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## What Do Bureaucrats Want? Estimating Regulator Preferences at the FCC\*

Adam Candeub  
MSU College of Law

Keith S. Brown  
Center for Naval Analysis

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# What Do Bureaucrats Want? Estimating Regulator Preferences at the FCC\*

Keith Brown  
CNAC

Adam Candeub  
Michigan State

**Abstract:** We use a unique and comprehensive data set, spanning 32,515 individual Federal Communications Commission (FCC) commissioners' votes over 27 years to estimate FCC commissioner preferences. Employing Multinomial Logit and Multinomial Probit choice models, we estimate FCC commissioners' preferences over different vote choices. According to multinomial logit results, idiosyncratic commissioner preferences are far more important than party affiliation in determining commissioner votes. Multinomial probit results indicate that the vote choices concur and dissent are close substitutes of each other.

## Introduction

Many factors influence bureaucratic decisions, ranging from the Presidency and the appropriating legislative body to special interests, ideology, and regulators' idiosyncratic or personal goals.<sup>1</sup> The interplay of these factors becomes even more complex in independent agencies, such as the Federal Communications Commission (FCC), Federal Electricity Regulatory Commission, and the Federal Trade Commission. Unlike executive agencies, the heads of which serve at the President's pleasure, independent agencies are typically run by a bipartisan commission whose members serve for given terms and may only be removed for cause.

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<sup>1</sup> Scholars have examined a variety of mechanisms of control and influence over the bureaucracy: Congress (Weingast & Moran, 1983); the Presidency (Moe, 1982); senatorial and presidential appointment procedures (Snyder & Weingast, 2000); or, a combination of presidential, congressional, and special interest influence (Stehr, 1997; Ringquist, 1995; Kunioka & Woller, 1999).

Numerous disciplines have examined agency decision-making using a variety of theoretical approaches. Economists and public choice theorists have examined bureaucratic behavior through the lenses of personal utility maximization and rent extraction.<sup>2</sup> Political scientists have incorporated these economic insights into models that include institutional, governance, and agency features.<sup>3</sup> Legal scholars have relied upon these various approaches to advocate particular positions in administrative law.<sup>4</sup>

Despite this extensive work, however, estimating the importance of these factors in driving bureaucrats' decisions remains an elusive question. Drawing upon a multinomial choice model that employs a vast, unique data set, the first of its kind, of 32,515 Federal Communications Commission (FCC) commissioner votes over 8,252 FCC orders, this paper identifies, rigorously defines, and examines factors driving bureaucratic decision making. (Brown & Candeub, 2006) We find that although partisanship, which we define as the degree to which party affiliation, in particular whether a commissioner is of the same or different party as the chair, drives commissioner voting behavior, we find that idiosyncratic preferences, to a surprising degree, drive commissioner's votes.

Ho (2007) also studies commissioner behavior. Ho limits his sample to cases where there was commissioner disagreement, and uses an "ideal point" methodology to decompose commissioner behavior into idiosyncratic effects and commissioners'

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<sup>2</sup> Economists and public choice theorists have identified numerous ways bureaucrats act to extract rents, such as maximizing their discretionary budgets. (Niskanen, 1975).

<sup>3</sup> Many scholars have examined how opportunism and transaction costs affect regulators' behavior and their relationship to the legislative and executive branches. (Huber & Shirpan, 2000; McCubbins, Noll & Weingast, 1987). In addition, scholars have examined how political influence is exercised over the bureaucracy. (Wood & Anderson, 1993; Wood & Waterman, 1991).

<sup>4</sup> Legal academics hotly debate the degree to which independent agencies are, and should be, free from executive control. Some argue for the need for greater presidential control, (Miller, 1986; Calabresi & Prakash, 1994; Calabresi & Rhodes, 1992; Redish, 1983) while others argue for more independence, (Lessig & Sunstein, 1994; Shane, 1989; Verkuil, 1986).

“locations” along a single dimensional ideological line. This requires Ho to drop all observations where commissioners vote unanimously. Ho finds that commissioners’ votes can mainly be attributed to different degrees of ideological fervor. Ho’s methodology, unlike ours, generates counterfactuals, and therefore represents a substantial contribution to the literature. Our methodology, on the other hand, allows us to employ multinomial probit models to estimate more flexible models of substitution across commissioner vote choices.

The FCC is an independent federal agency governed by five commissioners,<sup>5</sup> three of whom are of the same party as the President, and each of who vote on each of the Commission’s orders. Commissioners have multiple voting options available to them: affirm, concur, dissent in part, dissent in full, or not to participate. These voting patterns yield a multinomial choice for FCC commissioners. Using multinomial choice logits, we estimate the utilities that commissioners derive from their votes, based on their party affiliation, idiosyncratic preferences, and the total number of commissioners. Given that the FCC has the highest dissent rate of any independent agency (Ho, 2007), the FCC offers an excellent case-study for examining independent agency voting behaviors.

The multinomial logit estimation yields several important results concerning decision-making at the FCC. Using chair dummy variables, we find that idiosyncratic chair effects can impact voting patterns as much as party affiliation. Using commissioner dummy variables in the multinomial logit specifications, we find that commissioners’ idiosyncratic preferences are generally more determinative than party affiliation.

