

**BECOMING THE FEDERAL RESERVE CHAIRMAN:
THE MICRO-DISCURSIVE CONSTRUCTION
OF ADMINISTRATIVE AUTHORITY
AS A RHETORICAL APPEAL TO ETHOS**

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ABSTRACT

In this dissertation, I explore the role that discourse plays in *constructing* the authoritative *ethos* by which we recognize actors who occupy positions to make decisions for society. Perhaps this *administrative authority* (Walton, 1997), or institutional power, has been conceptualized as a *non-artistic* influence on ethos—it is used, rather than invented (Kennedy, 2007, p. 39; Gottweis, 2007, p. 246; Cochran & Malone, 2009, p. 11)—because how an actor discursively constructs it as a *rhetorical* appeal might not be analytically obvious. Considering, however, that *artistic* (i.e., discourse-based) influences on ethos might be more effective if they emerge implicitly because a speaker’s explicit self-evaluation can have an unfavorable impression on an audience (Perelman & Olbrechts Tyteca, 1969, p. 319; Amossy, 2001, p. 8; Scopelliti et al., 2015), methodologically, we need to probe the surfaces of texts in order to uncover a speaker’s “hidden” rhetorical appeals to ethos. Following Cheng (2012) and Oddo (2014), I take a micro-discursive approach in order to move beyond the more obvious rhetorical features of ethos for a deeper understanding of how discourse latently carries out an ethotic function.

As a case study, I draw upon the framework of *register analysis* (Biber, 1988) to examine the extent to which the office of power of the Chairman of the Federal Reserve is associated with a relatively stable set of micro-linguistic features. I analyze 142 public Federal Reserve speeches: 53 by Chairman Alan Greenspan (2002-2005), 42 by *Governor* Ben Bernanke (2002-2005), and 47 by *Chairman* Ben Bernanke (2006-2007). I argue that, in becoming the Chairman, Bernanke began repeating micro-linguistic choices that were significantly different than those that he had frequently drawn upon as a Governor (while serving under Chairman Greenspan) and, moreover, that resembled those that Greenspan had frequently made as the Chairman. In short, I argue that the Chairman *speaks as the Chairman*. My dissertation suggests that the *register variation* across

the Federal Reserve's members implicitly rationalizes the Chairman-dictated, group "consensus" on policy decisions, through which the Fed inspires confidence with the public (Shapin, 1995, p. 270; Habermas, 2002, p. 96; Blinder, 2007, p. 114), by discursively co-constructing his ethos of administrative authority.

CHAPTER 1

INTRODUCTION: A RHETORICAL APPROACH TO ANALYZING U.S. MONETARY POLICY MAKING

In recent years, some public policy scholars have begun incorporating rhetoric into their study of policy making. According to Gottweis (2007), “*argumentative policy analysis* subsumes a group of different approaches toward policy analysis that share an emphasis on language as a key feature and thus as a necessary key component of policy analysis” (p. 238). Fischer (2003) notes that such approaches focus on the “deliberative context in which policy is made” (p. 16). Majone (1989) argues that because deliberation plays a central role in democratic policy making, “in a system of government by discussion, analysis ... has less to do with formal techniques of problem solving than with the process of argument” (p. 7). In general, the “argumentative turn” (Fischer & Forester, 1993) in policy analysis recognizes that, in addition to applying *rational* or *technical* methodologies to the study of policy problems (e.g., Cochran & Malone, 2009; Kraft & Furlong, 2010), analysts should also pay attention to the *discourse* surrounding policy decisions.

While the developing tradition of *argumentative policy analysis* focuses on the discourse and argumentation that occur in the process of policy making, the role of *ethos* in policy making deserves more analytical attention than it has received. Gottweis (2007) suggests that this lack of attention is “probably because of an understanding of discourse and argumentation that reduces argumentation to the operation of logos rather than a tendency to integrate pathos and ethos into argumentation” (p. 239). Considering that policy is often made in a context of public deliberation (Fischer, 2003, p. 16), that a speaker’s ethos is a prominent means of persuasion in deliberative discourse (Aristotle, 2007: 1.2.4), that authority has become a persuasive type of ethos in modern discourse (Crowley & Hawhee, 2004, p. 176), and that power operates largely through discourse

(Foucault, 1980), this dissertation sets out to explore the role that discourse plays in constructing the administrative authority, or institutional power, through which actors influence other actors and the public in policy making.

In *On Rhetoric*, Aristotle (2007) includes “finances” among the most important subjects of deliberative rhetoric (1.4.7-8). However, despite the rhetorical import traditionally attributed to financial deliberation and, more importantly, the extent to which the central issues at stake in modern financial deliberation—for example, employment and prices—intimately affect the lives and well-being of the American populace, financial deliberative rhetoric has not received much scholarly attention. In an effort towards both filling this gap and contributing to the developing tradition of *argumentative policy analysis*—specifically, by advancing our understanding of the role that ethos plays in policy making—I draw upon, as a case study, a corpus of speeches given by former members of the United States Federal Reserve—Alan Greenspan and Ben Bernanke. The speeches operate as a medium through which the members of the Federal Reserve publicly deliberate with one another (and external audiences) in the periods between privately meeting to make monetary policy decisions.

Based on an analysis of these speeches, I argue in this dissertation that the “Chairman of the Federal Reserve” is not merely an office of institutional power that exists prior to and outside of discourse; it also a discursive construct. In other words, the Chairman makes linguistic choices to speak *as the Chairman*, thereby *inventing* the administrative authority by which he is publicly recognized. I argue, furthermore, that his *artistic* (i.e., discourse-based) authority functions as a rhetorical means of manufacturing the Federal Open Market Committee’s (FOMC) “consensus” on monetary policy decisions that, Blinder (2007) suggests, the Federal Reserve forms to inspire the public to be confident in its policy decisions. This credibility, the Federal Reserve admits, is

necessary for effectively implementing its policy. This case study suggests that the authoritative actors who are responsible for making policy decisions for society do not merely *adopt* the role of authority afforded to them by their formal position of power, as both a traditional, Aristotelian view of ethos (Kennedy, 2007, p. 39) and the role of ethos in *argumentative policy analysis* (e.g., Gottweis, 2007) seem to suggest; they also *discursively enact* their administrative authority in the deliberative context of policy making.

Through this case study, I hope to shed some new light on the (discursive) practices of the Fed. In addition, by conceptualizing an actor's administrative authority as at least partially constituted by discourse and as an *invented* rhetorical appeal, this dissertation has several aims and potential implications that are relevant to existing rhetorical scholarship on ethos. Drawing upon this work, I situate my dissertation at the intersection of rhetorical studies that (1) collapse some of the traditional, Aristotelian distinctions between *artistic* and *non-artistic*—speech and non-speech—influences on ethos (e.g., Amossy, 2001; Baumlin & Baumlin, 1994; Hyde, 2004), (2) blur some of the presumed boundaries that separate ethotic and logical appeals (e.g., Garver, 1994), and (3) highlight some of the ways in which a text's more micro-linguistic, latent features, can contribute to the constitution of a speaker's ethos (e.g., Cheng, 2012; Oddo, 2014). This case also has broader implications on our understanding of the *text/context* dichotomy (e.g., Andrus, 2011) and how *artistic* ethos in deliberative rhetoric can function to “democratize” institutions.

Deliberative Discourse, Ethos, and Authority

Considering that, especially in democratic societies, policy making takes place through a social process of public deliberation among political actors, any analysis of policy must address what Aristotle, in *On Rhetoric*, calls *deliberative rhetoric*—discourse that advises or dissuades

an audience about the advantages or harmfulness of future courses of action (1.3.3-5). Aristotle suggests that the character of the speaker—the speaker’s *ethos*—is especially important in “cases where there is not exact knowledge but room for doubt” (1.2.4). Since deliberation is temporally oriented towards the future, this type of rhetorical discourse inherently involves some degree of uncertainty regarding the events about which it communicates, and, therefore, it relies heavily on the speaker’s character as the most—or, in some cases, perhaps even the only—available means by which the speaker may gain influence over other actors in advising for or dissuading against a future course of action. Thus, *ethos* would seem to have an especially important rhetorical role in the deliberative process of policy making.

In *On Rhetoric*, Aristotle conceptualizes a speaker’s *rhetorical ethos* as one of the three *entechnic pisteis*, or the *artistic proofs*—the means of persuasion that a speaker creates through discourse¹. Sometimes called “invented ethos” (Crowley & Hawhee, 2004), this conception of *ethos* refers to “whenever the speech is spoken in such a way as to make the speaker worthy of credence” (Aristotle, 2007: 1.2.4). As Perelman and Olbrechts-Tyteca (1969) explain, “What the ancients used to call *oratorical ethos* can be summed up as the impression which the speaker, by means of his words, gives of himself” (p. 319). This Aristotelian conception of *rhetorical ethos* emphasizes that a speaker’s impression should be constituted *by means of words*, that it “should result from the speech, not from a previous opinion that the speaker is a certain kind of person” (Aristotle, 2007: 1.2.4). In other words, for the speech to have *rhetorical* influence, the speaker should discursively construct the qualities that make him or her trustworthy; the speaker should not rely on factors outside of the rhetorical situation.

¹ According to Aristotle (2007), the other two *entechnic pisteis*, or *artistic proofs*—the means of persuasion that a speaker creates through discourse—are *logos* and *pathos*.

As Kennedy (2007) suggests, presumably, Aristotle would consider the influences that an audience's previous opinion of a speaker have on the speaker to be among the *atechnic pisteis*, or the *non-artistic proofs*—the influences “that are not provided by ‘us’ but are preexisting” (1.2.2). This *non-artistic* ethos, sometimes referred to as “situated ethos” (Crowley & Hawhee, 2004), or “prediscursive ethos” (Maingueneau, 1999), or “prior ethos” (Amossy, 2001), is brought into the rhetorical situation, instead of constructed in it—for example, “the authority that the speaker may possess due to a position in government or society, previous actions, or anything except what is actually said in the speech” (Kennedy, 2007, p. 39). In sum, whereas *artistic* influences on ethos develop in and emerge out of the immediate rhetorical situation, *non-artistic* influences on ethos exist prior to and outside of it. In other words, a speaker *invents* these artistic influences and *uses* these non-artistic influences (Aristotle, 2007: 1.2.2-3).

While Aristotle seems to suggest that the domain of rhetorical inquiry should be limited to studying *artistic* influences on ethos (1.2.4), more recent scholarship has pointed out that it is difficult to isolate *artistic* influences from *non-artistic* influences (e.g., Amossy, 2001; Baumlin & Baumlin, 2004; Hyde, 2004). As Cheng (2012) puts it,

in practice, it is difficult to bracket non-artistic influences on *ethos*; rather, *ethos* results from negotiations between the discourse and factors outside the immediate rhetorical situation, such as prior reputation, social roles, and institutional power.
(p. 428)

Because of the *practical* difficulty of excluding these “outside factors” from the rhetorical study of ethos, the *theoretical* distinction between artistic and non-artistic conceptions of ethos begins to collapse. That is, if ethos is constituted by the interplay of artistic and non-artistic influences, then the conceptual distinction between the two types of influences starts to become superficial.

In addition, Garver (1994) argues that the Aristotelian conceptual separation of ethos and logos into distinct types of rhetorical proofs is also superficial. He claims that a speaker exhibits character (i.e., ethos)—in particular, practical wisdom, or *phronesis*—largely by reasoning well before an audience (i.e., logos). Perelman and Olbrechts-Tyteca (1969) similarly point out that

a person who is arguing constantly involves his prestige to a certain extent, and it will increase or decrease depending on the effect of the argumentation. A shameful, weak, or unintelligible argumentation can only damage the speaker.

Vigorous reasoning and clarity and nobility of style, on the other hand, will act in his favor. (p. 320)

If an audience will view a speaker favorably (*ethos*) only if the speaker's argument is effective to that audience (*logos*), then, conceptually, ethos is constrained by logos; more specifically, logos is a necessary (but perhaps insufficient) condition for achieving ethos, and ethos is at least in part a by-product of logos.

Although Aristotle limits ethos to exhibiting any or all of the three qualities of “practical wisdom [*phronesis*] and virtue [*arete*] and good will [*eunoia*]” (2.1.5), there are additional ways in which a speaker could appear credible or trustworthy to an audience. As Crowley and Hawhee (2004) note, “A slightly different interpretation of good character seems to be very persuasive in modern discourse. This is the *ethos* that conveys a person as an authority” (p. 176). If exhibiting ethos is “to make the speaker worthy of credence” (Aristotle, 2007: 1.2.4), then conveying one's authority to an audience could serve an ethotic function, since, in many cases, an audience trusts or believes someone who is in a position of authority. In fact, this is how authority-based appeals work as an “argumentation scheme” (Walton et al., 2008)—a structure of inferring a claim from premises: one uses the opinion of someone in a recognized position of power, or someone who is

considered to be an expert in a domain of knowledge, to support one's conclusion. Crowley and Hawhee suggest that, as an appeal to ethos, one could also convey *personal* authority as a means of appearing credible to an audience.

Walton (1997) distinguishes “administrative authority” or “de jure authority” (Woods & Walton, 1974) from “de facto authority” (Woods & Walton, 1974), or what is sometimes called “cognitive authority” (Wilson, 1983). According to Walton, *administrative* authority is “the right to exercise command over others or to make rulings binding on others through an invested office or recognized position of power” (p. 76). In contrast, *cognitive* authority refers to “a relationship between two individuals where one is an expert in a field of knowledge in such a manner that his pronouncements in this field carry a special weight of presumption for the other individual that is greater than the say-so of a layperson in that field” (Walton, 1997, p. 77). Bochenski (1974) also distinguishes “epistemic authority” from “deontic authority.” Whereas *epistemic* authority refers to expertise in a domain of specialized or technical knowledge or skill, *deontic* authority refers to the right to exercise command or influence, to perform actions and set rules, based on a position of power. As De George (1985) puts it, the latter type of authority refers to “being an authority in public life” (p. 12).

Farrell (1978) points to an interesting, real-world example that illustrates the conceptual distinction between cognitive authority and administrative authority. He writes that “knowledge of military logistics did *not* (in most historical renderings) qualify General Douglas MacArthur to determine *whether* the United States should invade North Korea” (p. 331). That is, General MacArthur's cognitive authority—his epistemic expertise in the specialized or technical domain of military logistics—is different than being in an official position of power that grants him the right to make decisions or rulings about courses of military action that are binding on others in

the U.S. public—soldiers and drafted citizens who would be legally obligated to take part in the invasion of North Korea. Although MacArthur may have had knowledge, skills, and competence in the field of military logistics, where what he said (within this domain) may have carried more weight than what another individual may have said (within this domain), his cognitive authority did not vest him with administrative authority in this situation—the superiority to command the United States’ invasion of North Korea.

Gottweis (2007) proposes a “scenographic” framework of policy analysis that integrates appeals to pathos and ethos alongside logos. To exemplify what he refers to as an “etho-centric” policy performance, where ethos is solely emphasized, he presents the occasion of a presidential speech. On such occasions, “the speaking subject will adopt the *role of authority* and will often perform this role connected to his position or function in the institutional hierarchy of the state” (p. 246). In other words, he will “not negotiate or discuss his policies but, very much based on the powers of his office, state what will happen in the near future. He also ‘can do this’ because he is the president of the United States, and he can be assured that most of his fellow citizens will acknowledge his ‘aura,’ dignity, and right to take action” (p. 246). The conception of authority in this situation reflects Walton’s (1997) notion of *administrative authority* and does not appear to be all that different from the notion of authority that is depicted in Cochran and Malone’s (2009) conception of public policies as “purposeful decisions made by authoritative actors, recognized because of their formal position, as having the responsibility for making binding choices among goals and alternatives for the society” (p. 11).

However, if we are to integrate ethos into the argumentative analysis of policy, we also have to account for the *discursive* resources that social actors draw upon to *create* the authority by which they are recognized. For example, a speech by the President of the United States might

not be merely a *product* of his administrative authority; it might also be a discursive *enactment* through which he constitutes his administrative authority. Perhaps Gottweis (2007) focuses on the administrative authority that a speaker carries into and *uses* in the rhetorical situation—the speaker’s *non-artistic* ethos—because it is not obvious how authority *develops* in the situation. Without suitable methods of analysis, we might mistake “invented ethos” (Crowley & Hawhee, 2004)—in this case, the authority that the speaker *artistically creates* in the rhetorical situation—for what appears to be the speaker’s “prediscursive ethos” (Maingueneau, 1999), also referred to as “prior ethos” (Amossy, 2001) or “situated ethos” (Crowley & Hawhee, 2004)—the office of institutional power that preexists the speaker’s discourse, that the speaker *uses* in the rhetorical situation.

