snyder (2008)). While strong positive associations between the implicit slant of news reporting and the explicit positioning of the editorial board could, in principle, arise without links between the news and editorial divisions, such strong associations would, at a minimum be suggestive. In what follows we compare our measure of editorial position with three related but distinct measures of news slant.

Our first comparison in this vein uses measures by Mondo Times (http://www.mondotimes.com/), an online company which publishes *user-ratings of political bias* of media outlets. Mondo's rating is on a five-point scale (liberal, leans left, no bias, leans

[10] See Deborah Howell, "Picture of a Busy Week," *The Washington Post*, October 26, 2008, p. B06, writing "While it's hard to get some readers to believe this, I have found no hint of collusion between the editorial and news pages in my three years here. The editorial board's decisions have nothing to do with news coverage."

right, conservative). Gentzkow and Shapiro (2006) uses Mondo as a proxy for news slant, although it is possible that Mondo also picks up on explicit positions. The left panel in Figure 5 plots these user ratings against our estimates for all 25 papers in our study. We observe a strong positive relationship between political bias ratings and ours as is evidenced by the upward sloping regression line in the figure. Two noticeable discrepancies are the *New York Times*, which is rated as leaning left, and the *Investor's Business Daily*, which is rated as having no bias. These discrepancies may be the result of inter-rater differences, and are worth further study.

One of the strongest pieces of recent work that seeks to measure the *implicit news slant* of 20 media outlets — including television, internet, magazines, and newspapers — is Groseclose and Milyo (2005). The authors use citations to think tanks to put media outlets on a scale comparable to congressional ADA scores. Groseclose and Milyo examine six newspapers, on all of which we have collected data (the *Los Angeles Times*, *New York Times*, *USA Today*, *Wall Street Journal*, *Washington Post*, and *Washington Times*). The middle panel of Figure 5 plots these estimates of implicit bias against our measures of explicit positions. Save for the *Wall Street Journal*, there is a strong positive relationship between the slant estimates and ours.[11] Each of the 95% contour lines intersects with the regression line, providing strong corroboration of a positive relationship between explicit and implicit positions. With respect to the *Wall Street Journal*, Groseclose and Milyo notes that its editorial page is quite conservative while its news slant is right-leaning (see also Gentzkow and Shapiro (2006)). Groseclose and Milyo go on to present some evidence supporting their contention that the news and editorial divisions at the *Wall Street Journal* are more rigidly separated than at most papers and that the news division is much more liberal than the editorial division. Our *Wall Street Journal* result confirms this.

The third comparison is to a measure of *headline tone* due to Peake (2007). Peake uses 841 content-coded observations over 21 days in 2006 to derive a measure of the slant of headlines dealing with President Bush. Using OLS regression to control for market-specific and paper-specific characteristics, the study finds a statistically significant relationship between editorial positions (as proxied by presidential endorsements in 2004) and the slant of news coverage.

Peake's study of newspaper coverage is particularly advantageous here because of the large number of high-circulation papers he includes in his data set, providing significant overlap of 19 newspapers with our set.[12] The right panel of Figure 5 plots the headline tone measure against our measure of editorial position with an OLS regression line superimposed. We find a reasonably strong positive relationship between a measure of news slant and our measure of editorial position.

Consistent with Kahn and Kenney (2002), Larcinese *et al.* 2006, Peake (2007), and Puglisi and Snyder (2008), our results suggest that the so-called wall between editorial

[11] The regression line superimposed in this panel was constructed by regressing the Groseclose–Milyo measures on our measures for all papers other than the *Wall Street Journal*.

[12] By comparison, Schiffer (2006) and Kahn and Kenney (2002) cover 10 of our papers and Dalton *et al.* 1998 covers 5.