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<sup>5</sup> Before July 1983, the FCC had seven commissioners. Due to delays in the Senate nomination and confirmation process, the FCC has, at times in its history, functioned with three or four commissioners.

This indicates that personal convictions and/or idiosyncratic self-interest drive commissioner voting. Levitt (1996) obtained similar results for Senators. Levitt used a data set of thousands of Senatorial votes to estimate weighted utility functions for each Senator, and found that Senators' individual ideological preferences, instead of constituent preferences and party affiliation, explained most of their voting patterns. Our methods are similar in spirit to the product-differentiation work pioneered by McFadden (1973), using multinomial choice models to infer commissioners' utilities from their voting choices.<sup>6</sup> Political scientists and public choice scholars have long used both multinomial logit and probit modeling to examine voting behavior.<sup>7</sup>

We then employ multinomial probit for some of our specifications, loosening the restrictive IIA assumptions concerning the substitution of choices for commissioners and allowing observation of the substitutability of different voting choices.<sup>8</sup> Importantly, multinomial probit results find more statistically significant effects from party affiliation than multinomial logit results. These differing results raise the possibility that multinomial logit results understate, to some degree, the importance of party affiliation.

However, the multinomial probit still yields large and statistically significant coefficients on chair dummies. Further, the multinomial probit results indicate that including idiosyncratic chair effects greatly change the estimated substitutability across vote choices. All of which supports the conclusion that individual preferences matter—whether these preferences are the chair's or the commissioners'.

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<sup>6</sup> We use actual multinomial logit choice rather than McFadden's conditional logit because we can represent all of our independent variables as case-specific, rather than choice-specific. For the purposes of our multinomial probit analysis in Stata 9, we re-organize the data along choice-specific lines, but we specify all of the variables as case-specific variables.

<sup>7</sup> Recent examples include Schofield, et. al (1998), Lacy and Burden (1999), and Alvarez and Nagler (1998, 2000).

<sup>8</sup> Dow and Endersby (2004), however, contend that the IIA assumption is not overly restrictive for most applications.

In addition to our findings concerning the drivers of voting, our results yield interesting insights into the “substitutability” of the various voting actions available to commissioners: affirm, dissent, concur, and partial dissent. We find that commissioners’ concurrences fall significantly more closely to dissents than to simple affirmances in commissioners’ “product space.” This result indicates that commissioners see concurrences and dissents as relatively close substitutes. While this may seem surprising, remember that the specifications adjust for commissioner party affiliation relative to the chair and the chair’s actual vote. The close substitutability indicates that commissioners, conditional on their party affiliation, concur and dissent for similar reasons.

Concurrences and dissents may represent some type of “speaking out” or adopting different reasoning than the chair—a significant move given that the vast majority of all FCC action is done unanimously. In our data, 91% of all orders were unanimous. Further, as discussed below, the Chair controls the agenda so that commissioners rarely vote on orders which the Chair does not want approved and for which he has failed to garner the support of the majority. (The Chair was in dissent only 0.23% of the time and partial dissent 0.18% of the time.) Concurrences and dissents, therefore, often represent opportunities for commissioners to signal various constituencies and special interest groups—rather than chances to change Commission outcomes.

Our findings build upon previous empirical examinations of decision-making at the FCC. Both Figuerido and Tiller (2001) and Figuerido and Kim (2004) successfully use FCC data to analyze the optimal organization of lobbying efforts. Figuerido (2005) examines FCC cases, appeals of those FCC cases, and circuit-court rulings, and finds that

ideology affects the FCC orders that get appealed and the judges' decisions on those appeals.

## Data and Estimation

We have a unique data set comprised of over 8,000 orders and decisions.<sup>9</sup> For each vote, we observe how the chair voted, how the commissioner voted, the chair's party affiliation, the commissioner's party affiliation, and whether the issue was one of the highly-disputed cases that involved Regional Bell Operating Companies (RBOCs).

We treat the chair's vote as an independent variable driving the votes of the other commissioners, which generates a data set of 32,515 commissioner votes. Each commissioner's vote is determined by the commissioner's party affiliation and the chair's vote. For example, a commissioner belongs to the same party as the chair, the chair votes to affirm, that yields the independent variable *MajorityPartyChairAffirms*. There are two different possible party affiliations, and five different possible chair voting choices. We exclude the chair voting choice not to participate. This yields 8 independent variables.

We treat the chair's vote as an independent variable because the chair acts as the administrative head of the FCC with considerable control over the agency, its staff, and the agenda of meetings at which voting occurs. (47 C.F.R. 0.601 et seq.) Indeed, the chair exercises near complete control over setting each meeting's agenda, *i.e.*, determining which items the commissioners will vote on (Krasnow, et al., 2001).

Because the vast majority of votes are majorities, the chair's vote, therefore, may be treated as a given, and the other commissioners make choices based on the chair's vote.

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<sup>9</sup> We only included final orders and adjudications susceptible to court appeal and challenge. We did not, therefore, include notice of proposed rulemakings, reports, and other agency documents. While vital to the administrative process, these documents do not constitute determinations of legal rights.