An analyst could easily overlook a speaker’s discursive enactment of authority because it is not always based in direct, explicit appeals to the speaker’s ethos. As Perelman and Olbrechts-Tyteca (1969) point out, “Although it is desirable that the speech should contribute to the good opinion which the audience may form of the speaker, he is very seldom permitted to achieve this by singing his own praises. ... In all cases where its use seems determined by vanity, self-praise has a deplorable effect on the hearers” (p. 319). As Amossy (2001) similarly suggests, explicitly evaluating oneself before an audience may bring about undesired consequences for the speaker’s self-image (p. 8). Recent research in psychology (Scopelliti et al., 2015) also suggests that when people excessively self-promote to make a favorable impression on listeners, this self-promotion tends to backfire, causing others to view them unfavorably, instead. Therefore, a speaker’s ethos is likely to be more effective to an audience if it emerges implicitly through discourse rather than if it is overt and obvious on the surface of speech. Thus, we need methods for studying ethos that can probe a text for its deeper or “hidden” ethotic appeals.

To analyze how Colin Powell reconstituted his ethos in the 2003 speech that he delivered to the United Nations to advocate for the Bush administration's plan for military intervention in Iraq, Cheng (2012) uses *discourse analysis (DA)*. She suggests that "a DA approach allows the analyst to move beyond [a text's] more obvious rhetorical features (deliberative argument) for a deeper understanding of how the text carries out different functions" (p. 427). More specifically, she argues that the linguistic qualities of Powell's speech contributed to the reconstitution of his ethos. Oddo (2014) also draws upon discourse analytic, "micro-discursive" methods to studying Powell's ethos in his pre-war speech to the U.N—what Oddo calls Powell's "intertextual ethos." Methodologically, the authors focus more on the "microscopic" details of discourse, rather than on the speaker's explicit rhetorical moves of persuasion. Oddo suggests that "this [micro-level] approach allows us to discern 'hidden' mechanisms of persuasion" (p. 18).

Perelman and Olbrechts-Tyteca (1969) note that, "for many people, speech is the most characteristic manifestation of the person" (p. 317). They also write: "The office of the speaker, no less than his person, forms a context which has an undeniable influence" (p. 319). Thus, if it largely through discourse that a speaker exhibits personal character, and a speaker's position of authority similarly forms an important context through which an audience receives the speaker's discourse, we might hypothesize that the office of the speaker is, likewise, constituted by speech. In fact, Foucault (1980) argues that power is intimately linked to discourse; it is largely through discourse that power operates. More specifically, power is "diffused" within a network of social interaction; it is not fixed or localized, but rather "circulates" among social subjects. In this way, social subjects are vehicles for discursively articulating power. If power operates largely through discourse, then we need a better understanding of how a speaker's "office of power," which has

been traditionally viewed as a *non-artistic* influence on ethos, can be micro-discursively created. I draw upon the United States Federal Reserve as a case study.

The United States Federal Reserve, Monetary Policy, and Credibility

The Federal Reserve is the central bank of the United States. According to the Federal Reserve (2005), “It was founded by [the U.S.] Congress in 1913 to provide the nation with a safer, more flexible, and more stable monetary and financial system” (p.1). The Federal Reserve is considered to be independent from political control and interference because its decisions do not have to pass through the President of the United States or any other member of the executive branch of the U.S. government. Nonetheless, the Federal Reserve is subject to oversight by the U.S. Congress, and, in fact, the U.S. Congress even has the power to revoke the Fed’s authority at any point in time, including the power to overrule any interest rate decision made by the Fed (which it has never actually done). Structurally, the Federal Reserve System is operated, broadly, by the Board of Governors—a federal government agency consisting of seven members who are appointed by the President of the United States and confirmed by the U.S. Congress.

A significant component of the Federal Reserve is the Federal Open Market Committee (FOMC), which consists of twelve members—the seven members of the Board of Governors, the president of the Federal Reserve Bank of New York, and four presidents of the remaining eleven Federal Reserve Banks, who serve as members of the FOMC on a rotating basis. The Chairman of the Board of Governors also serves as the Chairman of the FOMC. The FOMC is responsible for implementing monetary policy, which involves making decisions about courses of action that influence the availability and cost of money and credit in the economy. Ultimately, these courses of action are geared towards pursuing maximum employment, price stability, and moderate long-

term interest rates. A primary tool that the Fed uses for implementing monetary policy is referred to as “open market operations”—the purchase and sale of securities in the open market. Through its open market operations, the Fed seeks to influence the demand for and supply of balances that U.S. depository institutions—financial institutions that are legally permitted to accept monetary deposits from consumers (e.g., savings bank, commercial banks, credit unions, loan associations, etc.)—hold at Federal Reserve banks.

Ultimately, the Fed uses its influence on the demand for and supply of reserve balances to align the federal funds rate with the target rate established by the FOMC. The federal funds rate is the interest rate at which depository institutions lend their reserve balances—balances that are held at a Federal Reserve bank, or “federal funds”—to other depository institutions overnight. Depository institutions that have a surplus of reserve balances can lend some of their balances to other depository institutions that are in need of larger balances. Through open market operations, the FOMC controls, but does not directly set, the federal funds rate. The FOMC does, however, set the *target* for the federal funds rate. At each of the eight regularly scheduled meetings every year, the twelve members vote on a target for the federal funds rate—that is, the interest rate at which they seek to keep the federal funds rate. Deciding on the target for the federal funds rate is central to the Fed’s implementation of monetary policy. Changes in the federal funds rate affect the supply and cost of money and credit in the economy, which affect economic variables such as employment, output, growth, and the prices of goods and services.

Chappell et al. (1997) found that, “[o]nce a monetary policy directive is put to vote, there is a tendency for members to close ranks, vote approvingly, and present a united front to external parties” (p. 454). Their content analysis of the *Memoranda of Discussion*—a transcription of the internal, private deliberations of FOMC members leading up to a vote—between 1970 and 1976,

as well as historical voting records of FOMC meetings indicate that, almost always, the members of the FOMC vote according to, and form a consensus based on, *the Chairman's* preferences. As Blinder (2007) notes,

Many central bank policy boards do not reach decisions by literal majority vote. Committees have chairmen, who may dominate the proceedings. The fact is most obvious at the Fed, where it has often been believed—more or less correctly in recent years—that only one vote really matters. On paper, the FOMC was always a pure committee that reached decisions by majority vote. In practice, each member other than [former Chairman] Alan Greenspan had only one real choice when the roll was called: whether to go on record as supporting or opposing the Chairman's recommendation, which was certain to prevail. It was (and still is) quite possible for the Fed to adopt one policy even though the (unweighted) majority favoured another. (p. 111)

According to the typology offered by Blinder et al. (2001) and Blinder (2004, 2007), the monetary policy committee of the Federal Reserve—the FOMC—is considered to be what they call an “autocratically-collegial committee.” In such a committee structure, “the Chairman more or less dictates the group ‘consensus’” (Blinder, 2007, p. 115) that is presented to the public. In contrast, on a “genuinely-collegial committee,” members might argue in private for competing points of view, but, in the end, they compromise on a group decision that each member accepts as his or her own. The European Central Bank is an example of a genuinely-collegial committee. In both of the two types of collegial committees, individual differences and disagreements are at least apparently overpowered by the collective wisdom of the group, which gives rise to a group

decision that all of its members embrace. If there is a vote in a collegial committee, the outcome will almost always be unanimous, and a dissenting vote is infrequent and unexpected.

On the other hand, on an “individualistic committee,” the individual members openly and freely express their own opinions, and, oftentimes, they vote based on them; decisions are made by literal majority vote. In such a committee, consensual group decisions are neither necessarily expected nor sought. The Bank of England exemplifies an individualistic committee. As Blinder (2007) points out, “the vote of an individualistic committee conveys genuine information—in the way that the vote of a more consensus-oriented committee does not. That said, a series of badly split votes may not inspire confidence that the central bank knows what it is doing” (p. 114). In other words, while an individualistic committee may be more democratic than the other types of committee structures and may more accurately represent what each of the members really thinks about the policies up for vote, upholding this “truth” is not necessarily practically conducive for effectively making and publicly communicating monetary policy.

In recent years, even the Federal Reserve itself has begun to openly admit how important it is for the public to place confidence in its policies. If the public does not “buy into” the Fed’s policy decisions, this lack of credibility, or ethos, could undermine intended economic outcomes. In a speech on October 8, 2004, former Chairman of the Federal Reserve, Ben Bernanke, states:

Central bankers have long recognized at some level that the credibility of their pronouncements matters. I think it is fair to say, however, that in the late 1960s and 1970s, as the U.S. inflation crisis was building, economists and policymakers did not fully understand or appreciate the determinants of credibility and its link to policy outcomes. In 1977, however, Finn Kydland and Edward Prescott published a classic paper, entitled “Rules Rather than Discretion: The Inconsistency of Optimal Plans” (Kydland and Prescott, 1977), that provided the first modern analysis of these issues. Specifically, Kydland and Prescott demonstrated why, in many situations, economic outcomes will be better if policymakers are able to make credible commitments, or promises, about certain aspects of the policies they will follow in the future. “Credible” in this context

means that the public believes that the policymakers will keep their promises, even if they face incentives to renege.

In particular, as one of Kydland and Prescott's examples illustrates, monetary policy-makers will generally find it advantageous to commit publicly to following policies that will produce low inflation. If the policymakers' statements are believed (that is, if they are credible), then the public will expect inflation to be low, and demands for wage and price increases should accordingly be moderate. In a virtuous circle, this cooperative behavior by the public makes the central bank's commitment to low inflation easier to fulfill. In contrast, if the public is skeptical of the central bank's commitment to low inflation (for example, if it believes that the central bank may give in to the temptation to overstimulate the economy for the sake of short-term employment gains), then the public's inflation expectations will be higher than they otherwise would be. Expectations of high inflation lead to more-aggressive wage and price demands, which make achieving and maintaining low inflation more difficult and costly (in terms of lost output and employment) for the central bank.

Providing a clear explanation of why credibility is important for effective policymaking, as Kydland and Prescott did, was an important step. However, these authors largely left open the critical issue of how a central bank is supposed to obtain credibility in the first place. (Bernanke, 2004 October 8)

Towards addressing this critical issue and filling this gap, in this dissertation, I examine how the Federal Reserve's *discourse* functions in obtaining its credibility with the public. In particular, I analyze the Federal Reserve's public deliberations in order to understand the role that discourse plays in manufacturing the "consensus" of policy decisions upon which, Blinder (2007) suggests, the Federal Reserve inspires confidence in its decisions—in other words, constructs its ethos as a public decision-maker.

The Rhetoric of the Federal Reserve

Underlying Blinder's (2007) understanding of why the Federal Open Market Committee (FOMC) manufactures "consensus" on monetary policy decisions is, I suggest, what Habermas (2002) refers to as the "consensus theory of truth." As Habermas explains it, this theory suggests that "it is not possible to decide on the truth of a proposition without reference to the competence

of possible judges” (p. 96). The truth of a proposition is based on a consensus among competent judges, rather than on its correspondence to the “reality” to which it refers. Therefore, in the case of the Federal Reserve, the philosophy of the FOMC’s autocratically-collegial policy committee seems to assume that the public would be less likely to accept the FOMC’s policy decisions and view the FOMC’s members as competent, credible policy makers if either policy decisions were made by the Chairman alone (i.e., there were no *potential* for consensus) or the group drastically disagreed (i.e., there were no consensus)—hence, a committee and a “consensus.” Shapin (1995) seems to agree with the “consensus theory of truth,” suggesting that displaying consensus across multiple experts enhances the credibility of that expert group with the lay public (p. 270).

Given that the Federal Reserve’s FOMC operates as an autocratically-collegial monetary policy committee, a committee structure that manufactures group “consensus” by subordinating individual differences among the twelve members, who vote in support of the Chairman’s policy recommendations, important questions emerge: By what means does the Chairman of the Federal Reserve “dictate” the “consensus” of the group? In other words, in what ways does the Chairman display his institutional power over the other members of the FOMC? Does he carry his office of institutional power into policy deliberations and *use* it to *non-artistically* influence the group and the public, as a traditional analysis of ethos would suggest? If so, then the Federal Reserve would be coming up short in its self-proclaimed, democratic “responsibility to give the people ... a full and compelling rationale for the decisions they make” (Bernanke, 2007 November 14), since the Federal Reserve does not explicitly justify why the decisions it makes are based on the individual preferences of the Chairman. How, then, might the Chairman micro-discursively *invent* his ethos of administrative authority as a means of implicitly rationalizing “consensual” policy decisions?

On the surface, it may seem that the Federal Reserve Chairman merely adopts the role of administrative authority that affords him the right to decide monetary policy actions based on his situated position of institutional power in an autocratically-collegial monetary policy committee, as Gottweis' (2007) "etho-centric" policy scenario and Cochran and Malone's (2009) conception of public policies seem to suggest. Yet, Blinder (2007) points out that "[former Chairman] Alan Greenspan was a gentle autocrat who persuaded and cajoled other members rather than browbeat them" (p. 115). This seems to suggest that Greenspan drew upon resources other than the power officially bestowed upon him to "dictate" the group's decisions—in particular, that he drew upon *discursive* resources to "influence" the other members of the FOMC to come around to his policy recommendations and, ultimately, to manufacture the group "consensus" upon which, as Blinder (2007) suggests, the Federal Reserve effectively implements policy by inspiring the public to be confident in its policy decisions.

However, despite the rhetorical significance that is traditionally associated with financial deliberation (Aristotle, 2007: 1.4.7-8) and the important role that communication and credibility play for the Federal Reserve (e.g., Blinder et al., 2001; Bernanke, 2004 January 3, 2004, October 7, 2004 October 8, 2007 November 14), as far as I know, not much rhetorical attention has been paid to the discursive practices of the Federal Reserve. In light of the fact that "both markets and the popular media hang on [the Chairman's] every word" (Bligh & Hess, 2007, p. 91), there has generated some rhetorical interest in how the Chairman of the Federal Reserve uses discourse to effectively implement monetary policy. However, this scholarship leaves open the question as to how the Chairman discursively constructs the authority to "dictate" the Federal Reserve's policy decisions in order to form the "consensus" on policies that contributes to the Federal Reserve's institutional ethos and to the effectiveness of its policymaking (e.g., Blinder, 2007), considering

that the Federal Reserve serves the public in a democratic society and, as even Bernanke (2007) admits, must “maintain the democratic legitimacy ... that [is] essential to sound monetary policy making” (2007 November 14).

Bligh and Hess (2007)’s draw upon Hart’s (2000) *Diction 5.0* text analysis software tool to aid in their analysis of “the potential relationship between: (1) events, policy decisions and economic forecasts, and (2) linguistic characteristics of Chairman Greenspan’s communications” (p. 88). They analyze 45 FOMC statements, 44 testimonies by Greenspan before Congress, and 105 Greenspan speeches, finding that, during “down” periods of economic activity, Greenspan communicates with less certainty and reduced activity; that is, under economic circumstances of actual and expected declines in short-term interest rates, Greenspan uses an increased amount of present tense language. On the other hand, they found that, during “up” economic periods—that is, under economic circumstances of actual and expected increases in short-term interest rates—Greenspan’s language indicates an increased amount of certainty. Bligh and Hess suggest that his linguistic patterns frame the economic situation and the Fed’s policy reactions to it, and, in doing so, may contribute rhetorically to Greenspan’s effective implementation of monetary policy and his success as an effective leader of the economy.

Resche (2004) also explores the role that Chairman Greenspan’s discourse plays in the effective implementation of monetary policy. She argues that Greenspan uses language that, at once, seems to disclose and retain information about the Federal Reserve’s policy actions, and that this “double-talk” of “Greenspanese”—what she calls Greenspan’s “fuzzy transparency”—contributes to maintaining the authority and credibility that Greenspan’s needs to uphold so that the Federal Reserve can effectively implement monetary policy:

It is actually this multifaceted language, which seems at once to disclose and retain information, that leaves the reader puzzled. But it is precisely the only way for Mr. Greenspan to play his role efficiently and retain his authority: conscious that he is accountable to the nation, and expected to make accurate comments, accurate predictions, and accurate moves, he must sound credible at all times and calibrate his remarks for them to be self-fulfilling. (p. 741)

Building on the work of Bligh and Hess (2007) and Resche (2004), I will compare (1) speeches by Chairman Greenspan and speeches by Ben Bernanke, who served as a Governor of the Federal Reserve and member of the FOMC under Chairman Greenspan, and (2) speeches by Governor Bernanke and speeches he gave later on as the Chairman. By analyzing the extent to which the Chairman speaks uniquely *as the Chairman*, I seek to contribute to our understanding of how the Chairman of the Federal Reserve discursively constructs the authority upon which he “dictates” the “consensual” policy decisions that help to establish the Federal Reserve’s public ethos as a credible policymaking institution. I argue that it is because the Chairman discursively performs his authority over the other members of the Federal Reserve that the Federal Reserve can, at once, function as a “dictatorship”—that is, as an autocratically-collegial monetary policy committee, whose effective implementation of monetary policy lies at least part in conforming to the Chairman’s preferences—while sustaining its appearance as a democratic policy institution.