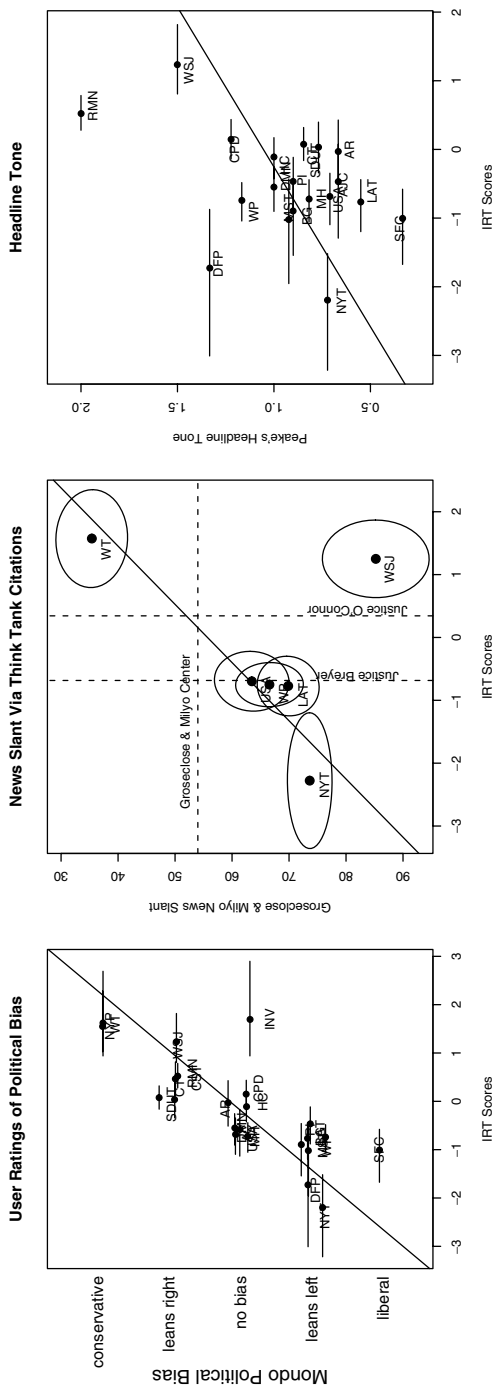

Figure 5. Comparison of IRT-based scores with scores by Mondo Times, Groseclose and Milyo (2005), and Peake (2007). The left panel plots ideal point estimates with 95% credible interval against five categorical Mondo ratings, which are jittered for visibility. The center panel plots 95% contour ellipses for six newspapers for which our scores overlap with those of Groseclose and Milyo. The horizontal dashed line presents the median voter as estimated by Groseclose and Milyo and the vertical dashed line represents the posterior medians for Justices Breyer and O'Connor. The right panel plots Peake's measure of headline tone on our measures of editorial position.

and news divisions at many papers may be more permeable than commonly claimed. At the very least, there is strong evidence of positive associations between editorial positions and a variety of measures of news slant or tone.

DISCUSSION

In this paper, we have provided a method to measure the explicit political positions of newspaper editorial boards. Our approach takes advantage of the fact that a newspaper's editorials are typically written to express the position of the newspaper on specific issues of the day. By linking these statements to observed votes on the merits from 495 Supreme Court cases from 1994 to 2004 we are able to put newspapers on a meaningful scale with interpretable reference points. Our measures provide much more nuanced information than coarse proxies — such as presidential endorsements — while maintaining good face validity. While distinct from measures of implicit bias or slant, our measures of explicit editorial positions can be used to inform more general studies of media, law, and politics.

Our main findings are twofold. First, most newspapers take political positions that are relatively centrist. We estimate that 52% of the largest 21 newspapers in our dataset take positions between the justices on either side of the median justice.[13] Inclusion of two small circulation conservative newspapers and the *Atlanta Journal* and *Atlanta Constitution* decreases this percentage to 50%. In either case, about half of the newspapers take relatively moderate positions on issues coming before the court. Clearly, much depends on one's prior conception of where the political center lies, but our results at least inform the relative assessment.

Finally, the results speak to the large literature on the differences between news and editorial boards. Our measures — to our knowledge the first to measure explicit editorial board positions in a systematic model-based fashion — correlate strongly with existing measures of implicit positioning, suggesting that the editorial board is likely not hermetically sealed from the news division.

We note several potential limitations to our approach. First, because the latent scale is strictly empirically derived, some might differ on the substantive meaning. For example, the *Washington Times* is estimated to be slightly left of the *Investor's Business Daily*, largely because on some decisions it votes with the more liberal justices on libertarian grounds.[14] Substantively, one might consider this case to be evidence that the *Washington Times* is in fact more conservative. Yet such substantive coding decisions may be matters more of political philosophy than empirical inquiry, which we view as a virtue of the empirical IRT-based approach.