Different chairmen, however, may place differing values on consensus and developing orders that gain universal support from all commissioners. One of our specifications therefore includes dummy variables for individual chairmen.

We believe that the Chair's control of the agenda significantly diminishes the possibility that commissioners engage in strategic voting. Dissents have the same marginally values to commissioners whether the votes are 5-0, 4-1, or 3-2 because we only observe those orders that the Chair has enough votes to pass. Any given dissent, therefore, is never a make or break vote. Instead, every dissent has the same marginal value, *i.e.*, once there are three votes, the commissioner has the choice to join the order or not, and the Chair has the choice of putting on the agenda an order for which he will have two, one, or no dissents.

We also include a variable that indicates whether the FCC order dealt with an issue concerning Regional Bell Operating Companies (RBOCs). RBOC issues tended to pit the interests of large telecommunications firms like AT&T and MCI against equally large firms like Verizon and SBC. These issues tend to be heavily lobbied, as evidenced by the leading position of the giant telecommunications companies in amounts spent on lobbying and campaign contributions. Table One lists variables and descriptive statistics.



Table One: Descriptive Statistics

	Mean	Standard Deviation	Min	Max
Number of Commissioners	5.35	1.21	3	8
RBOC	0.06	-	0	1
Majority Party Chair Affirm	0.48	-	0	1
Majority Party Chair Concur	0.005	-	0	1
Majority Party Chair Partial Dissent	0.001	-	0	1
Minority Party Chair Dissent	0.002	-	0	1
Minority Party Chair Affirm	0.49	-	0	1
Minority Party Chair Concur	0.005	-	0	1
Minority Party Chair Partial Dissent	0.0009	-	0	1
Minority Party Chair Dissent	0.002	-	0	1
Observations	32,515			

As we can see from Table One, chairmen vote to affirm 97% of the time, which reflects the fact that they set the agenda. The chair dissents on less than one half of one percent of all votes and RBOC cases comprise 6% of the sample. The number of commissioners has a mean of 5.3, reflecting the fact that the FCC has had five commissioners during most of our sample period, but saw periods with 7 commissioners during the early part of our sample. Depending on the vagaries of the Senate nomination and confirmation process and the timing of votes, there were periods when the FCC had fewer than 5 commissioners.

## Model and Specifications

We specify a multinomial choice model among the different voting choices facing commissioners. We do *not* estimate McFadden's conditional choice logit, but rather the actual multinomial logit. We employ the multinomial logit because the voting choices themselves are the product attributes in our treatment, and each possible chair vote choice can enter separately as a binary independent variable. Thus, the multinomial choice yields a full and flexible structure for estimating commissioner vote choices.

The commissioners have 5 voting choices, including the outside option of not participating. Commissioners can choose not to participate (the outside option in our treatment), to affirm the decision, to concur with the decision, to partially dissent from the decision, and to fully dissent.

We assume that commissioners gain different levels of utility from different vote choices based on the commissioners' own characteristics. We denote utility with  $U$ , each commissioner with  $i$  and each vote choice with  $j$ . We define each commissioner's utility over the vote choices:

$$U_{ij} = x_i \beta_j + v_{ij}$$

Where  $v_{ij}$  is distributed with a Type 1 extreme value distribution, where

$$F(x_i > x) = e^{-e^{-x}}.$$

From this utility specification, we obtain a multinomial logit choice model.  $Y$  is the commissioner's chosen vote from vector  $J$  voting choices of affirm, concur, partially dissent, or dissent, with not participating as the outside option 0;

$$\Pr(Y_i = j) = \frac{\exp(X_i \beta_j)}{1 + \sum_j \exp(X_i \beta_j)}$$

And

$$\Pr(Y_i = 0) = \frac{1}{1 + \sum_j \exp(X_i \beta_j)}$$

Table 2 lists the estimates with no dummies.

Table 2: Determinants of Commissioner Choice. Multinomial Logit

(\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%)

Independent Variables	Majority Party	Choices				Minority Party	Choices			
		Affirm	Concur	Partial Dissent	Dissent		Affirm	Concur	Partial Dissent	Dissent
	<i>Chair Affirm</i>	.65***	-.05	1.45	-.34	<i>Chair Affirm</i>	-.01	-.35	1.77*	-.07
	<i>Chair Concur</i>	-.32	1.08***	2.95**	-.08	<i>Chair Concur</i>	.15	1.44***	3.21***	.60
	<i>Chair Partial Dissent</i>	20.9***				<i>Chair Partial Dissent</i>	-.93	-38.2***	4.24***	-.34
	<i>Chair Dissent</i>	-.06	.56		2.98***	<i>Chair Dissent</i>	.17	-.56	3.38**	.14
<i>RBOC</i>		-.67***	.02	.03	-.41		-.67***	.02	.03	-.41
Number Commissioner		-.33***	.02	-.37***	-.11		-.33***	.02	-.37***	-.11
<b>Observations</b>	<b>32,515</b>									

Table 3 lists the estimates with chair dummies.