Language Data, Analytical Framework, and Research Tool

In order to explore, broadly, the discursive construction of authority and, in particular, how the Chairman of the Federal Reserve creates his administrative authority, as a rhetorical strategy for influencing the FOMC’s monetary policy decisions, I have organized my corpus—

my collection of public speeches—into three groups: (1) 53 speeches given by Chairman Alan Greenspan between August 14, 2002 and May 2, 2005, (2) 42 speeches given by *Governor* Ben Bernanke between August 14, 2002 and May 2, 2005, and (3) 47 speeches given by *Chairman* Ben Bernanke between February 6, 2006 and December 31, 2007. In analyzing these speeches, of particular interest is whether there is significant linguistic variation between groups (1) and (2), and between groups (2) and (3). My analysis of the corpus suggests that not only are there significant linguistic differences between these groups of speeches, but that, interestingly, the linguistic variation between (1)—Chairman Greenspan’s speeches (while Bernanke served as a Governor)—and (2)—*Governor* Bernanke’s speeches (while Bernanke served under Chairman Greenspan) is remarkably similar to the variation between (2) and (3)—*Chairman* Bernanke’s speeches.

Following Cheng (2012) and Oddo (2014), I draw upon *discourse analysis* to analyze the micro-linguistic construction of ethos; specifically, I draw upon *register analysis* to analyze how the Chairman of the Federal Reserve, in his public speeches, performs his ethos of administrative authority over the other voting members of the Federal Reserve and FOMC. As Johnstone (2008) notes, “A register is usually defined as a set of lexical (vocabulary) and grammatical features that accompany and help to identify discourse that occurs in a particular recurrent situation” (p. 174). A register, or a “style” of discourse, therefore, varies as the situation with which it is associated differs. For example, Biber (1986, 1988) analyzes the linguistic and situational variation between *spoken* and *written* registers. Biber (1994) offers an analytical framework for describing the two different situations in which the linguistic features associated with *spoken* discourse and *written* discourse occur. I will draw upon this framework to describe the situations in which *Governor* speeches and *Chairman* speeches occur.

Of course, as Johnstone (2008) notes, “In order to describe a register, it is necessary to describe the *situation* in which the register occurs and the *linguistic features* of the register” (p. 176). To aid in describing the linguistic features of the speeches in my corpus and, in particular, the linguistic variation across the groups of speeches, I use *DocuScope*—a computational tool designed to assist in corpus-based rhetorical analysis (Ishizaki & Kaufer, 2012). *DocuScope* is based on Kaufer and Butler’s (2000) theory of “representational composition,” which has been further developed to suggest that language in use can be viewed as an instrument through which writers “rhetorically prime” (Kaufer et al., 2004a) audience experiences. *DocuScope* classifies more than 40 million patterns of English language into more than 100 types of micro-rhetorical strategies, or “language action types (LATs),” that writers rely on to compose texts and “design” (Kaufer & Butler, 2000) audience experiences. I will draw upon *DocuScope* to help analyze the sets of linguistic features that identify (the variation between) the social identities of *Governor* and *Chairman*.

In this dissertation, I present my findings that, after being appointed the *Chairman* of the Federal Reserve, Ben Bernanke began drawing upon certain discursive resources that he had not employed as a *Governor* of the Fed, and vice versa; he began leaving some resources behind. In particular, I argue that, in Bernanke’s public speeches as the Chairman of the Fed, he began (not) making discursive choices towards constructing his administrative authority. In short, Bernanke began speaking *as the Chairman*; that is, he began using discursive resources for articulating the power through which *his* individual policy preferences would be transformed into *the* monetary policy decisions of the group—the FOMC. To clarify, I am not suggesting that the institutional power that Bernanke carries into his speeches plays no role in the policy-making structure of the Fed and the FOMC; rather, I am suggesting that, based on my analysis, the position of “Federal

Reserve Chairman” is constituted at least in part by the micro-linguistic moves that the Chairman makes for *inventing* his authoritative right to make decisions and perform actions that are binding on others in the public.

For example, a number of Bernanke’s speeches, as a *Governor* of the Fed, included some form of the statement: “My comments today reflect my own views and are not necessarily those of my colleagues on the Board of Governors or the Federal Open Market Committee.” However, Greenspan, during his term as the Chairman (while Bernanke served as a Governor) never issued such a statement in his speeches. And, interestingly, except in one of the speeches that Bernanke gave relatively early on in his term as the Chairman, he removed this line altogether in speaking as the Chairman. Against the backdrop of Bernanke’s prior *Governor* speeches, the omission of this discursive resource has rhetorical import; namely, I argue that it is frequently missing in his *Chairman* speeches because now, as the Chairman, Bernanke’s *comments, remarks, opinions, or views* are no longer designed to *reflect or represent* only *his own* thoughts, but, rather, they now *are shared* (or will be shared) by his colleagues on the Board of Governors or the Federal Open Market Committee.

As a Governor of the Fed, Bernanke’s inclusion of this meta-discourse—discourse about discourse—operates rhetorically to expand the deliberative space within the FOMC—namely, by acknowledging that Bernanke’s own, individual thoughts are not to be interpreted—by the other members of the FOMC nor by the public—as anyone else’s thoughts in the FOMC. In contrast, the lack of this statement in Bernanke’s or Greenspan’s *Chairman* speeches can be understood as rhetorically designed to close off deliberative space for the alternative and potentially dissenting voices of the other members of the FOMC. This is one example of how, as I will further argue, the Chairman discursively articulates his administrative authority over the other members of the

FOMC, as well as rationalizes to the public why, when the time comes to vote on policy actions, the other members of the FOMC close ranks and “consent” around his policy recommendations.

This example suggests that the Chairman of the Fed is neither directly making an ethotic appeal on the surface of his speeches, nor is he merely adopting the role of authority afforded to him by the situated, institutional power of his office. Rather, Chairman Bernanke’s authoritative ethos emerges implicitly through the linguistic choices he makes. In this way, Bernanke’s ethos can be understood at least in part as a by-product of his *logos*—that is, as Kennedy (2007) notes, “what is said” in Bernanke’s speeches, his “words” (p. 38). In addition, the presence and absence of this meta-discourse in *Governor* Bernanke’s and *Chairman* Bernanke’s speeches, respectively, points to a difference between the discursive resources a speaker uses for constructing *cognitive authority* and those for *administrative authority*. As Miller (2003) notes, “Achieving credibility with another expert group ... requires rhetorical resources different from those that succeed with the public” (p. 193). This dissertation highlights some of these linguistic differences between the discursive enactments of rhetorical appeals to *cognitive* and *administrative* authoritative ethos.

Chapter Summaries

Chapter 2

In chapter two, I will explain and justify in more detail the approach I take for analyzing the speeches in my corpus—register analysis—and the methodological advantages of adopting a corpus-based approach to rhetorical analysis. For example, the fact that, as the *Chairman* of the Fed, Bernanke chose to omit a particular linguistic feature is salient and rhetorically meaningful only by examining the linguistic variation across Bernanke’s speeches and across Bernanke’s and Greenspan’s speeches—that is, by analyzing this feature in relation to the features of other

speeches by the same or different speaker in a different situation. By focusing only on individual or a group of speeches that Bernanke gave as the Fed Chairman, we could potentially overlook certain linguistic choices whose rhetorical import is rooted specifically in observations of salient language changes across speech contexts. Conversely, we may mistakenly attribute importance to certain linguistic features of speeches that remain constant across these different contexts. In this chapter, I will also further discuss the computational tool I utilize for analyzing the speeches and provide a rationale for the specific corpus I have selected to analyze. In addition, as the first step of register analysis, I will contextualize the groups of speeches in the corpus by describing the situational parameters of the speech groups and, thus, the situational variation across them.

Chapter 3

In chapter three, I will analyze the linguistic and rhetorical variation between sub-groups (1) and (2)—that is, between speeches given by Fed Chairman Greenspan and speeches given by Bernanke as a Governor of the Fed. The main purpose of this chapter is to illustrate that, as the Chairman, Greenspan made linguistic choices that were significantly different from the choices that Bernanke made as a Governor, while they served together on the Fed and FOMC. Based on my analysis, I will argue that Chairman Greenspan and Governor Bernanke drew upon linguistic resources to discursively enact their respective authoritative positions within the “autocratically-collegial” monetary policy committee of the FOMC; that is, Greenspan spoke *as the Chairman*, and Bernanke spoke *as a Governor*, making micro-linguistic choices that identified their social identities of *administrative* and *cognitive* authority, respectively. I suggest that, in doing so, the Federal Reserve manufactures the FOMC’s “consensus-based” monetary policy decisions as a

means of obtaining the credibility—the institutional ethos—that it needs in order to effectively implement monetary policy.

Chapter 4

In chapter four, I will analyze the linguistic and rhetorical variation between sub-groups (2) and (3)—that is, between Bernanke’s speeches given as a member of the Board of Governors and as the Chairman of the Federal Reserve, respectively. I will draw attention to salient changes in Bernanke’s linguistic choices across the two groups of speeches, and to the ways in which the linguistic variation between *Governor* Bernanke’s speeches and *Chairman* Bernanke’s speeches is remarkably similar to the linguistic lines along which Chairman Greenspan’s and Governor Bernanke’s speeches differ. Based on the analysis in this and the previous chapters, I will argue that “the Fed Chairman” can be understood at least to some extent as a discursive construct that is socially enacted through a recognizable register; that is, in becoming the Chairman, Bernanke began speaking *as the Chairman*, making linguistic choices that were significantly different than those he had made as a Governor, and, moreover, resembling those that Greenspan had made as the Chairman. I suggest that, as the Chairman, Bernanke discursively performs his administrative authority as a rhetorical means of effectively implementing monetary policy by transforming *his* policy preferences into *the FOMC’s* group preferences and enhancing the credibility of the Fed.

Chapter 5

Finally, in chapter five, I will discuss implications of this case study and some directions for expanding this case study in future research. As I will discuss, this case study implies that the classical theoretical boundaries between *artistic* (i.e., discourse-based) and *non-artistic* (i.e., non-

discourse) conceptions of ethos may not be as clear-cut as they are traditionally presumed to be. Following from this implication, it also implies, more broadly, that the conceptual dichotomy of *text* and *context* might also not be so stable (e.g., Andrus, 2011). By adding to our understanding of how ethos can be constituted implicitly through latent micro-linguistic choices, this case study also blurs the traditional lines that separate categories of ethotic and logical appeals (e.g., Garver, 1994). This case also highlights some linguistic differences between the discursive resources that speakers use to construct *administrative* and *cognitive* authority. Finally, this case illustrates how deliberative rhetoric can function to “democratize” a policy-making institution. In order to more robustly support these implications, in chapter five, I will also discuss directions for future work.

CHAPTER 2

LANGUAGE DATA, ANALYTICAL FRAMEWORK, AND RESEARCH TOOL

In this chapter, first, I discuss the corpus of Federal Reserve speeches that I have chosen to analyze. Second, I describe the analytical framework I use—*register analysis*—to conduct the analysis of these speeches, while highlighting some of the methodological advantages of taking a corpus-based approach to rhetorical analysis. In doing so, I draw attention to the methodological contributions that this dissertation seeks to make to the study of ethos. Third, I briefly explain a computer-based research tool—*DocuScope*—that I draw upon to analyze the linguistic features of, and variation between, the groups of *Chairman* and *Governor* speeches in my corpus. Finally, I end this chapter by undertaking the first step of register analysis—describing the parameters of the rhetorical situations surrounding *Governor* speeches and *Chairman* speeches. In the third and fourth chapters, I will go on to analyze the (different) linguistic choices that the speakers make in these social contexts.

Language Data: Federal Reserve Speeches, 2002-2007

As I noted in the previous chapter, the corpus I analyze in this dissertation consists of: (1) 53 speeches given by Chairman Alan Greenspan between August 13, 2002 and May 2, 2005, (2) 42 speeches given by Governor Ben Bernanke between August 13, 2002 and May 2, 2005, and (3) 47 speeches given by Chairman Ben Bernanke between February 6, 2006 and December 31, 2007. The written, prepared speech-texts are published on the Federal Reserve's official website (<http://www.federalreserve.gov/newsevents/>) soon after each speech is publicly delivered. I will describe the speeches and their contexts more specifically later in this chapter, as I conduct the

first step of register analysis; for now, I will provide a brief overview of my corpus and explain, methodologically, why I selected to analyze Federal Reserve *speeches* (rather than another genre of Federal Reserve communication) and these *particular* Federal Reserve speeches.

Bernanke served as a member of the Board of Governors of the Federal Reserve between 2002 and 2005. More specifically, the first FOMC meeting for which Bernanke served as a Fed Governor was on August 13, 2002, and his last meeting as a Fed Governor took place on March 22, 2005. Even though Governor Bernanke did not actually deliver his first public speech until October 15, 2002, I am using *August 14, 2002* as the beginning of the date range for Governor Bernanke's speeches because it marks the start of the first intermeeting period during which he served as a member of the Federal Reserve. I am analyzing 42 public speeches that he gave as a Governor, and even though his final speech was on March 30, 2005, I am using *May 2, 2005* as the end of the date range for Governor Bernanke's speeches because it is the day before the first FOMC meeting—on May 3, 2005—since he was appointed to be a member of the Fed in 2002, for which he did not serve as a Governor.

While Bernanke served as a Governor of the Federal Reserve, Greenspan served as the *Chairman*. He was appointed as the Chairman in 1987, and he served through the beginning of 2006. The last FOMC meeting for which Greenspan served as the Fed Chairman took place on January 31, 2006. However, because this dissertation investigates how the Chairman discursively constructs his authoritative ethos among the other members of the Fed, I focus specifically on the public speeches that Greenspan gave *while* Bernanke served as a Fed Governor. Between August 14, 2002 and May 2, 2005, they served as members of the same monetary policy committee and, thus, publicly deliberated with each other. During this period, Greenspan gave 53 speeches. The first speech was on August 30, 2002, and the last one was on April 8, 2005. As I outlined in the

previous chapter, chapter three will focus on analyzing the linguistic differences between these two groups of speeches—*Chairman* Greenspan's speeches and *Governor* Bernanke's speeches.

Bernanke replaced Greenspan as the Fed Chairman at the beginning of 2006. Although the first FOMC meeting for which Bernanke served as the Chairman was not until March 27-28, 2006, the first speech that he gave as the new Chairman of the Federal Reserve was on February 6, 2006, at the swearing-in ceremony. At this point, Greenspan was no longer a member of the Fed and FOMC. Between February 6, 2006 and December 31, 2007, Chairman Bernanke gave 47 public speeches. As I outlined in the first chapter, analyzing the linguistic differences between Chairman Bernanke's speeches and his speeches as a Governor, and comparing these differences to the differences that I will have analyzed in chapter three, will be the focus of chapter four. For now, I will discuss some methodological factors that influenced how I built the corpus that I just overviewed.

Federal Reserve speeches tend to be both sufficiently long (in terms of word length) and given sufficiently often (in terms of the numbers of speeches) by the individual members of the Fed for an analyst to amass a collection of language data that is methodologically conducive for corpus-based analysis of linguistic variation (Biber, 1990). In this particular case, to analyze the linguistic variation across Governor speeches and Chairman speeches, I required a representative sample of each. For Governor speeches, I drew upon Bernanke (rather than another Governor's speeches) because I could, then, go on to analyze Bernanke's *Governor* speeches in relation to those he gave as the Chairman (which would not be possible for the other Governors), allowing me to compare the lines of linguistic variation between (1) Chairman Greenspan's and Governor Bernanke's speeches, and (2) Governor Bernanke's and Chairman Bernanke's speeches. Such a

comparison, I suggest, would allow for a robust analysis of the linguistic patterns associated with the administrative authority of the Chairman of the Federal Reserve and FOMC.

In general, members of the Federal Reserve and FOMC speak to the public significantly more frequently under the “new disclosure regime” (Ehrmann & Fratzscher, 2007) than they did in the not-so-distant past. Therefore, the opportunity to build a sufficient corpus for analyzing the linguistic differences between *Governor* and *Chairman* speeches has come about only somewhat recently. This is part of why I focus on more recent speeches in this dissertation. Another reason, simply enough, is that the speeches that are made available on the Federal Reserve’s website date back only as far as 1996, making speeches that were given prior to Greenspan’s appointment as the Chairman more difficult to gather. Also, as a member of the Federal Reserve, Greenspan has spoken publicly only in his role as the Chairman because, unlike Bernanke, he did not serve as a member of the Board of Governors during the tenure of the Chairman who preceded him—Paul Volcker. Finally, since Greenspan’s appointment as the Chairman, Bernanke is the only member of the Federal Reserve to serve as a Governor and, then, become the Chairman (other than Janet Yellen, who became the Chair too recently for this research). All of these considerations shaped what ended up being my corpus.