Second, one might worry that political positions of newspapers on Supreme Court cases are orthogonal to other political positions. While possible, our approach offers the empirical first step to testing such a hypothesis. Indeed, our diagnostics presented above

[13] Of course, one might argue that this is not a sign of centrism, but rather polarization on the Supreme Court.

[14] See, e.g., *Atwater v. Lago Vista*, 149 L.Ed.2d 549 (2001); Editorial, *Soccer Moms Beware*, WASH. TIMES (April 26, 2001), at A18.

suggest this is likely not a problem. Relatedly, the IRT approach as applied to Supreme Court cases is of course a considerable simplification of judicial behavior. Of course, we do not use it here to learn about the justices, and it remains the state-of-the-art approach to measuring preferences, improves substantially upon prior measures, and summarizes descriptively the positions of the justices (and now newspapers) in ways consistent with, but with much more precision and rigor than, general perceptions.

Finally, because newspapers choose which cases to write editorials on one might be concerned that our estimates are contaminated by selection bias. By its very nature, such a problem is much more difficult to diagnose than problems resulting from multidimensionality. Nonetheless, fitting our measurement model to various subsets of the data produces estimates of the justice and newspaper positions that are nearly identical. While not a formal test, this is encouraging. Further, as noted above, there are plausible situations where the missing data mechanism will be ignorable in Little and Rubin's (1987) sense of the word and thus need not be dealt with. Nonetheless, we acknowledge our results on the the relative centrality of many editorial pages may stem from the relative infrequency of editorials on 8-1 and 9-0 decisions. (Of course, the very choice to opine on close decisions may itself be an indication of centrism.)

We conclude by noting that our approach is generalizable to study other media outlets, such as magazines, individual editorial writers, and television programs. While not costless in terms of either time or money (far from it), it appears to be more economical than conventional manual content analyses that require a great deal of time and expert involvement. More importantly, because the underlying coding scheme only requires a relatively simple (and in most cases obvious) choice of "clearly in favor of the majority," "clearly not in favor of the majority," or "unclear," it has the key asset of transparency, making it much less susceptible to unconscious bias or unarticulated discretion by researchers or coders.

APPENDIX: DATA COLLECTION

We supplied all research assistants (RAs) with (1) the basic vote matrix of 495 cases in the last natural Rehnquist court, including case citations, votes of the justices, and the term, (2) full text opinions of all 495 cases, including case summaries by Westlaw, (3) full Lexis accounts (i.e., not Academic Universe), enabling them to run Lexis searches for each case. Cases in the vote matrix were randomly ordered, and each RA was typically assigned a block of roughly 100 cases for which to collect editorials. For each case, we searched within a 10–14 day window after a decision was handed down to verify whether an editorial was written. We coded an editorial as 1 if the newspaper agreed with the position of majority on the merits of the case, 0 if the newspaper agreed with the position of the minority, and as missing if no position on the merits was discernible from the editorial or if no editorial was written. Editorials taking positions on multiple cases were included, as long as the position was sufficiently clear. For example, excerpts from the following editorials were coded as 1 (agreeing with the majority):

- "The Supreme Court has upheld an important law that offers victims of torture, genocide, slavery and war crimes worldwide a day in court, and a shot at justice. …

[I]n its first ruling on the act, the Supreme Court properly sided with the cause of human rights." Editorial, *Human Rights and the Court*, N.Y. TIMES, July 3, 2004, at A14 (opining on *Sosa v. Alvarez-Machain*, 542 U.S. 692 (2004)).

- "The Supreme Court was right to rule in favor of allowing a Bible-study group to meet at a school after the day's classes end." Editorial, *Victory for Freedom*, ATLANTA J. CONST., June 13, 2001, at 18A (opining on *Good News Club v. Milford Cent. Sch.*, 533 U.S. 98 (2001)).