Table 3: Determinants of Commissioner Choice. Multinomial Logit with Chair Dummies

(\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%)

Independent Variables	Majority Party	Choices				Minority Party	Choices			
		Affirm	Concur	Partial Dissent	Dissent		Affirm	Concur	Partial Dissent	Dissent
	<i>Chair Affirm</i>	.82***	.03	1.70*	-.24	<i>Chair Affirm</i>	.17	-.23	2.01**	.05
	<i>Chair Concur</i>	-.51*	1.00***	2.73**	-.21	<i>Chair Concur</i>	-.06	1.35***	2.99***	.46
	<i>Chair Partial Dissent</i>	19.8***			22.28***	<i>Chair Partial Dissent</i>	-.86		4.19***	-.38
	<i>Chair Dissent</i>	.03	.57		2.91***	<i>Chair Dissent</i>	.09	-.63	2.83**	.01
<i>RBOC</i>		-.28	.39*	.90***	.25		-.28	.39*	.90***	.25
Number Commissioner		-.79***	-.35***	-.77***	-.41***		-.79***	-.35***	-.77***	-.41***
<b>Observations</b>	<b>32,515</b>									

Table 4 lists the estimates with commissioner dummies.

Table 4: Determinants of Commissioner Choice. Multinomial Logit with Commissioner Dummies

(\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%)

Independent Variables	Majority Party	Choices				Minority Party	Choices			
		Affirm	Concur	Partial Dissent	Dissent		Affirm	Concur	Partial Dissent	Dissent
	<i>Chair Affirm</i>	.67***	.08	1.67	-.13	<i>Chair Affirm</i>	.30	-.21	1.87*	.12
	<i>Chair Concur</i>	-.56*	1.33***	2.89***	-.17	<i>Chair Concur</i>	-.10	.99**	2.83**	.20
	<i>Chair Partial Dissent</i>	33.36***			34.15***	<i>Chair Partial Dissent</i>	-0.99		4.14***	-.44
	<i>Chair Dissent</i>	-.18	.50		3.15***	<i>Chair Dissent</i>	1.50**	0.80	4.49***	1.43***
<i>RBOC</i>		-.56***	.20	.22	-.23		-.56***	.20	.22	-.23
Number Commissioner		-.74***	-.49	-.82***	-.68***		-.74***	-.49	-.82***	-.68***
<b>Observations</b>	<b>32,515</b>									

Table 5 uses the estimates from the no-dummy model to infer different vote probabilities on RBOC and non-RBOC issues.

**Table 5: Inference from Multinomial Logit Results. No Chair and no Commissioner Dummies**

Commissioner Votes	Majority Party Chair Affirms	Majority Party Chair Concur	Majority Party Chair Dissents	Minority Party Chair Affirms	Minority Party Chair Concur	Minority Party Chair Dissents in Part	Minority Party Chair Dissents
No RBOC 5 commissioners							
Affirm	95.8%	75.8%	66.6%	92.1%	78.0%	63.7%	90.6%
Concur	1.7%	13.7%	4.6%	2.5%	12.8%	6.0%	1.8%
Dissent Part	0.5%	4.6%	0.2%	1.4%	3.9%	23.7%	3.3%
Dissent	0.7%	2.3%	26.8%	1.8%	3.0%	2.3%	1.9%
Not Participate	1.2%	3.6%	1.8%	2.2%	2.4%	4.3%	2.4%
RBOC 5 commissioners							
Affirm	92.3%	60.0%	53.7%	85.7%	63.0%	39.3%	81.4%
Concur	3.3%	21.2%	7.2%	4.5%	20.1%	7.3%	3.1%
Dissent Part	1.7%	11.9%	0.4%	4.2%	10.3%	47.5%	9.8%
Dissent	1.2%	3.1%	36.7%	2.9%	4.1%	2.4%	2.9%
Not Participate	1.5%	3.8%	2.0%	2.7%	2.5%	3.5%	2.8%

Table 6 uses the estimates from the chair-dummy model from Table 3 to infer different vote probabilities under chairmen Reed Hundt and Michael Powell. We compare the effects of these two chairmen on voting patterns, and compare their effects to the effect of party affiliation.