In building a corpus, the frequency with which the speeches were given figured centrally because time factored in as an additional methodological constraint. I needed to gather sufficient numbers of texts for periods over which (1) Bernanke was a Governor of the Fed, (2) Bernanke was the Chairman, and (3) Governor Bernanke and Chairman Greenspan concurrently served as members and public speakers of the Fed, and there is no other type of Federal Reserve discourse that its members use sufficiently frequently to satisfy these constraints. Furthermore, I preferred to stop collecting speech data beyond the end of 2007, which is around when the recent financial

crisis emerged. Because the Federal Reserve played a major role in responding to the financial crisis, I assumed that the financial crisis may have brought on an additional variable that affected the linguistic choices that Fed members made in their public deliberations. Therefore, in putting a corpus together, I chose to avoid this presumed condition by collecting speech data for only the first two years of Bernanke's term as the Chairman.

Analytical Framework: Register Analysis

In this dissertation, I draw upon register analysis to address the question of how a speaker changes his or her linguistic choices to construct an ethos of administrative authority. Ferguson (1994) describes the notion of "register" in the following way: "A communication situation that occurs regularly in a society (in terms of participants, setting, communicative functions, and so forth) will tend over time to develop identifying markers of language structure and language use, different from the language of other communication situations" (p. 20). I use register analysis to study the differences in language use across the communication situations of speeches given by the Chairman of the Federal Reserve and speeches given by a Governor of the Federal Reserve. More broadly, I apply the analytical framework of register analysis to these speeches to explore the "association patterns" (Biber et al., 1998) between linguistic features and a speaker's official position of institutional power.

According to Johnstone (2008), a register, or style of discourse, emerges when linguistic moves are repeatedly used together in a recurring situation or by a social identity, and, over time, these repeated moves come to be relatively stable markers of the situation or social identity with which they are functionally associated. For example, if a speaker repeats linguistic moves over time that express his or her uncertainty towards propositions, these repeated moves can create a

particular social identity for that speaker—say, a lack of power—with which this relatively stable set of moves comes to be functionally associated (pp. 56-57 & 138). I use register analysis in an effort to understand how the social identities—in this case study, the positions of authority—of the institutional participants of the Federal Reserve and the “autocratically-collegial” monetary policy committee structure in which they participate come to take shape at least in part through the sets of linguistic moves they frequently make in discourse. Through analyzing register, we can come to understand the important, constitutive role that patterns of language use can play in inventing the social dynamics of institutional contexts.

Register analysis is a specific method of *discourse analysis* (DA) (e.g., Johnstone, 2008), and, as Cheng (2012) notes, rhetoricians’ “more modern approach to *ethos* corresponds with the view of language use held by DA ... that emphasizes how the social acts carried out in discourse create individual and group identities through managing various relations” (p. 428). I adopt this broader approach to ethos in my analysis of speeches given by members of the Federal Reserve and FOMC; in particular, I draw upon register analysis as a methodological means of illustrating how the recurrent social acts carried out by the Chairman and a Governor of the Federal Reserve function to create their relatively stable individual identities—their positions of authority—that, in turn, create the group identity—the collective authority—of the Federal Reserve as a credible policymaking institution. In doing so, my analysis combines discourse analysis and traditional rhetorical scholarship, bridging an approach in discourse analysis that examines how identity can be socially created by recurrently deploying a stabilized repertoire of linguistic choices—register analysis—and the traditional rhetorical conception of ethos as “whenever the speech is spoken in such a way as to make the speaker worthy of credence” (Aristotle, 2007: 1.2.4).

Before I go on, I would like to briefly explain why I have chosen to use the term *register* instead of *genre*, which, traditionally, rhetoricians have usually used to study a similar linguistic notion to the one I am studying here (e.g., Ware & Linkugel, 1973; Campbell & Jamieson, 1978; Miller, 1984; Swales, 1990; Berkenkotter & Huckin, 1995; Bawarshi, 2003). Following from the distinction that Couture (1986) makes—namely, that *genre* refers more to conventional types of texts, whereas *register* refers more to language used—I prefer to use *register* in this case because my focus is not so much on recurrent *forms* of discourse, but, rather, on the *discursive styles* that speakers repeat in association with recurring social identities of authority. Couture’s examples of *register* and *genre* help to clarify this subtle distinction. Registers include, for example, the *styles* that preachers use in sermons and scientists use in research reports, whereas genres include, for example, sermons, research reports, proposals, manuals, short stories, and novels.

In making a similar distinction between *register* and *genre*, Johnstone’s (2008) examples of *register* include legal language, scientific discourse, medical discourse, and teacher-talk; her examples of *genre* include wills, research reports, essay questions, and medical consultations (p. 184). Comparing these examples, we can see that the notion of genre refers, more broadly, to the text-types or forms in which registers—repeated styles of discourse—are organized; for example, scientific discourse—the repeated “style” or “language” of scientists—can be found in the form of a research report. I use the term *register* because, in my analysis, I am interested in the micro-linguistic features that define “Chairman” and “Governor” ways of speaking; in contrast, a *genre* analysis would focus on the forms that their speeches take, the contexts in which their speeches are relevant, and the activities through which they have become competent to produce the genre of Federal Reserve speeches.

According to Biber et al. (1998), studying language use (rather than language structure) has two goals: (1) to assess the extent to which linguistic patterns are found, and (2) to analyze the contextual factors with which these patterns are associated. Biber (1988) suggests that before we can do (1), we must do (2), which enables an interpretation of the linguistic features we find. Biber (1994) proposes a framework for analyzing the situational contexts of registers, based on past frameworks developed by Hymes (1974), Halliday (1978), and Crystal and Davy (1969). Biber writes: “The primary goal of the framework is to specify the situational characteristics of registers in such a way that the similarities and differences between any pair of registers will be explicit” (p. 41). In order to do achieve this goal, Biber specifies a host of situational parameters, each with a closed set of values². The parameters include: (1) the communicative characteristics of the participants, (2) the relations between the addressor and addressee, (3) the setting, (4) the channel, (5) the relation of the participants to the text, (6) the purposes, intents, and goals, and (7) the topic or subject. The chart in Figure 1 illustrates these parameters and their associated sets of values (Johnstone, 2008, p. 177, adapted from Biber, 1994, pp. 40-41).

I	Communicative characteristics of participants	(a)	Addresser(s): Is there one or more? Is the addresser an institution (such as a university, a government, a corporate body)?
		(b)	Addressee(s): Is the discourse addressed to self or other(s)? Is there one or more than one addressee, or is the number not relevant for defining the situation?
		(c)	Is there an audience in addition to the specified addressee(s)?
II	Relations between addresser and addressee	(a)	Relative status and power: Do addresser(s) or addressee(s) have higher status? More power?
		(b)	Extent of shared knowledge: Do addresser(s) and/or addressee(s) have more specialist knowledge about the topic? More personal, experiential knowledge?
		(c)	Interactiveness: How much do addresser(s) and addressee(s) interact?
		(d)	Personal relationship(s): Do the participants like, respect, fear each other? Are they kin, friends, enemies, colleagues, etc.?
III	Setting	(a)	Characteristics of the place of communication: Is it public or private? In what domain is it: business or workplace, education, governmental or legal, religious, etc.? What, if any, is the role of other media besides, or in addition to, face-to-face interaction? For

² A few of the sub-parameters have not been developed into a closed set.

		example, is the communication filmed?
	(b)	Extent to which place is shared: Are the participants in the same place? Is the place familiar?
	(c)	Extent to which time is shared: Are participants interacting synchronously, or are they at a temporal remove?
IV	Channel	(a) Mode: Is the primary channel of communication written, spoken, signed, mixed? (b) Permanence: Is the communication recorded or transient? (c) Medium: If the communication is recorded, is it taped, transcribed, printed, recorded electronically, etc.? If it is transient, is it face-to-face or over the phone, radio, etc.? (d) Is the communication embedded in a larger text from a different register?
V	Relation of participants to the text	(a) What are the production circumstances for the addresser(s)? Is the text revised or edited? Scripted or planned online? (b) What are comprehension circumstances for the addressee(s)? Does comprehension have to occur online, in real time? If not, what the time constraints? (c) How addresser(s) and addressee(s) evaluate the text? Do they evaluate what is said or written in the situation in terms of importance, value, beauty, popularity, etc., or some combination? (d) What is the addresser(s)' attitudinal stance toward the text? Are they emotionally involved in the communication? Do they feel reverent, excited, bored, etc.? (e) How do the addressee(s) stand with regard to the text? Are they deciding whether or not to believe it? Whether or not to doubt it?
VI	Purposes, intents, and goals	(a) Factuality: Is the communication in this situation supposed (by the participants) to be based on fact, or is it supposed to be imaginative, speculative, or some mixture? (b) Purposes: Is the purpose of the situation, and the communication in it, to buy or sell things? To persuade? To transfer information? To entertain? To express feelings? Some combination?
VII	Topic	(a) What is the level of discussion: general, specialized, popular? (b) What is/are the specific topic(s): finance, science, religion, politics, etc.?

Figure 1. Situational Parameters of Variation

Source: Johnstone (2008, p. 177), adapted from Biber (1994, pp. 40-401)

The “communicative characteristics of the participants” refers to the addressor(s) of the discourse, the addressee(s), and the audience—that is, the speaker(s) or writer(s), the immediate listener(s) or reader(s), and other participants who happen to hear or read the text, respectively. In terms of the closed values for the addressor(s), there can be a single person, multiple people, or an unknown, institutional author. Similarly, the addressee(s) can be an individual person or multiple people. In the case of a single addressee, it can be the addressor himself or herself, or another individual. If there are multiple addressees, they can be enumerated (i.e., the number of addressees can be counted) or unenumerated (i.e., the number of addressees cannot be counted).

Finally, the third type of participant is the audience, which Biber (1994) characterizes as those who are onlookers of the interaction between the addressor(s) and addressee(s). As a closed value, there either is or is not an audience.

The “relations between addressor and addressee” refers to the relative social positions of the addressor(s) and addressee(s), the extent to which they share knowledge, and the amount of interaction they have with each other. First, the social status of the participants refers to whether the addressor has more, equal, or less power than the addressee. Second, they can share a high or low amount of specialized or technical knowledge of particular topics, or of personal knowledge of each other’s background. Third, the interactivity among the participants can be extensive (e.g., typical conversations), moderate (e.g., classroom discussions), or almost none (e.g., lectures and speeches).

The “setting” refers to where the communication occurs—the place—and when it takes place—the time. The place, or the context of use, can be categorized as business or workplace, education and academic, government and legal, religious, art and entertainment, or domestic or personal. Communication in each of these places, or domains, can occur in a private or public setting, and, furthermore, can be presented using audio/visual mass media—for example, radio, television, etc. Another important question about place is whether the participants directly or immediately share the place, do not share the place but are familiar with each other’s place, or are completely removed from and unaware of each other’s place. The same question and values holds for the extent to which the participants share time.

The “channel” of communication refers to the mode, the permanence of the text, and the medium in which the text occurs. The mode is usually either spoken or written, but it can also be a mix of the two, or it can be altogether different—for example, sign language. For any mode, a

text can be permanent, if it was recorded, or it can be transient. If it was recorded, then it can be transmitted with mediums such as tapes, transcripts, type, print, handwriting, e-mail, and others, depending on how it was recorded. In addition to their specific medium, recorded texts can be classified as published or unpublished. All written texts can be considered recorded, but if the text was spoken, it can be transient (or recorded), in which case there are other mediums through which the text can occur—for example, face-to-face, telephone, radio, or television.

The “relation of participants to the text” refers to the circumstances under which the text was produced and comprehended, and the “stance” of the addressor(s) and addressee(s) towards the text. For the production circumstances, the addressor(s) can revise, edit, plan, or script the text, or the text can be produced on-line, with little to no opportunity for revision or editing. For the comprehension circumstances, the addressee(s) can listen to or read the text on-line—that is, in real time—or under other temporal constraints, and listening to or reading the text can be self-imposed by the addressee(s), or the text can be unintentionally overheard, for example, and, thus, not self-imposed. The participants—the addressor(s) and addressee(s)—can personally evaluate the text; they can assess it, for example, in terms of how important, valuable, required, beautiful, or popular it is. Similarly, the addressor(s) can have an attitude towards the text. For example, they can be emotionally involved in or removed from the text; they can feel reverence toward the text or have more of an “everyday” feeling; they can be excited about the text or bored about it. And, epistemologically, the addressee(s) can choose whether to believe or doubt the text.

The “purposes, intents, and goals” refers to the factuality of the text, as well as the reason for the text and the situation in which it occurs. The aspect of factuality asks whether the text is (presumed to be) based on facts and reality, or whether it is imaginative, speculative, or fictional. The purpose itself can be to persuade, to transfer information, to entertain, or to express feelings

and reveal oneself. A text can have a primary and secondary purpose, and so it can strive for a combination of these goals. Therefore, a text can be assessed as having a high, medium, or low focus on each of these four parameters of purpose.

Finally, the “topic” of the text refers to its level, and specific subject of, discussion. The text’s level of discussion can be general, specialized, or popular, which overlaps with the shared knowledge among the participants. The text’s specific subject of discussion can be, for example, law, science, finance, religion, politics, sports, people, and many others.

Biber’s situational framework is particularly useful for me because my corpus comprises groups of speeches that are not functionally distinct from each other, in the way that a top-down, classificatory framework would seek to categorize text types. Such a framework would probably catch the similarities of the speeches at the expense of their differences. In taking a bottom-up approach to describing and classifying texts, Biber’s framework specifies a range of situational parameters along which registers may vary, allowing for groups of texts to be distinguished into many more categories than a typological focus would make possible. Using Biber’s framework, an analyst can systematically derive texts categories, from an explicit situational analysis, rather than presuming a limited number of classifications on an a priori functional basis. I will return to Biber’s situational framework later in this chapter, when I apply it to the groups of speeches in my corpus to describe their communication situations. For now, I will discuss the *linguistic* half of register analysis.

Biber et al. (1998) characterize register analysis as an effort to understand how language use varies when we use it for different purposes in different situations. Thus, register analysis is essentially a framework for studying linguistic variation associated with situational variation. To study the salient linguistic features of registers and how they vary across registers, Biber (1985,

1986, 1988) proposed a “multi-dimensional” approach to register variation. Following in Biber’s footsteps, this method was taken up by others (e.g., Roberts, 1997; Conrad & Biber, 2001; Bybee & Hopper, 2001) and applied successfully for studying related areas of language use. At its core, a multi-dimensional approach is based on identifying linguistic features that frequently co-occur in texts. In fact, Halliday (1988) defines a register as “a cluster of associated [linguistic] features having a greater-than-random ... tendency to co-occur” (p. 162). Therefore, for studying register variation, such an approach investigates the linguistic features that frequently occur together in a situation but not in a different situation. Following this approach to studying register variation, I set out to identify the linguistic features that frequently co-occur in speeches by the Chairman of the Federal Reserve and are frequently absent in speeches by a Governor of the Federal Reserve, and vice versa.

To help identify the linguistic features that frequently co-occur in a register, Biber uses a quantitative technique in multivariate statistics called *factor analysis* (e.g., Kachigan, 1991). He explains:

In a factor analysis, a large number of original variables, in this case the frequencies of linguistic features, are reduced to a small set of derived variables, the ‘factors’ ..., [where] each factor represents ... a grouping of linguistic features that co-occur with a high frequency. (Biber, 1988, p. 79)

That is, each factor is made up of several, individual linguistic features that are highly correlated with one another. For example, in Biber’s (1986) analysis of *spoken* and *written* texts, he named one of the factors he derived “Interactive vs. Edited Text,” where the linguistic features that co-occurred with a high frequency in *spoken* texts—such as *I* and *you*, yes-no questions, and WH-questions—mark a high degree of interpersonal interaction, while the linguistic features that co-

occurred with a high frequency in *written* texts—such as longer words and a higher type/token ratio (i.e., a more varied vocabulary)—mark a presentation of highly exact meaning that tends to be found in “edited” texts. In my case study, I draw upon factor analysis in order to help identify the groups of linguistic features in the Federal Reserve speeches that characterize *Chairman* and *Governor* registers.

The linguistic features in a factor can be correlated with one another either positively or negatively. For instance, in the above example, the linguistic features that mark the “interactive” dimension of *spoken* texts are positively correlated with one another and negatively correlated with the linguistic features that mark the “edited” dimension of *written* texts, and vice versa; the linguistic features that mark the “edited” dimension of *written* texts are positively correlated with one another and negatively correlated with those that mark the “interactive” dimension of *spoken* texts. In other words, the “interactive” linguistic features tend to co-occur with a high frequency in *spoken* texts, and when they do, the “edited” linguistic features tend to be absent in those texts, and vice versa; the “edited” linguistic features tend to co-occur with a high frequency in *written* texts, and when they do, the “interactive” linguistic features tend to be absent in those texts. The positive or negative correlation of the linguistic features in a factor is determined by the “factor loading” of each feature.