Excerpts from the following editorials would be coded as a 0 (disagreeing with the majority):

- "Legends Arnold Palmer and Jack Nicklaus are wrong, according to the U.S. Supreme Court. Walking is not, seven justices decreed on Tuesday, an essential part of professional golf. … [T]he Supreme Court's intervention in this matter is absurdly overreaching and arrogant." Editorial, *A Good Walk Spoiled*, INVESTOR'S BUS. DAILY, May 30, 2001, at A18 (opining on *PGA Tour v. Martin*, 532 U.S. 661 (2001)).
- "[T]he high court still has … dealt a bitter blow to cherished property rights with its ruling. In saying it's OK for the City of New London, Conn., to have a 'distressed' residential area privately redeveloped, over the protest of homeowners standing by their Fifth Amendment rights and rejecting the compensation offered them, the court also cast a chill over people's security." Editorial, *Property Ruling Casts Chill over Underdogs' Security*, CHI. SUN-TIMES, June 27, 2005, at 41 (opining on *Kelo v. City of New London*, 545 U.S. 469 (2005)).

And excerpts from the following editorials would be coded as missing:

- "The Supreme Court's split decision on attorney-client confidentiality and Vincent Foster's notes was indeed an issue on which reasonable people could disagree. Overturning the privilege, establishing a precedent not only for Presidents but ordinary citizens, was a step not to be taken lightly." Editorial, *Asides: Foster's Notes*, WALL ST. J., June 26, 1998, at A14 (opining on *Swidler & Berlin v. States*, 524 U.S. 399 (1998)).
- "The U.S. Supreme Court, in one of its final rulings of the year, declined to deal with a case concerning a suit against Nike Inc., instead sending the matter back to a San Francisco courtroom. … No matter what jurors in San Francisco decide about Nike's labor practices, the courts must reaffirm the distinction between commercial speech and constitutionally protected free speech." Editorial, *Free Speech for Firms Too*, L.A. TIMES, July 3, 2003, at Metro 16 (opining on *Nike, Inc. v. Kasky*, 539 U.S. 654 (2003)).[15]

Due to the possibility of votes on some cases as having disparate influence on ideal points (e.g., a "0" on an 8-1 decision), we erred in favor of coding a case opinion as missing in the case of any ambiguity. Take, for example, the *Cleveland Plain Dealer*'s editorial on

[15] The *Nike* case is unique as writ of certiorari was dismissed as improvidently granted, with a written concurrence by Justice Stevens, with whom Justice Ginsburg joined, and with whom Justice Souter joined partially, and dissents by Justices Kennedy, Breyer, and O'Connor. Almost all other cases in our sample are written decisions on the merits.

Gonzales v. Raich, 545 U.S. 1 (2005), where the Supreme Court struck down a commerce clause challenge to federal marijuana regulation under the Compassionate Use Act. The CPD argued, "In every state where a medical marijuana option has been presented to voters, it has won — usually decisively. Congress should heed this message."[16] While the CPD would appear to side with the minority in terms of the policy outcome of the case, the assertion that congress should pay attention to state popular votes appears to assume the answer to the merits question of the case (congressional authority under the commerce clause). When editorials presented such ambiguities — e.g., seemingly assuming that the majority's decision on the merits is correct, but disagreeing with the policy outcome — we coded them as missing opinions.

REFERENCES

Anderson, S. P., and J. McLaren. 2005. "Media Mergers and Media Bias with Rational Consumers." *Working Paper*.

Ansolabehere, S., R. Lessem, and J. M. Snyder. 2006. "The Orientation of Newspaper Endorsements in U.S. Elections, 1940-2002." *Quarterly Journal of Political Science* 1: 393–404.

Ashworth, S. and K. W. Shotts. 2007. "Does Informative Media Commentary Reduce Politicians Incentives to Pander?" *Working Paper*.

Bafumi, J., A. Gelman, D. K. Park, and N. Kaplan. 2005. "Practical Issues in Implementing and Understanding Bayesian Ideal Point Estimation," *Political Analysis* 13: 171–187.

Bafumi, J., and M. C. Herron. 2007. "Representation and American Political Institutions," Paper presented at the annual meeting of the Midwest Political Science Association.

Bailey, M. and K. H. Chang. 2001. "Comparing Presidents, Senators, and Justices," *Journal of Law, Economics, and Organization* 17: 477–506.

Bailey, M. A. 2007. "Comparable Preference Estimates across Time and Institutions for the Court, Congress and Presidency," *American Journal of Political Science* 51(3).