**Table 6: Inference from Multinomial Logit Results. Chair Dummies**

Commissioner Votes	Majority Party Chair Affirms	Majority Party Chair Concurs	Majority Party Chair Dissents	Minority Party Chair Affirms	Minority Party Chair Concurs	Minority Party Chair Dissents in Part	Minority Party Chair Dissents
Hundt RBOC							
Affirm	94.1%	72.5%	74.7%	90.0%	75.4%	63.5%	89.6%
Concur	3.0%	19.2%	9.2%	4.2%	18.0%	10.4%	2.8%
Dissent Part	0.3%	3.0%	0.1%	0.8%	2.5%	17.7%	3.4%
Dissent	0.3%	0.7%	12.2%	0.7%	0.9%	0.9%	0.7%
Absent	2.3%	4.7%	3.8%	4.3%	3.1%	7.6%	3.5%
Hundt No RBOC							
Affirm	96.8%	83.7%	82.4%	94.4%	85.6%	77.3%	94.2%
Concur	1.6%	11.1%	5.1%	2.2%	10.3%	6.3%	1.5%
Dissent Part	0.2%	1.7%	0.1%	0.4%	1.4%	10.6%	1.8%
Dissent	0.2%	0.6%	10.3%	0.5%	0.8%	0.8%	0.5%
Absent	1.3%	2.9%	2.2%	2.4%	1.9%	4.9%	2.0%
Powell RBOC							
Affirm	92.8%	63.4%	45.7%	86.6%	65.7%	37.6%	78.2%
Concur	3.4%	18.9%	6.3%	4.5%	17.7%	6.9%	2.7%
Dissent Part	1.6%	12.8%	0.4%	3.9%	10.9%	51.2%	14.7%
Dissent	1.7%	4.0%	47.1%	4.0%	5.1%	3.4%	3.7%
Absent	0.5%	0.9%	0.5%	0.9%	0.6%	0.9%	0.7%
Powell No RBOC							
Affirm	95.8%	76.7%	53.6%	91.8%	78.1%	54.2%	86.9%
Concur	1.8%	11.5%	3.7%	2.4%	10.6%	5.0%	1.5%
Dissent Part	0.8%	7.6%	0.2%	2.1%	6.3%	36.3%	8.0%
Dissent	1.3%	3.7%	42.2%	3.3%	4.6%	3.7%	3.1%
Absent	0.3%	0.6%	0.3%	0.5%	0.4%	0.7%	0.4%

Table 7 uses the commissioner-dummy estimates from Table 4 to infer different vote probabilities for commissioners Barrett, Duggan, Furchtgott-Roth, and Hooks. We then compare the size of these idiosyncratic commissioner effects to the size of party affiliation effects.

**Table 7: Inference from Multinomial Logit Results. Commissioner Dummies**

Commissioner Votes	Majority Party Chair Affirms	Majority Party Chair Concurs	Majority Party Chair Dissents	Minority Party Chair Affirms	Minority Party Chair Concurs	Minority Party Chair Dissents in Part	Minority Party Chair Dissents
Barrett No RBOC							
Affirm	97.5%	79.1%	75.2%	96.8%	88.6%	90.3%	95.7%
Concur	1.8%	17.1%	4.9%	1.9%	8.5%	7.6%	1.6%
Dissent Part	0.3%	2.4%	0.1%	0.4%	1.6%	0.2%	1.8%
Dissent	0.4%	1.1%	19.7%	0.8%	1.1%	1.5%	0.8%
Absent	0.1%	0.3%	0.2%	0.1%	0.2%	0.4%	0.0%
Duggan No RBOC							
Affirm	97.6%	79.9%	84.1%	97.0%	89.2%	90.4%	96.2%
Concur	1.7%	16.3%	5.1%	1.8%	8.1%	7.2%	1.5%
Dissent Part	0.3%	2.4%	0.1%	0.4%	1.6%	0.2%	1.8%
Dissent	0.2%	0.5%	10.0%	0.3%	0.5%	0.7%	0.4%
Absent	0.3%	0.9%	0.7%	0.5%	0.6%	1.6%	0.1%
Furchtgott-Roth No RBOC							
Affirm	88.4%	46.0%	26.5%	82.7%	59.8%	22.2%	66.8%
Concur	3.2%	20.0%	3.4%	3.2%	11.6%	3.8%	2.2%
Dissent Part	4.5%	27.3%	0.6%	7.4%	20.7%	70.2%	25.1%
Dissent	3.7%	6.3%	69.3%	6.4%	7.5%	3.6%	5.9%
Absent	0.2%	0.4%	0.2%	0.3%	0.3%	0.3%	0.1%
Hooks No RBOC							
Affirm	79.0%	29.8%	16.1%	73.2%	45.2%	28.9%	68.3%
Concur	11.8%	53.2%	8.6%	11.7%	35.9%	20.1%	9.2%
Dissent Part	1.8%	7.7%	0.2%	2.8%	6.8%	39.8%	11.2%
Dissent	5.8%	7.2%	74.4%	10.0%	10.1%	8.2%	10.6%
Absent	1.7%	2.1%	0.8%	2.2%	2.0%	3.0%	0.6%



Across every specification, commissioners are less likely to affirm in cases involving RBOCs. In the specification results without any dummies for chair or commissioner characteristics listed on Table 2, commissioners enjoy increased utility from partially dissenting and slightly increased utility from concurring in RBOC cases. In specifications with chair dummies and commissioner dummies with results listed on Tables 3 and 4, the involvement of RBOCs lowers the utility to commissioners from voting to affirm. RBOC cases also slightly increase commissioners' utility of not voting.

Coefficients of the number of commissioners vary considerably across the three specifications, most likely because institutional changes over time drive variation in the number of commissioners. Before June 1983, the FCC had seven commissioners, and after June 1983, the FCC had 5 commissioners.<sup>10</sup> Commissioners who served under the 7-commissioner regime are therefore different from the commissioners who served under the 5-commissioner regime. Therefore, changes in the number of commissioners would correlate with changes in idiosyncratic chair and commissioner effects.