Each linguistic feature in a factor is assigned a weight, or “factor loading,” that indicates the salience of that feature in the factor. Factor loadings are either a positive or negative value. As Biber (1986) notes, “when the features with positive weights occur together frequently in a text, the features with negative weights are markedly less frequent in that text, and vice versa” (p. 393). The “interactive” linguistic features have positive weights, and the “edited” linguistic features have negative weights. In addition, positive factor loadings that have a value of less than

0.40 and negative factor loadings that have a value of more than -0.40 (e.g., -0.21) are typically considered to be unimportant and are, thus, not interpreted as part of the factor. Furthermore, as Biber (1988) notes, at least “five salient loadings are required for a meaningful interpretation of the construct underlying the factor” (p. 88), meaning that, in the example I have been using, at least five of the linguistic features in the factor needed to have positive factor loadings of no less than 0.40 or negative factor loadings of no more than -0.40. Biber (1986) points out that “only the first few factors are likely to ... be worth further consideration” (p. 392).

In a factor analysis, a *factor score* is computed for each text in the corpus, and they can be used to analyze the similarities and differences—the variation—among the groups or types of texts in the corpus. As Biber (1986) notes, “A factor score is computed by summing, for a given text, the number of occurrences of the [linguistic] features having salient weights on that factor” (p. 397). More specifically, a factor score is computed by adding the number of occurrences of the salient linguistic features with positive factor loadings and then, from that sum, subtracting the number of occurrences of the salient linguistic features with negative factor loadings. In my case study, I will compute the factor scores of the Federal Reserve speeches from the *percentage* of how frequently the salient linguistic features occur in the texts (i.e., the number of occurrences of a linguistic feature in a text will be divided by the total number of words in the text) because I did not normalize the word lengths of the texts.

Once a factor score has been computed for each text in my corpus, I will use a statistical procedure called *Analysis of Variance (ANOVA)* to test for any significant linguistic differences between the groups of speeches in my corpus—Chairman speeches and Governor speeches. In ANOVA, the mean factor score is computed for each *group* of texts, based on the factor scores of the single texts in the group. The mean factor scores for each group of texts are then compared

to each other and a p value is reported. The p value represents the likelihood that any observed differences between the groups of texts could be due merely to chance—that is, the likelihood of incorrectly concluding that the two groups are really linguistically different from each other. A p value of less than 0.05 has been understood to indicate statistically significant variation between groups of data. In register analysis, a p value of less than 0.05 would indicate that the linguistic variation between the groups of texts is statistically significant, and not due to random error.

I am interested in analyzing linguistic *variation* because I seek to understand the extent to which the differences in a speaker's social identity—in this case, different levels of recognized authority—are associated with the differences in speech. I draw upon factor analysis as a means of examining the ways in which the Chairman's linguistic choices are associated with his role of administrative authority over others in the Federal Reserve and FOMC, and how the Chairman's speeches changed when he became the Chairman. Analyzing how his speeches are linguistically different from the speeches by a Governor of the Federal Reserve and different from those that he gave as a Governor can shed light on how a speaker's "office" can be functionally associated with a relatively stable set of linguistic choices that, when repeated by a speaker over time, can emerge as a constitutive factor of what audiences recognize about the speaker's social identity. Methodologically, factor analysis can help an analyst systematically identify the salient choices that a speaker frequently repeats, and the results of a factor analysis can provide the analytical input for measuring the extent to which these relatively stable set of choices are different across situations.

I suggest that paying attention to linguistic *differences* across texts is methodologically important for studying ethos in general, and this perspective is what register analysis—or, more broadly, a corpus-based approach to rhetorical analysis—affords an analyst. While, traditionally,

ethos has been rhetorically analyzed in singular communication situations (e.g., Hill, 1972; Leff & Mohrmann, 1974; Browne, 2002), such analyses leave open the possibility that the speaker is making the same ethotic appeals—that is, using the same set of linguistic moves—in different rhetorical situations. Without explicitly accounting for situational variation, such analyses could fall short of being able to robustly associate the linguistic choices that a speaker makes to create his or her ethos with the particular rhetorical situation in which the speaker is engaged. Register analysis has been methodologically built to study the situational variation with which linguistic variation is associated, and, in this case, I use register analysis to understand the linguistic moves that are uniquely associated with the social identity of the Chairman—in particular, his ethos of administrative authority.

Methodologically, studying ethos as the product of a singular rhetorical situation not only fails to account for the situational and linguistic variation of ethos, but it also overlooks the range of situations over which a speaker's ethos is invented. As Perelman and Olbrechts-Tyteca (1969) suggest, a speaker's ethos that is brought into the immediate rhetorical situation (situated ethos) may very well have been created previously through the speaker's discourse (invented ethos): "If the person of the speaker provides a context for the speech, conversely the speech determines the opinion one will form of the person" (p. 319). That is to say, prior discourse can contribute to the person of the speaker—his or her ethos—that provides a context for the speech in the immediate rhetorical situation. Therefore, the formation of a speaker's ethos depends on many more of the speaker's linguistic choices than those that he or she makes in any single rhetorical situation. In this way, a speaker's ethos has a temporal quality; it discursively unfolds over time, over a range of rhetorical situations. Register analysis can capture this temporal dimension of ethos because it can analyze patterns of language in large collections of texts that span a range of time.

Lastly, as I discussed in the first chapter, an analyst studying ethos as an explicit move of rhetorical persuasion on the surface of a text could easily overlook how a speaker invents his or her ethos because the ethotic appeal might not be based in a direct, overt appeal to the speaker's character. In fact, it has been suggested that explicit efforts to establish one's ethos is likely to be ineffective on an audience, and, ironically, such moves can lead to an unfavorable impression of the speaker (Perelman & Olbrechts-Tyteca, 1969; Amossy, 2001; Scopelliti et al., 2015). Thus, if it is more likely that a speaker will effectively create a favorable impression of himself or herself for an audience by not resorting to obvious moves of rhetorical persuasion, methodologically, we need to be able to analytically move beyond the surface of a text. As a method of analysis that involves identifying individual micro-linguistic features that frequently co-occur and interpreting the rhetorical function that they co-implement, register analysis can help an analyst probe a text for its "hidden" ethotic appeals that emerge implicitly through the aggregation of micro-textual features of discourse.

DocuScope: A Computer-Based Tool for Corpus-Based Rhetorical Analysis

Register analysis is a specific method of "corpus-based text analysis" (e.g., see Stubbs, 1996, 2001; Biber et al., 1998; Kennedy, 1998; McEnery & Wilson, 2001; Tognini-Bonelli, 2001; Meyer, 2002; Meyer & Leistyna, 2003; O'Keefe & McCarthy, 2010; McEnery & Hardie, 2012). According to Biber et al. (1998), when it comes to studying language use, corpus-based text analysis is essentially an empirical approach; it analyzes actual patterns of language use in natural texts by counting the frequency of linguistic features (e.g., see Hyland, 2004). Because a corpus-based approach to text analysis utilizes large collections of natural texts (i.e., corpora) to assess the frequency of language patterns, it makes extensive use of computers. Computers can

handle much larger amounts of natural language data than humans can, and they are reliable and consistent in their analyses of large and complex data. Yet, even though corpus-based analysis depends on computers for *quantitative* analysis of frequency counts, it depends just as much on human analysts for *qualitative* analysis—in particular, for interpreting the linguistic patterns that the computers report and store. I use a computer-based research tool for facilitating quantitative and qualitative rhetorical analysis of my corpus.

In this dissertation, I draw upon a computer-based text analysis tool called “DocuScope” (Kaufer et al., 2004b; Kaufer et al., 2005). DocuScope classifies strings of discourse according to their potential to “rhetorically prime” (Kaufer et al., 2004a) audience experiences. That is, unlike more conventional dictionaries, which tend to classify words based on their literal or connotative meaning, or on their grammatical functions, DocuScope’s built-in dictionary classifies more than 40 million patterns of standard written English into over 100 types of micro-rhetorical strategies that writers use to “design” (Kaufer & Butler, 2000) audience experiences. Kaufer et al. (2004b) call strings of discourse that implement specific types of audience experiences “language action types (LATs).” For example, from a rhetorical point of view, DocuScope classifies the word “I” as having a “first person” rhetorical effect on a reader. Similarly, using the word “if” designs the audience experience of “contingency” for a reader. DocuScope tags words and patterns of words that implement the same rhetorical effects as the same LAT, even if they appear to be different from a conventional perspective. Figure 2 is the refinement of LATs in DocuScope’s standard dictionary³.

CLUSTER	DIMENSION	CLASS
Personal Register	Personal	Personal Time Personal Immediacy

³ This refinement of “language action types” (LATs) is based on version 3.82 of DocuScope.

		Personal Perception Personal Thinking Personal Disclosure Personal Confidence Personal Uncertainty Personal Reluctance Personal Weak Willed
	First Person Personal	Self Disclosure Self Reluctance Autobiography
Emotion	Positive Emotion	Positivity
	Negative Emotion	Negativity Anger Fear Sad
Assertive	First Person Assertive	First Person Assertive
	Assertive Language	First Person Affirmation First Person Denial Insist Prohibit Intensity Clipped Verb
Description	Sensory Language	Sense Property Sense Object
	Space Movement	Space Relation Scene Shift Motions
Public Register	Public Sources	Public Media Public Language
	Public Responsibility	Public Responsibility
	Positive Public Values	Positive Values Public Innovation
	Negative Public Values	Negative Values
Academic Register	Academic Abstract Language	Abstract Nouns, Adjectives, Adverbs Abstract Specialized Abstract Language Reference Metadiscourse
	Academic Citation	Citation Attack Citation Authoritative Citation Communicator Role Confirm Previous Thought Contested Citation Negative Citation Precedent Citation Quotation Received Point of View Repair Citation
Future	Future Perspective	Future Predicted Future
Past	Past Perspective	Past Future in Past
Personal Relations	Positive Relations	Positive Relations Promise Self Promise Reassure Reinforce Acknowledge Accept or Agree Positive Feedback
	Inclusive Relations	Inclusive Relations
	Negative Relations	Negative Relations Resistance Negative Attribution Negative Feedback
	Apology	Apology Self Apology
Reasoning	Constructive Reasoning	Reason Forward Reason Backward

		Reason Directed Support
	Contingent Reasoning	Contingency
Interactive	Oppositional Reasoning	Denial
		Concessive
	Interactive Attention	Attention Getting
	Interactive Inquiry	Curiosity
		Question
		Future Question
		Formal Query
		Suggestion
		Request
	Interactive Follow Up	Follow Up
Elaboration		Feedback
	Prior Knowledge	Prior Knowledge
	Second Person	You Focal Subject
		You Question
		You Attention
Reporting		You Contingent
		You Reference
	Generalizations, Examples, Exceptions	Generalization
		Example
		Exceptions
	Comparison	Comparison
	Word Class	Coordinator
		Preposition
		That or Which
		Determiner
Narrative	Numbers, Definition, Abbreviations	Numbers
		Abbreviations, Suffixes, Prefixes
		Definition
	Reporting States	Reporting States
	Reporting Events	Reporting Events
	Reporting Resemblances	Reporting Resemblances
	Reporting Process	Recurring Events
		Generic Events
		Sequence
		Mature Process
Character		Cause
		Consequence
	Reporting Geography	Countries
		Cities
		U.S. States
	Reporting Change	Transformation
		Substitution
		Updates
		Precedent Setting
	Directives	Imperatives
Character		Task Assignments
		Procedures
		Move Body
		Confirm Experience
		Error Recovery
	Narrative Verbs	Narrative Verbs
	Time Shift	Time Shift
	Duration	Duration
		Short Duration
	Biographical Time	Biographical Time
Character	Background	Time-Date Information
		Asides
	Personal Pronoun	Person Pronouns
	Proper Noun	Proper Noun
	Person Attribution	Neutral Attribution
Character	Person Class	Person Properties
	Dialog Orality	Dialog Cues
		Oral Cues

Figure 2. The Refinement of Language Action Types (LATs) in DocuScope's Standard Dictionary

DocuScope facilitates the best of both methodological worlds in doing register analysis.

As Johnstone (2008) explains:

[Describing the linguistic features of a register] can be done by starting with a list of linguistic features to check for, or it can be done by looking carefully and repeatedly at examples of a register until recurrent features become salient. The disadvantage of starting with a list means that you are relatively unlikely to notice anything that *is not* on the list, but starting without a list means possibly not noticing some of the things that *would have* been part of a good coding scheme.

(p. 178)

As Johnstone suggests, human readers are likely to overlook some of the linguistic features of a register if they are not actively searching for those features. With a built-in dictionary that covers about 70-75% of contemporary American English, DocuScope allows an analyst to start with an extensive coding scheme. At the same time, the DocuScope environment helps an analyst derive salient linguistic features from presumed registers by computing and visually depicting the LATs that recur with a high frequency in an analyst's single and multiple collections of texts.

DocuScope supports both quantitative and qualitative rhetorical analysis of large numbers of texts. Quantitatively, DocuScope analyzes and presents the frequencies of each LAT for all of the individual texts that an analyst inputs. Figure 3 illustrates the "range" view of DocuScope's "multiple-text visualization (MTV)" interface. The LATs (at the cluster level) are aligned on the left side, with box plots to the right of each LAT that represent the range of frequencies and the average frequencies for each LAT across all of the texts. In this MTV view, an analyst can select single LATs to explore, with the option of delving further into the class level of the LATs. When an LAT is selected, DocuScope reports the frequency of that LAT in each of the individual texts

in the corpus, and sorts the texts in descending order of frequency. For example, Figure 3 shows the frequency of “academic citation” (at the cluster level) in the speeches that Bernanke gave as the *Chairman* (the texts in orange) and the speeches that he gave as a Governor (the texts in red).

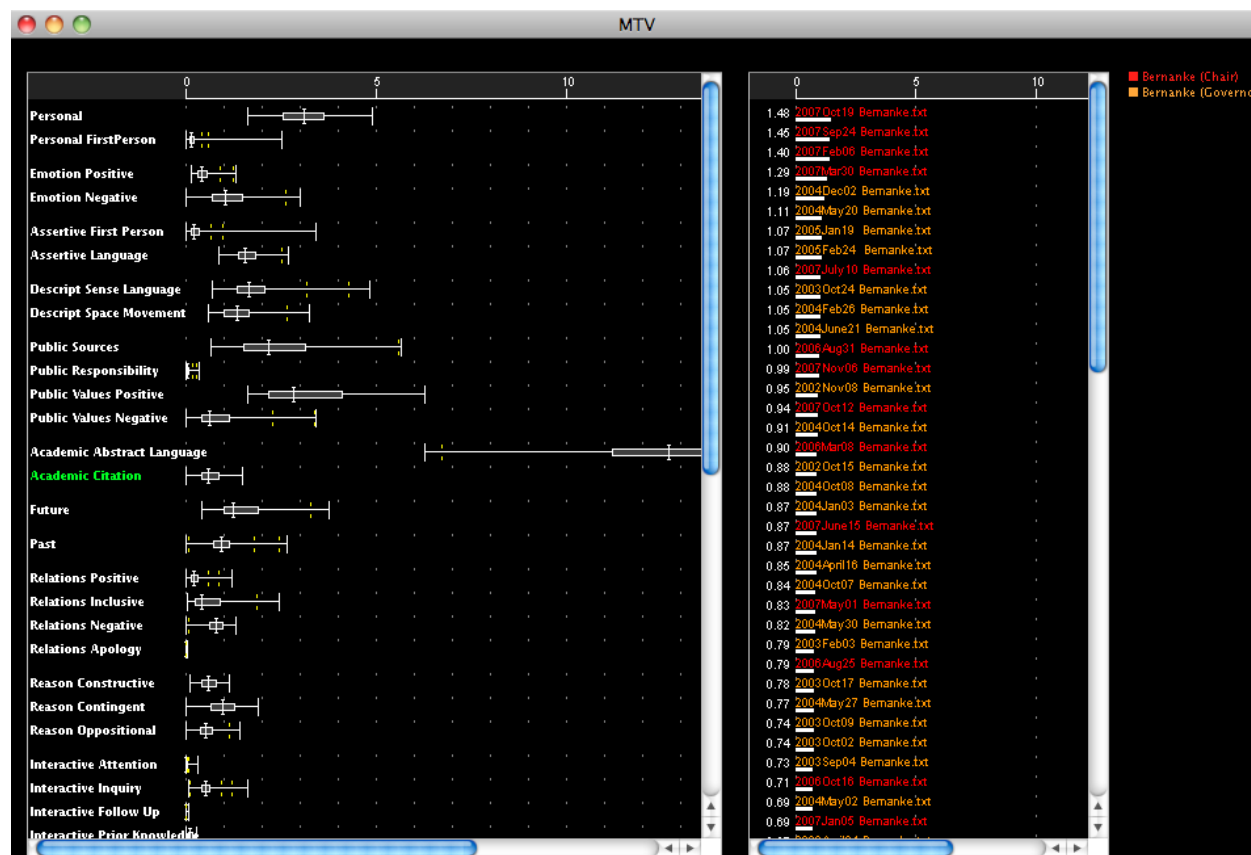


Figure 3. Multiple-Text Visualization (MTV) Range View in the DocuScope Environment

In MTV’s range view, an analyst can (1) identify salient LATs (i.e., those occurring with a high frequency), by drawing upon the statistical information in the box plots, and (2) explore the individual LATs that play a role in differentiating the multiple collections of text, by looking for “clusters” of color-coded texts. For instance, with the exception of a few Chairman speeches at the top, it is clear, from the clusters of orange-colored texts, that the majority of speeches that Bernanke gave as a Governor used more citations than the majority of the speeches that he gave

as the Chairman. If the image in Figure 3 extended further down, one would see a cluster of red-colored texts (i.e., Chairman speeches) towards the bottom. However, the MTV interface is not limited to exploring *single* LATs.