Bailey, M. A., B. Kamoie, and F. Maltzman. 2005. "Signals from the Tenth Justice: The Role of the Solicitor General at the Merits Stage." *American Journal of Political Science* 49: 72–85.

Balan, D. J., P. DeGraba, and A. L. Wickelgren. 2006. "Ideological Persuasion in the Media." *Working Paper*.

Barrett, A. W. and L. W. Barrington. 2005. "Bias in Newspaper Photograph Selection." *Political Research Quarterly* 58: 609–618.

Bartels, L. M. 1993. "Messages Received: The Political Impact of Media Exposure." *American Political Science Review* 87: 267–285.

Bertelli, A., J. D. Clinton, D. E. Lewis, and D. C. Nixon. 2007. "The Ideology of Federal Executives and Their Agencies," Paper presented at the 2007 Annual Meeting of the American Political Science Association.

Bertelli, A. M., and C. R. Grose. 2007. "The Lengthened Shadow of Another Institution: The Ideological Preferences of the Executive Branch and Senate." Paper presented at the 2007 Annual Meeting of the American Political Science Association.

Bradlow, E. T. and N. Thomas. 1998. "Item Response Models Applied to Data Allowing Examinee Choice." *Journal of Educational and Behavioral Statistics* 23(3): 236–243.

Clinton, J. D., S. Jackman, and D. Rivers. 2004. "The Statistical Analysis of Roll Call Data." *American Political Science Review* 98: 355–370.

Dalton, R. J., P. A. Beck, and R. Huckfeldt. 1998. "Partisan Cues and the Media: Information Flows in the 1992 Presidential Election." *American Political Science Review* 92: 111–126.

[16] Editorial, *Marijuana, Medicine and Law*, CLEVELAND PLAIN DEALER (June 12, 2005), at H2.

Davis, R. 1994. *Decisions and Images: The Supreme Court an the Press*. Englewood Cliffs, NJ: Prentice-Hall.
DellaVigna, S., and E. Kaplan. 2007. "The Fox News Effect: Media Bias and Voting," *Quarterly Journal of Economics (forthcoming)*.
Druckman, J. N., and M. Parkin. 2005. "The Impact of Media Bias: How Editorial Slant Affects Voters." *Journal of Politics* 67: 1030–1049.
Einstein, M., ed. 2004. *Media Diversity: Economics, Ownership, and the FCC*. Mahwah, NJ: Lawrence Erlbaum Associates.
Erikson, R. S. 1976. "The Influence of Newspaper Endorsements in Presidential Elections: The Case of 1964." *American Journal of Political Science* 20: 207–233.
Federal Communications Commission. 2003. "2002 Biennial Regulatory Review: Report and Order and Notice of Proposed Rulemaking." *FCC Record* 18: 13620–14013.
Gentzkow, M., and J. M. Shapiro. 2006. "What Drives Media Slant? Evidence from U.S. Daily Newspapers." *NBER Working Paper Series*.
Gerber, A. S., D. Karlan, and D. Bergan. 2007. "Does The Media Matter? A Field Experiment Measuring the Effect of Newspapers on Voting Behavior and Political Opinions." *Unpublished Manuscript*.
Greenhouse, L. 1996. "Telling the Court's Story: Justice and Journalism at the Supreme Court." *Yale Law Journal* 105: 1537–1561.
Grofman, B., and T. Brazill. 2002. "Identifying the Median Justice on the Supreme Court through Multidimensional Scaling: Analysis of 'Natural Courts' 1953-1991." *Public Choice* 112: 55–79.
Groseclose, T., and J. Milyo. 2005. "A Measure of Media Bias." *Quarterly Journal of Economics* 120: 1191–1237.
Hamilton, J. T. 2004. *All the News That's Fit to Sell*. New Jersey: Princeton University Press.
Heckman, J. J., and J. M. Snyder. 1997. "Linear Probability Models of the Demand for Attributes with an Empirical Application to Estimating the Preferences of Legislators." *RAND Journal of Economics* 28: S142–S189.
Ho, D. E., and K. M. Quinn. 2008. "Viewpoint Diversity and Media Consolidation: An Empirical Study." *Stanford Law Review (forthcoming)*.
Iyengar, S. and D. Kinder. 1987. *News that Matters*. Chicago: University of Chicago Press.
Johnson, V. E., and J. H. Albert. 1999. *Ordinal Data Modeling*. New York: Springer.
Kahn, K. F. and P. J. Kenney. 2002. "The Slant of the News: How Editorial Endorsements Influence Campaign Coverage and Citizens' Views of Candidates." *American Political Science Review* 96: 381–394.
Klinenberg, E. 2007. *Fighting for Air: The Battle to Control America's Media*. New York: Metropolitan Books.
Kull, S., C. Ramsay, and E. Lewis. 2003. "Misperceptions, the Media, and the Iraq War." *Political Science Quarterly* 118(A4): 569–598.
Larcinese, V., R. Puglisi, and J. M. Snyder. 2006. "Partisan Bias in Economic News: Evidence on the Agenda-Setting Behavior of U.S. Newspapers." *Working Paper*.
Little, R. J., and D. B. Rubin. 1987. *Statistical Analysis with Missing Data*. New York: Wiley and Sons.
Martin, A. D., and K. M. Quinn. 2002. "Dynamic Ideal Point Estimation via Markov Chain Monte Carlo for the U.S. Supreme Court, 1953–1999." *Political Analysis* 10: 134–153.
McCarty, N. M., and K. T. Poole. 1995. "Veto Power and Legislation: An Empirical Analysis of Executive and Legislative Bargaining from 1961–1986." *Journal of Law, Economics, and Organization* 11: 282–312.
Mullainathan, S., and A. Shleifer. 2005. "The Market for News." *American Economic Review* 95: 1031–1053.
Mullen, B., D. Futrell, D. Stairs, D. M. Tice, R. F. Baumeister, K. E. Dawson, C. A. Riordan, C. E. Radloff, G. R. Goethals, J. G. Kennedy, and P. Rosenfeld. 1986. "Newscasters' Facial Expressions and Voting Behavior of Viewers: Can a Smile Elect a President?" *Journal of Personality and Social Psychology* 51: 291–295.
Napoli, P. M., ed. 2006. *Media Diversity and Localism: Meaning and Metrics*. Mahwah, NJ: Lawrence Erlbaum Associates.