Across our three specifications, we obtain several consistent results for partisan effects on commissioner utilities from different vote choices. Majority-party commissioners obtain more utility from affirming when the chair affirms. This is not true for minority-party commissioners. Chair concurrences increase the utility of concurring for commissioners of both parties. Partial dissents by the chair generate very different responses across parties. Partial dissents by the chair generate greater utility from affirming and fully dissenting among majority-party commissioners, but generate greater utility from partially dissenting among minority party commissioners. Full dissents by

<sup>10</sup> On July 15, 1982, the Senate Commerce Committee approved a measure that lowered the number of FCC Commissioners from seven to five at the end of June 1983.

the chair generate greater full dissents by majority-party commissioners and greater partial dissents among minority-party commissioners. On the whole, party differences generate distinct utility primitives on voting choices across FCC commissioners, and these differences remain when we adjust for idiosyncratic effects of individual chairmen or individual commissioners.

What are the relative effects of party affiliation versus idiosyncratic chair on commissioner utilities? We answer this question by comparing the results from our basic specification with no chair or commissioner dummies to the results from specifications with chair or commissioner dummies. In the chair and commissioner dummy variable specifications, we can include specific chairmen or commissioners, and compare the results across chairmen and commissioners. This allows us to estimate the relative effects of party affiliation versus idiosyncratic chair or commissioner effects.

We now apply our specification that includes chair dummies. Table 6 uses the estimates from the chair-dummy specification to infer voting probabilities under chairmen Hundt and Powell. We compare the estimated vote probabilities under Hundt to the estimated vote probabilities under Powell, focusing on non-RBOC cases. Hundt is a member of the Democratic Party who served as FCC chair from 1993-1997. Powell is a member of the Republican Party who served as FCC chair from 2001-2005.

Under Hundt, when Hundt voted to affirm, a majority-party commissioner had an estimated probability of 96.8% of voting to affirm and a 0.2% chance of voting to dissent. A minority-party commissioner had a 94.4% chance of voting to affirm and a 0.5% chance of dissenting when Hundt voted to affirm. We calculate a “partisan gap,” which is the difference between majority party commissioner votes and minority party

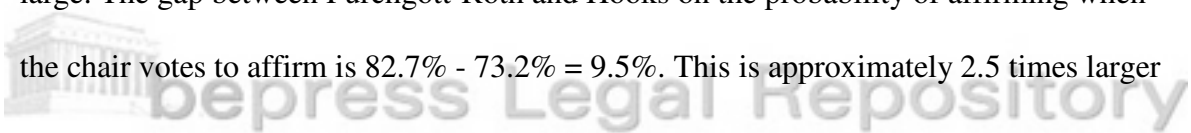
commissioner votes given a certain chair vote. Under Hundt, the “partisan gap” is  $96.8\% - 94.4\% = 2.4\%$  in voting to affirm when the chair affirms. The partisan gap in dissenting when the chair affirms is  $0.5\% - 0.2\% = 0.3\%$ .

Under Powell, majority-party commissioner had an estimated probability of  $95.8\%$  of voting to affirm and a  $1.3\%$  chance of voting to dissent when Powell voted to affirm. A minority-party commissioner had a  $91.8\%$  chance of voting to affirm and a  $3.3\%$  chance of voting to dissent when Powell voted to affirm. Under Powell, the “partisan gap is  $95.8\% - 91.8\% = 4.0\%$  in voting to affirm when the chair affirms. The partisan gap in dissenting when the chair affirms is  $3.3\% - 1.3\% = 2.0\%$ .

In certain cases, the gap between Powell and Hundt is larger than the partisan gap during their tenures. During Powell’s tenure, majority-party commissioners were more likely to dissent when the chair voted to affirm than minority-party commissioners under Hundt. We, therefore, calculate a “chair gap,” which is the difference in vote probabilities across chairmen, holding constant the commissioner’s own majority or minority party status and the chair’s vote. Across Hundt and Powell, the “chair gap” is  $1.3\% - 0.2\% = 1.1\%$  for majority-party commissioners voting to dissent when the chair affirms. The chair gap is  $3.3\% - 0.5\% = 2.8\%$  for minority-party commissioners voting to dissent when the chair affirms. Concerning the probability of commissioners voting to dissent when the chair affirms, the chair gap between Powell and Hundt is larger than the partisan gap within both Hundt and Powell. Multinomial logit results imply that idiosyncratic chair effects can generate larger changes than differences in party affiliation.

As we can see, individual chairmen can strongly drive results, even in the presence of statistically significant partisan drivers. Idiosyncratic commissioner preference can drive results even more. Table 6 uses the estimates from the multinomial logit specification with commissioner dummies to infer vote probabilities across four different commissioners: Barrett, Duggan, Furchtgott-Roth, and Hooks. Based on the estimates, Barrett and Duggan had the highest relative utilities from affirming, while Furchtgott-Roth and Hooks had the lowest relative utilities from affirming. We may want to avoid any possible problems from inferring counterfactual probabilities of how some minority party commissioners would vote if they were in the majority. In that case, we simply compare these commissioner-specific vote probabilities on Table 7 to Table 5's inferred probabilities from the no-dummy model estimates. We restrict our attention to those cases where the model estimates match the commissioners' actual party affiliation relative to the chair. Duggan was a minority party commissioner for much of his tenure, and Furchtgott-Roth, and Hooks were minority-party commissioners. We therefore compare the estimated vote probabilities of these three commissioners.