In MTV's "map" view, an analyst can compare multiple collections of texts by exploring the *groups* of LATs that differentiate the collections. As Figure 4 shows, DocuScope allows one to select multiple LATs to explore and use those selected LATs to graphically plot the texts and visually examine the extent to which the selected groups of LATs (i.e., the factors) separate the multiple collections of texts—in this case, the *Chairman* speeches (red plots) and the *Governor* speeches (orange plots). In addition, as Figure 4 shows, the MTV map interface allows an analyst to select individual plotted texts—here, the speech that Chairman Bernanke gave on October 16, 2006—in order to see a snapshot of the LATs in that text, captured to the right of the graph. As I will discuss shortly, an analyst can then qualitatively analyze that single text by switching over to DocuScope's "single-text visualization (STV)" interface.

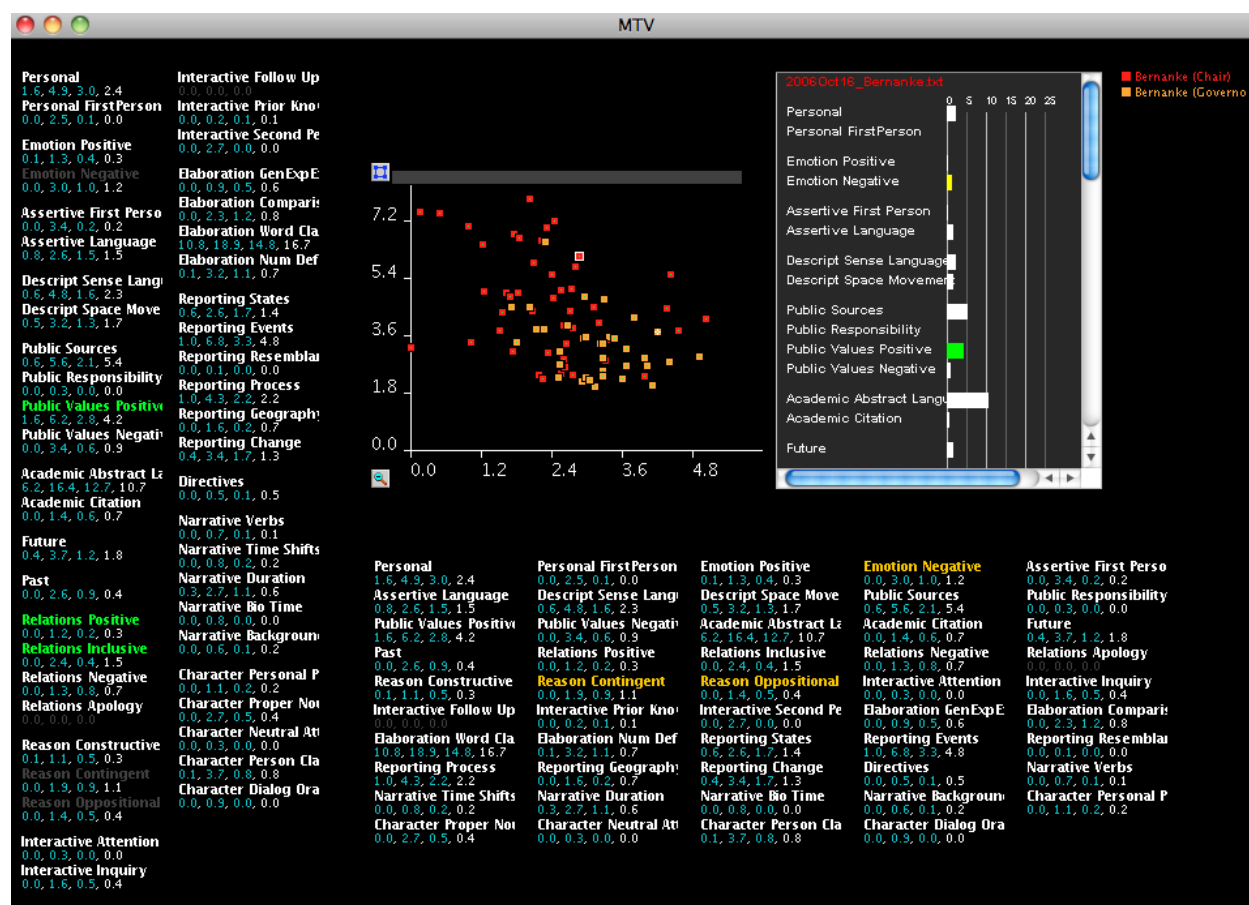


Figure 4. Multiple-Text Visualization (MTV) Map View in the DocuScope Environment

Furthermore, DocuScope can generate a file report of the LAT frequencies for each text, which can easily be imported into a statistical software package for multivariate analysis, such as factor analysis. Essentially, factor analysis identifies groups of LATs that are much more salient in one group of texts than in another. Using the statistics package *Minitab*, I factor analyze the multiple collections of speech texts in my corpus to identify the linguistic choices that explain any significant variation between (1) Chairman Greenspan's speeches and Governor Bernanke's speeches, and between (2) Chairman Bernanke's speeches and Governor Bernanke's speeches. By using factor analysis to explore if the differences between the Chairman and Governor texts in both (1) and (2) can be explained by similar factors, I aim to provide additional support in

characterizing what we might come to understand as “Chairman” and “Governor” registers—in other words, institutional positions of authority as discursive constructs.

The DocuScope environment also supports *qualitative* analysis of individual texts, in its STV interface. Having the quantitative factor analysis findings that are computationally stored, an analyst can sort the individual texts according to their factor scores, and identify particular texts that are highly representative of the extracted factors. Paying careful attention to these texts is useful for understanding how the different LATs work together, and interpreting the factors, based on a situational analysis of the texts. In STV, DocuScope allows an analyst to closely read a single text and turn on or off matching strings of LATs. In Figure 5, all of the LATs are turned on. Thus, after conducting the quantitative portion of factor analysis, I use STV to qualitatively examine representative texts for the specific LATs that were found to be statistically salient. In particular, based on the situational analysis that I will undertake, I seek to understand the salient language actions in terms of their role in discursively constructing administrative authority.

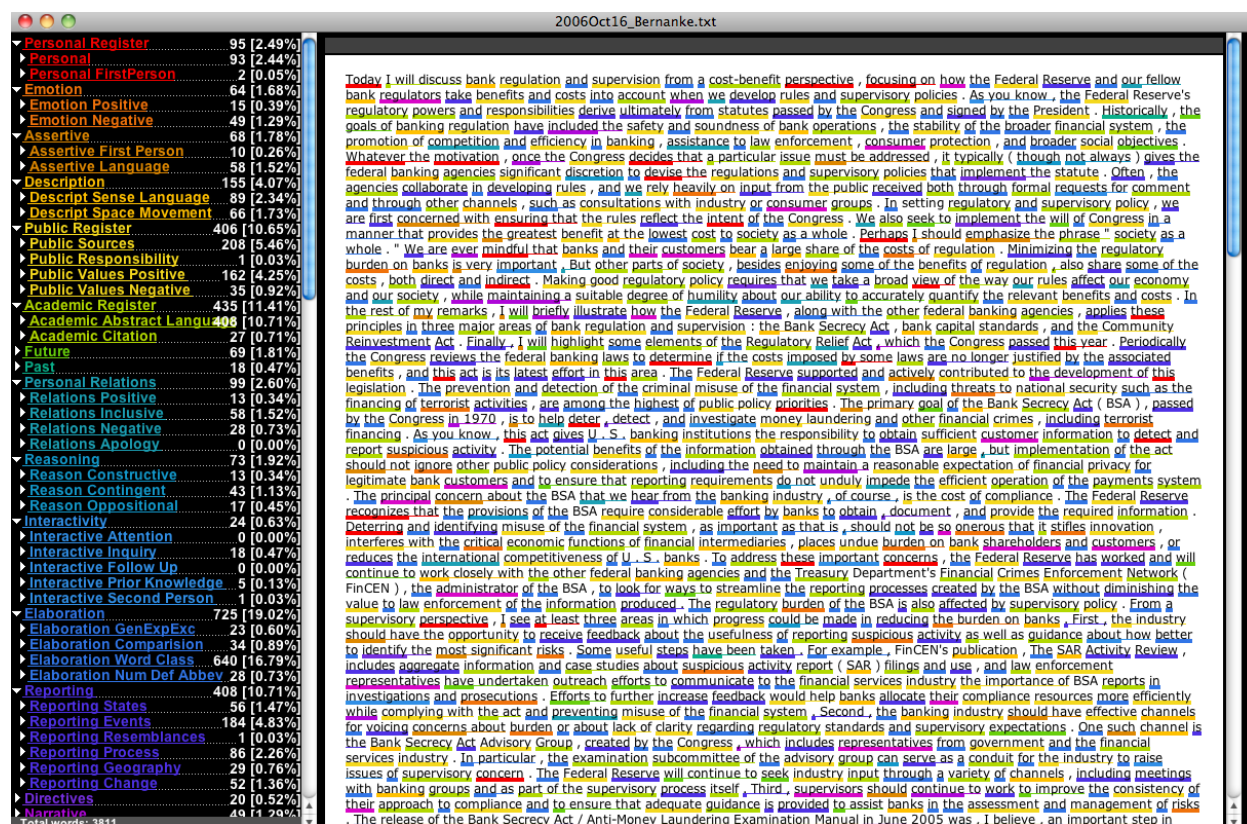


Figure 5. Single-Text Visualization (STV) in the DocuScope Environment

Using exploratory factor analysis, Collins (2003) found that the LATs in DocuScope's standard dictionary are able to classify texts in the ways that humans would differentiate them, providing evidence that it can help rhetorical analysts uncover the latent, micro-level linguistic choices that writers tend to implicitly rely on to implement their macro-level goals in rhetorical "invention" (e.g., see Bawarshi, 2003). Since then, DocuScope, with its standard dictionary of LATs, has been used successfully in a wide variety of applications for linguistic inquiry. More relevantly, in many of these cases, it has been used specifically to mine collections of texts to understand the micro-linguistic patterns of English language *variation* underlying macro-level classifications of texts. What follows are some examples where DocuScope has been applied to study linguistic variation.

Collins, Kaufer, Vlachos, Butler, and Ishizaki (2004) have used DocuScope to investigate the differences between Alexander Hamilton's and James Madison's rhetorical language choices in the Federalist Papers. They shed light on why authorship attribution of the disputed Federalist Papers has been challenging for human readers. With the aid of DocuScope, Kaufer (2006) has examined the differences between how Indian Americans and African Americans discursively construct their ethnic identities in published "personal profiles," in light of the "model minority" stereotype. Kaufer and Ishizaki (2006) have uncovered hidden rhetorical strategies found across fifteen types of canned-letter templates in a self-help book on how to write letters. Witmore and Hope (2007) have even used the standard dictionary of DocuScope to analyze the differences between collections of Shakespeare's tragedies and comedies. Kaufer and Hariman (2008) have analyzed a corpus comprising four groups of texts to empirically test Hariman's (1995) theory of four corresponding types of political speaking styles: the Machiavellian, courtly, republican, and bureaucratic styles.

Analyzing a corpus of pre-and post-9/11 news articles covering "Arab terrorism" in Arab-American press, Kaufer and Al-Malki (2009) found that, prior to 9/11, the news articles were significantly more negative, which, they argued, reflected the attitude of Arab-Americans towards the American conception of "Arab terrorism." This linguistic negativity subsided after 9/11, however, as Arab-Americans sought to align themselves with American values, in light of prominent and severe anti-Arab sentiments that emerged. And, recently, Kaufer and Parry-Giles (2012) have used DocuScope to analyze peoples' reminiscences of Abraham Lincoln, examining how reminiscences have historically emerged from the genre of biography and have become a unique genre of the rhetoric of portraiture. In line with these previous and related ways of using DocuScope, I use DocuScope in this dissertation to investigate the micro-linguistic choices that a

speaker uses to invent the macro-level rhetorical effect of administrative authority. However, as I discussed earlier, before I can go on to analyze the linguistic features of *Chairman* and *Governor* registers, the first step of register analysis is to analyze their situational contexts.

A Situational Analysis of Federal Reserve Chairman and Governor Speeches

Drawing upon Biber's (1994) framework for situational analysis that I discussed earlier, I will first describe the communicative characteristics of the participants in speeches given by the Chairman of the Federal Reserve and speeches given by a Governor of the Federal Reserve. In both situations, the Chairman and Governor are the sole addressors of their speeches. While they both speak as members of a Federal institution (i.e., the Federal Reserve), the institution itself is not the addressor of the discourse, in the way that it is in other documents (e.g., Federal Reserve, 2005). However, considering the autocratically collegial structure of the FOMC, the Chairman could be understood as speaking on behalf of the collective institution. For both registers, there are always multiple addressees. These plural addressees, or "particular audiences" (Perelman & Olbrechts-Tyteca, 1969), can be enumerated because, in most cases, they comprise attendees at "academic" conferences, conventions, symposiums, research forums, and the like, including, for example, economists, government, the media, universities, or organized labor, depending on the specific speech event.

Addressees in some cases make up the audience in other cases, and vice versa. Aside from specifics, the point is that Chairman and Governor speeches always have an audience in addition to the addressees that are immediately present to hear the speech. As Resche (2004) notes, "although the speeches ... are all given or read to limited [addressees], they matter to a great many other groups" (p. 725). These other groups may be "taken to include the public at

large as well as the media, university economists, participants in the financial markets, and other specialized external audiences” (Smart, 1999, p. 267), including, for example, economists in the private sector and commentators on financial markets (Smart, 2003), as well as other members of the Federal Reserve and FOMC. However, although Chairman and Governor speeches do share audiences, the type of authority granted to the Chairman in the autocratically collegial nature of the FOMC—his *administrative* authority—suggests that his speeches might be oriented more to public, “external” audiences, while a Governor’s speeches might be oriented more to the private, “internal” members of the Federal Reserve and FOMC.

As for the relations between the addressor and addressees, the Chairman’s relative social status is higher than all of his addressees and audience members, including the Governors of the Federal Reserve, when it comes to economic decision making. That is, neither any addressee nor any member of the Fed Chairman’s audience has the power to influence economic outcomes in the way that the Chairman does, especially given the nature of the FOMC as an autocratically collegial monetary policy committee, as well as the independence that the Federal Reserve has from political pressures (Maier, 2002). While some of the Chairman’s addressees and audience members may share specialized economic knowledge with the Chairman (e.g., Fed Governors, university and private-sector economists), they do not possess the same degree of institutional authority to make decisions on the basis of it. Despite this difference, Chairman and Governor speeches share the same amount of interaction with the addressees, which is nearly nonexistent; the addressor speaks while the addressees almost completely listen. The situational variation in power relations between the Chairman and Governor will play a central role in interpreting the linguistic differences between their speeches.

As I briefly noted earlier, the setting for most of both Chairman and Governor speeches is a conference, convention, symposium, research forum, or so on. Thus, the domain or context in which the speeches are “used,” depending on the specific speech events and addressees, tends to be either education and academic, or government and legal, though more “public” audiences—notably, financial market participants—are probably “using” the speeches in more of a business or workplace setting—for example, to strategize about investment decisions. Despite the type of or specific place, most of the speeches take place in more of a private setting at first, and, shortly after, they are made publicly available as visual representations of texts on the Federal Reserve’s website. Thus, in most cases, the addressors and addressees directly share the place and time of communication, while the audience may be familiar with, but not share, the place and time with the Chairman or Governor. As with the communicative characteristics of the participants, what is most important to note here is that Chairman and Governor speeches do not vary along a setting parameter.