Noel, H. C. 2006. "The Coalition Merchants: How Ideologues Shape Parties in American Politics." Unpublished Ph.D. Dissertation, University of California Los Angeles.
Peake, J. S. 2007. "Presidents and Front-page News: How America's Newspapers Cover the Bush Administration." *The Harvard International Journal of Press/Politics* 12(4): 52–70.
Poole, K. T., and H. Rosenthal. 1985. "A Spatial Model for Legislative Roll CAll Analysis." *American Journal of Political Science* 29: 357–384.
Poole, K. T., and H. Rosenthal. 1991. "Patterns of Congressional Voting." *American Journal of Political Science* 35(February): 228–278.
Poole, K. T., and H. Rosenthal. 1997. *Congress: A Political-Economic History of Roll Call Voting*. New York: Oxford University Press.
Pritchard, D. 2001. "A Tale of Three Cities: 'Diverse and Antagonistic' Information in Situations of Local Newspaper/Broadcast Cross-Ownership." *Federal Communications Law Journal* 54: 31–51.
Puglisi, R., and J. M. Snyder. 2008. "Media Coverage of Political Scandals." *Working Paper*.
Schiffer, A. 2006."Assessing Partisan Bias in Political News: The Case(s) of Local Senate Election Coverage." *Political Communication* 23(1): 23–39.
Segal, J. A., and A. D. Cover. 1989. "Ideological Values and the Votes of US Supreme Court Justices." *American Political Science Review* 83: 557–565.
Steiner, P. O. 1952. "Program Patterns and Preferences, and the Workability of Competition in Radio Broadcasting." *Quarterly Journal of Economics* 66: 194–223.
Sutter, D. 2001. "Can the Media Be So Liberal? The Economics of Media Bias." *Cato Journal* 20: 431–451.
Treier, S. 2007. "But Where Does the President Stand? Interbranch Relations and the Measurement of Presidential Ideology." Paper presented at the 2007 Annual Meeting of the American Political Science Association.
Zorn, C. and G. A. Caldeira. 2006. "Measuring Supreme Court Ideology." Paper prepared for the Annual Meeting of the Southern Political Science Association.