The results are striking. According to Table 5, in a non-RBOC case, the partisan gap when the chair votes to affirm is  $95.8\% - 92.1\% = 3.7\%$ . According to Table 7, the probability that Furchtgott-Roth dissents when he is in the minority and the chair votes to affirm is  $82.7\%$ . The probability that Hooks dissents when he is in the minority party and the chair votes to affirm is  $73.2\%$ . The probability that Duggan dissents when he is in the minority and the chair votes to affirm is  $97.0\%$ . The gap between commissioners can be large. The gap between Furchtgott-Roth and Hooks on the probability of affirming when the chair votes to affirm is  $82.7\% - 73.2\% = 9.5\%$ . This is approximately 2.5 times larger



than the partisan gap of 3.7%. The gap between Duggan and Hooks on the probability of affirming when the chair votes to affirm is  $97.0\% - 73.2\% = 23.8\%$ . This is approximately 7 times larger than the partisan gap of 3.7%. Simply put, idiosyncratic commissioner effects can simply dwarf the effects of party affiliation.

## **Multinomial Probit Results**

We also examine multinomial probit results. The multinomial probit model provides a more flexible functional form, and allows us to relax the extremely restrictive IIA assumption on vote choices. This allows us to estimate the relative substitutability of different votes across commissioners. How do the different vote choices resemble each other, and how substitutable are they? Do some vote choice resemble each other more closely; i.e. do they lie more closely together on the product space?

Multinomial probit estimation raises a major computational difficulty. Multinomial probits integrate a joint normal distribution over as many dimensions as there are choices (minus the excluded base choice). In our case, that would generate a normal distribution integrated over four dimensions. This is a very large and mathematically intractable integral, which requires simulation methods. The multinomial probit model that we use in Stata 9 employs the Geweke-Hajivassiliou-Keane (GHK) simulator to evaluate the 4-dimensional Normal integrals in the likelihood function.

The multinomial probit model does not converge for the specification with commissioner dummies. It does converge for the specification with no commissioner or chair dummies and for the specification with chair dummies. Multinomial probit models are often weakly identified. In addition, while we observe thousands of votes,

commissioners vote to affirm well over 90% of the time. In this application, the multinomial probit applies a more flexible estimation approach to certain cases with few observations. In addition, we cannot obtain multinomial probit estimates for any models that include commissioner dummies because the multinomial probit fails to converge in these cases. We briefly discuss some important difference between the multinomial probit estimates and the multinomial logit estimates, using the specification with chair dummies as our benchmark.

According to multinomial probit estimates, a vote to concur or dissent by a chair in a commissioner's own party greatly reduces that commissioner's utility from affirming. The multinomial logit does not obtain statistically significant results on those coefficients. In addition, multinomial probit results indicate that a commissioner obtains less utility from affirming when a chair in an opposing party concurs. The multinomial logit estimates a positive but statistically insignificant effect. According to multinomial probit estimates, an RBOC case greatly increases a commissioners' utility from concurring, unlike the multinomial logit. The multinomial probit results imply lower utility from concurring when a chair in the same party votes to affirm and higher utility from concurring when a chair in the same party votes to dissent, unlike the multinomial logit. According to multinomial probit, a commissioner obtains lower utility from dissenting when the chair in the commissioner's own party votes to affirm, and a higher utility of dissenting when a chair in either party concurs.

We report the estimated error correlations of the vote choices from the multinomial probit. These essentially provide estimates on the closeness of vote choices in commissioners' product space. We then assess the substitutability for different vote

choices across commissioners. Table 8 reports multinomial probit correlations among the unobserved attributes of the vote choices for the specification with no chair or commissioner dummies.

**Table 8: Multinomial Probit Correlation Matrix. No Chair and No Commissioner Dummies.**

	Affirm	Concur	Partial Dissent	Dissent
Affirm	1.00			
Concur	0.14	1.00		
Partial Dissent	-0.67	0.48	1.00	
Dissent	-0.38	0.75	0.64	1.00

Table 9 reports the correlations for the specification with chair dummies.

**Table 9: Multinomial Probit Correlation Matrix. Chair Dummies.**

	Affirm	Concur	Partial Dissent	Dissent
Affirm	1.00			
Concur	-0.99	1.00		
Partial Dissent	0.91	-0.96	1.00	
Dissent	-0.74	0.78	-0.89	1.00

The results indicate that concur and dissent are very close substitutes. When we examine the substitution patterns, concur closely substitutes with dissent in both specifications. In the specification with no chair dummies, affirm is somewhat substitutable with concur, and is highly dissimilar to partial dissent and dissent. In the specification with chair dummies, affirm and partial dissents appear to be close substitutes. Affirmances and partial dissents are highly dissimilar to concur and dissent, which are close substitutes. Incorporating idiosyncratic chair effects greatly changes the estimated substitution patterns across vote choices.