Both Chairman and Governor speeches use “mixed-mode” channels of communication; that is, they are a combination of written and spoken discourse. As Resche (2004) describes, they are “prepared texts to be read aloud before [addressees]” (p. 725). The “prepared” is the written part of the mixed-mode, and the “read aloud” is the spoken part. Resche goes on to point out that the speeches are “made public on the Federal Reserve’s website and recorded as printed matter as well” (p. 725). By being recorded, both Chairman and Governor speeches are permanent; the medium of transmission is print, and they are published on the Federal Reserve’s website. Some of the speeches may be videotaped and later transmitted through television, and some may even be transmitted live on television, but, nonetheless, they are all mixed-mode, recorded, printed, and published texts, both Chairman and Governor speeches alike. In fact, I accessed all of them

in their printed and published form on the Federal Reserve's website. In terms of their channels of communication, Chairman and Governor speeches are alike.

The relations of the participants—addressors, addressees, and audience—to these Federal Reserve texts follow from the speeches' channels of communication. Even though the Chairman and Governors are *speakers* of their texts, the production circumstances of their speeches model those of written discourse—planned, revised, and edited, rather than produced in real-time in the speech situation. While the addressees comprehend the speeches in real-time, the members of the audiences do not listen to the speeches in real-time; rather, they read the texts on a self-imposed basis, with a temporal constraint being that they have access to the speeches only after they have been first delivered in real-time to their addressees, and once they are published in printed form on the Federal Reserve's website. Most likely, the Chairman and Governors and their addressees and audience would personally evaluate the speeches as important; thus, most of the participants of the texts are probably emotionally involved in, rather than removed from, the texts. And with respect to the participants' epistemic stance towards the texts, the addressors—the Chairman and Governors—probably believe what they say, while it is possible, given the purpose and topic of the speeches, which I will describe below, that the addressees and audiences may either doubt (in particular, the more “academic” addressees and audience members, including the other members of the Federal Reserve) or believe the texts.

Regarding the texts' purposes, intents, and goals, most of the speeches are (purported to be) based on fact; that is, most of them are intended to be factual, rather than overtly fictional or imaginative, for example. They describe or explain these (purported) facts not merely to transfer information to their addressees and audience, but also, and perhaps even more so in many of the cases, to persuade them to “buy into” policy decisions, whether explicitly or implicitly; after all,

the Fed is an action-oriented institution whose decisions intimately and significantly affect many groups of people. In their speeches, it is possible that the Chairman and Governors will disagree on what policy actions to take, based on available “factual” information. For example, given a particular unemployment rate and a certain amount of inflationary pressure, the Chairman and a Governor may disagree with each other on which sorts of open-market operations would be the most conducive for economic performance. In this way, the “internal” members of the Federal Reserve attempt to persuade one another to adopt their individual policy preferences.

However, the texts are also persuasive to the more “external” participants as well, in the sense, as I discussed in the first chapter, that the Fed’s speeches are geared towards influencing how participants in financial markets behave economically, both to and in anticipation of policy decisions. It is in this way that these participants also have to accept the Fed’s decisions. Given the autocratically collegial committee structure of the FOMC, it is plausible that the Chairman’s speeches are intended to be viewed by “external” participants as more persuasive than Governor speeches, while Governor speeches are intended to be viewed by “external” participants as more informational than Chairman speeches; this way, Chairman speeches would more effectively set up the social dynamics that unfold at the FOMC meetings—namely, that the Chairman “dictates” the directions of policy action. In the following chapters, I will analyze the linguistic differences across the Chairman and Governor speeches in light of the situational variation in persuasive and informational purposes.

The specific topics or subjects of most of the speeches are economic- or financial-related issues, both Chairman and Governor speeches alike. The level on which these topics or subjects are discussed is mostly specialized. However, given the more “public” audience of the speeches, it is likely that the speeches are adapted in some ways for a non-expert, non-specialized, general

audience, though not to the extent of a popular address; the “average” person is probably not the target of most of these speeches. As Biber (1994) notes, the level of discussion coincides with the extent of shared specialist knowledge among the participants, which, in this case, is probably high when we take the addressees and audience of the Chairman and Governor to be economists or the other members of the Federal Reserve, for example, a bit lower when we take them to be, say, financial market participants, commentators on financial markets, or banks, and even lower when we take them to be government (e.g., Congress), the media, or the general public.

Resche (2004) explains: sometimes “the reader can be left with an impression of clarity, but it is only a surface impression. At other times, the reader is plunged into technical passages and complex analyses that combine to make the message more difficult to grasp” (p. 739). This textual effect is a result of a wide range of addressees and audiences sharing varying extents of specialized knowledge with the addressees and, consequently, influencing the level on which the Chairman and Governors discuss economic and financial issues in their speeches. In light of their audience variation stemming from the autocratically collegial committee structure of the FOMC, and, in particular, the members’ roles of authority in such a structure, it is likely that the level of topical discussion in Governor speeches is higher than it is in Chairman speeches, since there is a lower extent of shared specialized knowledge between the Chairman and “public” audiences, to whom his speeches might be more targeted. This situational analysis is summarized in the chart in Figure 6 below.

				CHAIRMAN REGISTER	GOVERNOR REGISTER
I	Communicative characteristics of participants	(a)	Addressor(s)	singular/institutional	singular
		(b)	Addressee(s)	others, plural	others, plural
		(c)	Audience	yes	yes
II	Relations between addresser and addressee	(a)	Relative status and power	addressor has more power	addressee has more/equal/less power than addressee and audience, depending on addressees and audience
		(b)	Extent of shared knowledge	low shared specialist knowledge	high shared specialist knowledge
		(c)	Interactiveness	none	none
		(d)	Personal relationship	respect/colleagues	respect/colleagues
III	Setting	(a)	Characteristics of the place of communication	private/public domain: business and workplace/education and academic/government and legal	private/public domain: business and workplace/education and academic/government and legal
		(b)	Extent to which place is shared	addressees: immediate audience: familiar	addressees: immediate audience: familiar
		(c)	Extent to which time is shared	addressees: immediate audiences: removed	addressees: immediate audiences: removed
IV	Channel	(a)	Mode	written/spoken	written/spoken
		(b)	Permanence	recorded	recorded
		(c)	Medium	printed	printed
		(d)	Embedded in a larger text from a different register	no	no
V	Relation of participants to the text	(a)	Production circumstances	revised or edited/scripted	revised or edited/scripted
		(b)	Comprehension circumstances	addressee: real-time audience: self-imposed time constraints	addressee: real-time audience: self-imposed time constraints
		(c)	Evaluation	important	important
		(d)	Attitudinal stance	emotionally involved	emotionally involved
		(e)	Epistemological stance	belief/doubt	belief/doubt
VI	Purposes, intents, and goals	(a)	Factuality	(purported to be) based on fact persuade: high	(purported to be) based on fact persuade: medium
		(b)	Purposes	transfer information: medium entertain: low reveal self: medium	transfer information: high entertain: low reveal self: high
VII	Topic	(a)	Level of discussion	general/popular	specialized
		(b)	Specific topics	finance	finance

Figure 6. Summary of Situational Characteristics of Chairman and Governor Registers

In sum, all of these situational parameters—the participants, their relations to one another and the texts, the setting and channel of communication, and the purpose and topic of the texts—

play a role in shaping the linguistic texture of the speeches in my corpus. That is, I could analyze the linguistic features with which any of these contextual factors is associated in order to uncover the identifying markers of language use that have developed in the communication situations of Federal Reserve speeches over time. However, in this dissertation, I am particularly interested in the language *differences* between Chairman and Governor speeches. My analysis of the contexts in which these two groups of speeches occur suggests that they vary mostly along the situational lines of their audiences, the power and epistemic relations of their participants, their purposes of speech, and their levels of topical discussion. The next two chapters will draw upon this analysis to analyze the linguistic variation between the groups of speeches, in an effort to understand the ways that a social actor's ethos of administrative authority can be discursively constructed in an institutional context.

CHAPTER 3

GOVERNOR BERNANKE, 2002-2005: THE DISCURSIVE CONSTRUCTION OF COGNITIVE AUTHORITY AND THE RHETORICAL SUBORDINATION OF POLICY INFLUENCE

The previous chapter left off with an analysis of the situational variation across *Chairman* speeches and *Governor* speeches. In this chapter, I present my findings from the *linguistic* half of register analysis; that is, drawing upon the contextual analysis in the previous chapter, I analyze the linguistic variation between the 42 public speeches that Bernanke delivered as a Governor of the Federal Reserve and the 53 speeches that Greenspan delivered as the Chairman of the Federal Reserve, while he concurrently served with Bernanke on the Board of Governors and the Federal Open Market Committee (FOMC), between 2002 and 2005. Based on these analyses, I argue that Bernanke, in his role as a Governor, made and omitted particular linguistic choices in an effort to discursively construct his *cognitive* authority and, thus, dissociate—in particular, subordinate—himself from the *administrative* authority that Greenspan discursively invented and drew upon as a rhetorical means of (publicly justifying his) policy influence.

To recap, administrative authority refers to having power over others in the public realm, whereas cognitive authority refers to having expertise in a specialized field of knowledge. As I have discussed, this distinction is particularly relevant in the case of the Federal Reserve and the autocratically-collegial monetary policy committee structure of the FOMC. To manufacture the “consensual” policy decisions that contribute to the FOMC’s collective ethos as a credible and democratic institution, the FOMC must have a basis on which such a “consensus” is formed; this basis is the Chairman’s policy preferences, around which the other members of the FOMC unite, close ranks, and conform. I argue that, in order for the Federal Reserve to prepare the public for

the FOMC's monetary policy decisions, and to publicly justify why the *Chairman's* preferences become the *FOMC's* collective preferences, the Chairman of the Federal Reserve discursively constructs his administrative authority over the authority of the other members of the Fed and FOMC.

My findings suggest that, in the case of the Federal Reserve and FOMC, the office of the speaker is, at least in part, constituted by discourse. Based on these findings, I seek to contribute towards a theory of the discursive construction of and linguistic variation between administrative and cognitive authority, which, as I discussed earlier, have been understood largely in terms of “situated ethos” (Crowley & Hawhee, 2004), also called “prediscursive ethos” (Maingueneau, 1999) or “prior ethos” (Amossy, 2001)—a speaker's authority that exists before and outside of discourse. This case illustrates how register variation can play an important, constitutive role in rhetorically inventing the hierarchies among participants in, and underlying the functioning of, institutional contexts. The social identities of these institutional participants and the hierarchical structure in which they participate take shape in part through the sets of moves they frequently make in discourse to take stances, or attitudes, towards both their propositions and those with whom they interact.

As Johnstone (2008) suggests:

Repeated sets of stancetaking moves can become relatively stabilized repertoires, or *styles*, associated with situations or social identities. Styles are (at least to some extent) repeatable. That is to say that sets of stancetaking moves serving a common function are not always assembled from scratch in each new situation.

(p. 138)

In other words, a style, or *register*, emerges when linguistic features are repeatedly used together to strategically maintain a stance, and this repeated stance in discourse—for example, expressing uncertainty towards propositions—can create a particular social identity—for example, a lack of power—with which this relatively stable stance comes to be functionally associated (Johnstone, 2008). In short, we can come to understand an individual's social identity—in the present case, his authoritative footing—in part through analyzing his register. As I discussed in the previous chapter, I will draw upon a statistical method called factor analysis to conduct a register analysis.

In the analysis below, I present and interpret two factors—groups of linguistic features that frequently co-occur in the Federal Reserve speeches. The tables in Figures 7a and 7b show the important *Language Action Types (LATs)* in each of the two factors—that is, the LATs that have salient weights, or factor loadings. The number in parentheses to the right of each LAT is its factor loading. As I explained in chapter two, when a factor includes LATs with both positive and negative weights, the high correlation of the positive LATs that frequently co-occur is also highly correlated with the co-absence of the negative LATs, and vice versa; when the negative LATs frequently occur together in the texts in the corpus, the positive LATs are frequently co-absent in the texts. In this way, the clusters of positive and negative LATs define opposite poles of the factor, which, as I will illustrate, represent the opposite ends of the functional spectrum underlying the factor.

It is important to note that negative factor loadings do not signify a degree of importance; a negative factor loading indicates a relationship with the other LATs in the factor. Any weight above 0.4 or below -0.4 is considered to indicate a salient LAT in the factor and worthy of being part of the factor's interpretation. However, the LATs in brackets in Figures 7a and 7b are salient (i.e., have a factor loading above 0.4 or below -0.4) in more than one of the factors. The brackets

indicate that the LAT has a higher factor loading in the other factor. Because, in a factor analysis, each salient feature is considered in the interpretation of only one factor, I will include each LAT in the interpretation of only the factor in which it is more salient (i.e., in which it has the highest factor loading). Later, I will compute factor scores for each of the speeches in the corpus in order to assess whether the factors explain significant linguistic differences between the *Chairman* and *Governor* speeches. For now, I will begin by interpreting the rhetorical effect underlying the co-occurrence of the salient micro-linguistic features in Factor 1, as shown in Figure 7a below.

	FACTOR 1 LAT (WEIGHT)	DEFINITION OF LAT	EXAMPLES OF LAT
+	Personal_Self_Disclosure (.754)	words marking personal thought or feeling	<i>I think, I believe, I feel</i>
	Assert_First_Person (.655)	words marking self-reference	<i>I, me, my</i>
	Assert_First_Person_Denial (.595)	denial from a first-person perspective	<i>I cannot, I have not, I will not, I do not</i>
	Academic_Citation (.533)	words marking citation of external sources	<i>according to, [author(s)] (2006), [author(s)] argues that, the argument suggests that</i>
	Public_Values_Negative (.476)	words marking standards that the public tends to reject	<i>unfairness, unhappiness, injustice</i>
	Interactive_Prior_Knowledge (.472)	words marking knowledge that the audience already has	<i>as you know, of course</i>
	Reason_Deny_Disclaim (.414)	words marking denial of a claim	<i>not, has not, does not, is not, cannot, neither, nor</i>
	[Reason_Contingency (.413)]	words marking contingent reasoning	<i>if, may, might, could be, can, depends on, possible</i>
	[Relations_Inclusive (-.466)]	words marking group membership with the author	<i>we, our, all, together</i>
—	Public_Innovations (-.425)	words marking significant innovations that the public tends to value	<i>breakthrough, cutting-edge, technological advance</i>
	[Public_Values_Positive (-.405)]	words marking standards that the public tends to accept	<i>happiness, justice, freedom</i>

Figure 7a. Overview of Salient Linguistic Features (i.e., LATs) in Factor 1

	FACTOR 2 LAT (WEIGHT)	DEFINITION OF LAT	EXAMPLES OF LAT
+	Relations_Inclusive (.641)	words marking group membership with the author	<i>we, our, all, together</i>
	Assert_Clippped_Verb (.582)	words marking emphatic assertions	<i>it is the case, this is true</i>
	Public_Values_Positive (.571)	words marking standards that the public tends to accept	<i>happiness, justice, freedom</i>
	[Public_Language (.515)]	words directly referencing sources of institutional authority in the public	<i>the Federal Reserve, the government, policies</i>
	Personal_Confidence (.493)	words marking personal feelings of high confidence and absolute knowledge	<i>certainly, absolutely, assuredly, undoubtedly, completely</i>
	Assert_First_Person_Affirmation (.491)	words marking first-person assertions of affirmation	<i>I can assure, I have, I am</i>
	Personal_Thinking (.439)	words marking thought content of someone's mind	<i>understanding, belief, aware of, seem to</i>
	Assert_Insist (.406)	words marking insistence	<i>you will need, we must, should be</i>
—			
	Academic_Abstract_N_AJ_AV (-.523)	abstract (i.e., non-concrete) nouns, adjectives, and adverbs that are commonly used to convey unique meaning in particular fields of knowledge	<i>economic, financial, mortgage, debt, interest, investments, market, capital</i>

Figure 7b. Overview of Salient Linguistic Features (i.e., LATs) in Factor 2

Interpretation of Factor 1: Academic Argumentation vs. Public Discourse

As Figure 7a shows, Factor 1 does comprise linguistic features with positive and negative salient weights, which, again, means that when the LATs at the top frequently occur together in the Federal Reserve speeches, the LAT at the bottom occurs significantly less frequently, and vice versa; when the LAT at the bottom frequently occurs in the Federal Reserve speeches, the LATs at the top occur together significantly less frequently in the speeches. In other words, with respect to Factor 1, any given speech by Governor Bernanke or Chairman Greenspan in the 95-speech corpus will be marked (to some extent) by either the co-occurrence of the positive LATs *or* the negative LAT—not by both. The clusters of features at the top and bottom of Factor 1 in Figure 7a define opposite poles of the functional dimension underlying the factor—that is, the

complementary rhetorical effects implemented by the co-occurrence of the LATs at each end. I will, first, explain the salient LATs in Factor 1, and, then, I will go on to interpret the rhetorical function shared by them.