Overall, the multinomial probit finds more and stronger effects from party affiliation than the multinomial logit. These estimated party affiliation effects make sense. In addition, the multinomial probit finds weaker idiosyncratic chair effects. This indicates that the multinomial logit underestimates the effect of party affiliation and overestimates idiosyncratic chair effects. This problem may also exist in the multinomial logit specification with commissioner dummies. We stress, however, that the multinomial probit yields large and statistically significant coefficients on chair dummy variables, and many of these coefficients are significantly different from one another.

Dow and Endersby (2004) contend that the IIA assumption is not overly restrictive for most applications. They are right, but there are some reasons why the IIA restriction may be overly restrictive in this particular case. Because commissioners vote to affirm so often (well over 90%), then affirm has a very high share. That means that the multinomial logit, with its IIA restriction, treats the vote to affirm as closely substitutable with every other type of vote, and all other votes as not closely substitutable at all. Multinomial probit results demonstrate that this substitution pattern is extremely far from reality. In most applications, the IIA restriction does not impose substitution patterns that are too far from reality to produce unbiased estimates. In this case, it may.



## Conclusion

This paper presents a compelling, novel picture of the way independent agencies operate. First, people matter. Commissioners do not move in partisan lock step. Instead, a high premium is placed upon consensus, as shown by the overwhelming majority of commission action that occurs with unanimous approval. In general, chairmen do not bring to vote matters that do not have widespread support. When there is conflict, however, party affiliation is far from determinative, and idiosyncratic concerns play a large role. Comparing multinomial logit estimates of commissioner vote choices with and without commissioner dummies shows that commissioner's individual preferences are highly determinative. In other words, when there is disagreement, commissioners appear to be following the beats of their own drummers—whether they be ideological bias or some personal motivation emanating from a particular constituency or special interest. In addition, multinomial logit and multinomial probit estimation with chair dummies show that an individual chair's preferences for consensus vary considerably. All of which suggests that individual agendas, not raw partisanship, dominate “difficult” decision-making.

This result complements those found in Ho (2007) but provides insight into agency behavior from a different perspective. Ho uses a multilevel ideal point methodology to assess the different effects of Congressional and Presidential influence on FCC policy. We employ multinomial choice models to examine the substitutability of different vote choices for commissioners. In fact, our work may provide some useful opportunities for cross-fertilization with Ho's. Our multinomial probit findings show a high degree of substitutability between dissents and concurrences. In particular, in

multinomial probit estimates in models, affirm and partially dissent are close substitutes, and concur/dissent are close substitutes. In Ho's treatment, Ho derives his ideal points through an ordered probit estimation, ordering the vote choices in the order of: 1. affirm, 2. concur, 3. partial dissent, and 4. dissent. Our results indicate that the ordering may vary; rulemakings that generate full dissents may also generate concurrences, but they do not generate partial dissents.

This indicates that, consistent with the high premium on consensus dealmaking, commissioners generally receive utility if they "get along and go along." The effects of partisanship, therefore, is largely, perhaps principally felt, in whether and when the Chair brings a particular order to vote and what compromises and concessions the Chair made in the order to gain a sufficient number of votes. We unfortunately cannot observe these variables.

When commissioners disagree, however, they receive utility from "breaking ranks" whether in the form of a concurrence or dissent. This result is perhaps not surprising given the way the FCC chair controls the voting agenda. Because the chair decides which orders will be voted on, commissioners vote only on orders that the chair wants to be approved—and knows he has the support for. By the time an item is voted on, a commissioner's decision to concur or dissent may make little difference to the outcome. This supports the notion that commissioner concurrence and dissent primarily serve as a signaling function by which commissioners communicate their positions to various constituencies.

Further, the chair also impacts commissioners' substitution patterns across different vote choices. Multinomial probit specifications without chair dummies generate

slightly different substitution patterns than multinomial probit results with chair dummies. Different chairmen generate different utilities for each of the voting options (affirm, concur, dissent, partial dissent) available to commissioners. Controlling for chair-specific effects then changes estimated substitution patterns across vote choices.

It is likely that more ambitious commissioners, *i.e.*, those less desirous of consensus and/or inaction, tend to cause other commissioners to concur and dissent more often. This is because concurrences and dissents are likely close substitutes as they are the main ways for a commissioner to differentiate herself from the chair and signal loyalty to constituencies and special interest groups.

## **Methods**

FCC orders were identified by searching Westlaw. Search results were compared for certain test years with the Federal Communication Commission Record, the official publication of the FCC, with a discrepancy of roughly 1 to 2 percent. Only final orders voted by the commissioner and subject to judicial appeal were included in the database. Bureau-level orders, which are not subject to appeal, and non-final items, like Notices of Proposed Rulemaking, not subject to appeal, were not included in the database. The search string employed for each year in the study was: “(order decision) +255 adopted +4 2003 +10 released & “by the commission” & DA (AFT 01/01/2003 & BEF 04/12/2003) & FCC +2 “03.” Slight variations were used in some years to account for changing formats of FCC orders.

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