The salient linguistic features in Factor 1 include words and strings of words indicating personal thought or feeling (e.g., *I think, I believe, I feel*), self-reference (e.g., *I, me, my*), denial from a first-person perspective (e.g., *I cannot, I have not, I will not, I do not*), citation of external sources (e.g., *according to, [author(s)] (2006), [author(s)] argues that, the arguments suggests that*), values that the public tends to reject (e.g., *unfairness, unhappiness, injustice*), knowledge that the audience already has (e.g., *as you know, of course*), and denial of a claim (e.g., *not, has not, does not, is not, cannot, neither, nor*), on one end of the factor. The frequent co-occurrence of these features in a Federal Reserve speech is complemented by the frequent absence of words indicating significant innovations that the public tends to value, such as new technologies (e.g., *breakthrough, cutting-edge, technological advance*), and vice versa; when this feature frequently occurs in Fed speeches, the former features occur together significantly less frequently.

The distribution of LATs in Factor 1, I argue, reflects a contextual difference between a speaker's situational position of *cognitive* and *administrative* authority. As I will explain further in a bit, I suggest that, together, the positive LATs in Factor 1 mark speeches that are addressed more towards "academic" addressees and audiences (e.g., university and other economists, other members of the Federal Reserve and FOMC) who share a high extent of specialized knowledge with the speaker; they mark a high level of specialized discussion in an academic or educational context of use. I suggest that the positive LATs in Factor 1 represent common linguistic features of academic discourse that speakers or writers who are socially engaged with private others in a context of specialized knowledge draw upon to argue for their individual positions; in this way,

these discursive resources function to establish one's power to socially operate in an academic discipline (Hyland, 2004, pp. 167-172)—that is, one's cognitive authority.

I suggest that, on the other end of the functional spectrum that defines Factor 1, the only negative LAT—innovations that the public values—marks speeches that are aimed more towards “public” audiences (e.g., financial market participants and commentators, the media, banks, the government, the general public). As I will explain in more detail, I suggest that the negative LAT helps to establish a speaker's group membership in the public, reinforcing a set of shared values as a means of establishing credibility with the public. Considering the contextual power relations of the members in the Federal Reserve and FOMC, it would seem to make sense that, in a corpus comprising *Governor* and *Chairman* speeches, we would find that common linguistic features of academic discourse are frequently used in some speeches and frequently omitted in speeches that contain markers of public discourse, and vice versa. Also, in this case, it is likely that addressees and audiences of the speeches can easily pick up on these differences between speeches that are either more “academically” or “publicly” oriented because the two speakers share an institutional affiliation and are publicly speaking to similar addressees and audience about similar topics, on a frequent and alternating basis.

So far, this factor analysis has focused only on interpreting the holistic rhetorical effect that is implemented through the aggregate of the micro-linguistic choices constituting Factor 1. The next step is to compute *factor scores* for all of the texts in the corpus, which will allow for an examination of the differences between the texts, with respect to Factor 1; after all, the point of the analysis is to understand how the Chairman of the Federal Reserve discursively constructs his administrative authority *over* the other members of the Federal Reserve and FOMC—that is, how he discursively enacts his formal position of power in the institutional hierarchy of the Fed

and FOMC. In the previous chapter, I discussed how factor scores are computed. A factor score represents where each text falls along the functional spectrum of a factor—that is, in the analysis of the first factor, whether a text is more or less “academically” or “publicly” oriented. Figure 8 plots the range of factor scores for the 95 speeches included in the present analysis—42 speeches by Governor Bernanke and 53 speeches by Chairman Greenspan.

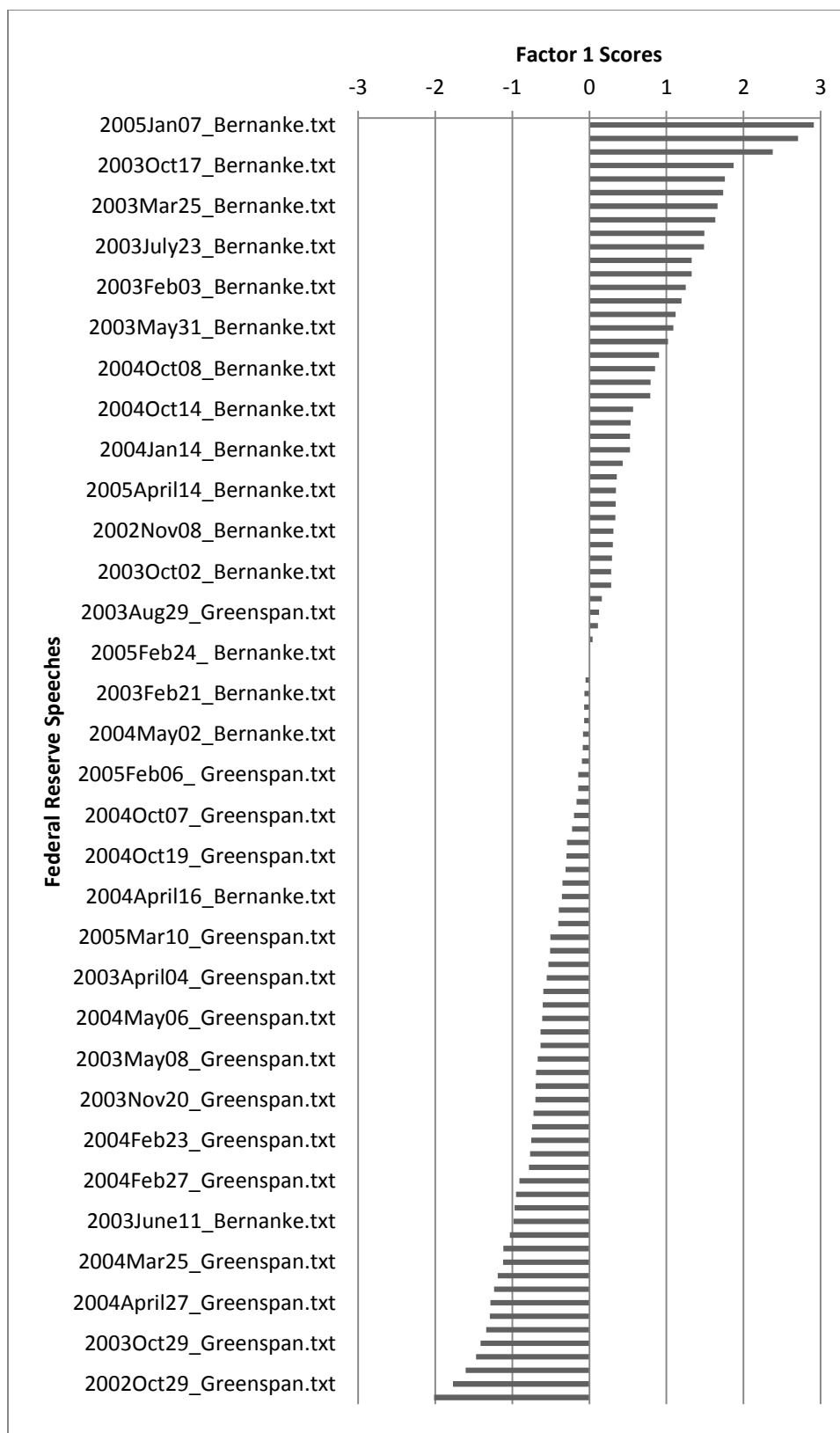


Figure 8. Factor 1 Scores for Governor Bernanke and Chairman Greenspan Speeches, 2002-2005

Figure 8 illustrates that Governor Bernanke's speeches cluster relatively high on Factor 1, whereas Chairman Greenspan's speeches cluster relatively low on Factor 1. Using the statistical procedure *ANOVA*, which I discussed in the previous chapter, the mean factor score for each of the two groups of texts is computed and compared. The reported *p* value ($p = 0.000$) in Figure 9 indicates that there is a statistically significant relationship between Bernanke's and Greenspan's speech-texts; that is, Factor 1 explains statistically significant linguistic differences between the two sets of speeches clustering at opposite ends of the spectrum in Figure 8. More specifically and more importantly, *Governor Bernanke's* speeches are marked by the significantly frequent co-occurrence of the positive LATs and the significantly less frequent occurrence of the negative LAT in Factor 1, while *Chairman Greenspan's* speeches are marked by the significantly frequent occurrence of the negative LAT and the significantly less frequent co-occurrence of the positive LATs.

Analysis of Variance					
Source	DF	Adj SS	Adj MS	F-Value	P-Value
Group	1	40.75	40.7493	71.17	0.000
Error	93	53.25	0.5726		
Total	94	94.00			

Model Summary			
S	R-sq	R-sq(adj)	R-sq(pred)
0.756695	43.35%	42.74%	40.84%

Means				
Group	N	Mean	StDev	95% CI
Bernanke (Governor)	42	0.736	0.824	(0.504, 0.968)
Greenspan (Chair)	53	-0.5830	0.6991	(-0.7894, -0.3766)

Pooled StDev = 0.756695

Figure 9. Factor 1 Analysis of Variance (ANOVA) Computed in Minitab

Based on both the factor analysis and *ANOVA* results, I argue that Governor Bernanke's speeches reflect a register of certain kinds of academic writing, in which writers seek to construct their credibility as an authorial self—an individual, novel, creative thinker, whose arguments and

opinions are relevant and important—within the context of disciplinary knowledge. The LATs used in Bernanke’s speeches function together, that is, to strategically implement the aggregate effect of an individual speaker who is arguing for his own ideas, against other (potential) ideas, within a framework of previous literature, and as an outgrowth of knowledge that is “given” in a particular disciplinary context. Taken together, these linguistic choices contribute to constructing Bernanke’s *cognitive* authority as a credible member of the FOMC and the Board of Governors of the Federal Reserve. As I have discussed, it is important for Bernanke to differentiate his type of authority from the Chairman’s *administrative* type of authority so that the Federal Reserve’s autocratically-collegial monetary policy committee can effectively function in its implementation of monetary policy decisions.

As I mentioned in the first chapter, most of Governor Bernanke’s speeches are marked by some variation of the following sentences⁴:

- [1] Both my prepared **remarks** and the **comments** I make in the discussion later should be clearly understood as reflecting only my own views *and not* those of my colleagues on the Federal Open Market Committee (FOMC) or the Board of Governors of the Federal Reserve System. (Bernanke, 2003 September 4)
- [2] **Of course**, my comments today reflect my own views and *do not* necessarily reflect those of my colleagues at the Federal Reserve Board or on the Federal Open Market Committee. (Bernanke, 2003 March 25)
- [3] As always, my comments are my responsibility alone and *do not* necessarily reflect the views of my colleagues at the Federal Reserve. (Bernanke, 2005 March 8)

⁴ For passages [1]-[5], words marking self-reference (Assert_First_Person) are underlined; words marking citation of sources (Academic_Citation) are **bolded**; words marking denial of a claim (Reason_Deny_Disclaim) are *italicized and underlined*; words marking knowledge that the audience already has (Interactive_Prior_Knowledge) are **underlined and bolded**; words marking personal thought or feeling (Personal_Self_Disclosure) are **UNDERLINED AND UPPERCASE**; words marking standards that the public tends to reject (Public_Values_Negative) are **BOLDED AND UPPERCASE**; words marking denial from a first-person perspective (Assert_First_Person_Denial) are **UNDERLINED, BOLDED, AND UPPERCASE**.

Holistically, these meta-discursive statements have the rhetorical effect of expanding deliberative space among the other members of the Federal Reserve and FOMC, by subordinating Bernanke's propositions to alternative possibilities—implicitly, those of the Chairman. To design this macro-rhetorical effect, Bernanke's combines micro-linguistic choices that mark citation (e.g., *remarks*, *comments*), a first-person perspective (e.g., *my*, *my own*, *I*), and denial of opposing claims (e.g., *do not*). Functioning together, these linguistic features attribute Bernanke himself as the source of his views and explicitly reject alternative claims that his views represent those of others who are serving as members of the Board of Governors of the Federal Reserve or FOMC.

In [2], he even uses *of course* before this statement, which is sometimes referred to as a “booster” (Holmes, 1990; Hyland, 1998). Boosters are not only a means for speakers to express their epistemic (i.e., knowledge-related) relationship to their claims, but they are also a way for speakers to indicate their relationship with the audience. Here, Bernanke uses *of course* not only to represent his certainty about this statement, but also to mark his group membership in the Fed and FOMC, drawing upon a shared, common understanding among the members of the Fed and FOMC that Governors do not speak as the public voice of the Fed and FOMC—as we shall see, the discursive role reserved for the Chairman. This dual function also reflects the multiple groups to which Bernanke's speeches are being addressed. Epistemically, *of course* stresses to his public audiences that, *without a doubt*, they should not take his views to represent the consensual policy preferences of the Fed and FOMC. As an expression of interactivity, *of course* situates Bernanke within the context of specialized knowledge shared by those with whom he is directly engaged—the other members of the Fed and FOMC.

Boosters like *of course* are central features of interactions in academic discourse—that is, of strategically engaging with specialized others (Hyland, 2004, p. 87). As I will go on to show,

similar linguistic patterns of academic discourse to those found in [1], [2], and [3] are frequently found in Bernanke's speeches, yet they are markedly absent in Chairman Greenspan's speeches, especially in their use to form such statements as in [1], [2], and [3]. In contrast, the "rhetorical absence" of these linguistic features of academic writing in Greenspan's speeches contributes to the implicit impression that Greenspan's speeches are oriented more towards "public" audiences than Bernanke's speeches are. In addition to this *implicit* impression afforded through Chairman Greenspan's frequent omission of these academic linguistic features, I will also show that there are *explicit* linguistic features of Chairman Greenspan's speeches that contribute to a register of public discourse—namely, the micro-linguistic choices through which he enacts his authoritative ethos as a means of rhetorically empowering him to dominate policy deliberations.

Interestingly, the speech that most exemplifies the "high" end of Factor 1 is a speech in which Governor Bernanke discusses his transition from an academic to becoming a policymaker. He gives this speech as a participant of a panel at the annual meeting of the American Economic Association. In it, he argues that his academic background and familiarity with research provide useful and influential knowledge for monetary policymaking. He seems to view his involvement in policymaking in much the same epistemological context as that of when he was an academic. I suggest that the relations between policymaker and academic carry over into how he discursively enacts his cognitive authority—his technical expertise—as a member of the Fed and FOMC. The following passage is taken from this speech:

- [4] I have enjoyed very much being introduced to the wide range of Fed policy activities. However, because my professional background is in macroeconomics and monetary economics, monetary policy remains for me the most interesting aspect of my job at the Fed. Once again, I have found the knowledge and habits of thinking developed in my academic days to be quite useful. The models and forecasting methods used by the Federal Reserve staff, for example, draw heavily on decades of academic research and thus feel comfortably **familiar**. Academic research (by which I MEAN TO include technical research done in central banks

and other non-academic institutions) also bears directly on many strategic aspects of monetary policymaking. For example, the Federal Open Market Committee has recently been engaged in developing its communications strategy, a topic which I BELIEVE to be of vital importance and on which I have spoken on numerous occasions. MY THINKING on this and numerous other aspects of monetary policy is heavily influenced by contemporary research in monetary economics, as can be seen by the footnotes and citations in my speeches. (Bernanke, 2005 January 7)

Again, here, Bernanke frequently uses *me*, *my*, and *I*, which mark his own, individual assertions, and when used together with the verbs *mean* and *believe*, which disclose a speaker's subjective thoughts, Bernanke is "evaluating" (Hunston & Thompson, 2000) his claims as uncertain. These verb choices can be seen as "hedging" devices, which, like boosters, are important for expressing an appropriate epistemic stance in academic writing (Hyland, 2004, p. 87). In this case, Bernanke uses these micro-linguistic choices to indicate that he is presenting his claim as his own opinion, showing deference to, and opening up deliberative space for, his colleagues' views—specifically, the Chairman's—as in [1], [2], and [3].

At the same time, that the methods feel *familiar* to Bernanke indicates, like *of course*, that he shares knowledge—specialized knowledge—with whom he is interacting. This expression of familiarity serves to index Bernanke's group membership in the Federal Reserve and FOMC, and to display his disciplinary ethos as a credible member of this "academic" community. Below, we, once again, see Bernanke using the booster *of course* to strategically align himself with the Fed and FOMC. Academic writers frequently use such strategies "to mark involvement and solidarity with their audience, stressing shared information, group membership and direct engagement with readers" (Hyland, 2004, p. 87):

- [5] Of course, the value of OLIR would only be a rough approximation to the "truth", but one cannot avoid making such approximations in policymaking, whether implicitly or explicitly. Should the FOMC then take the next step and announce this number to the public? Some have argued that such an announcement would be unnecessary because the Fed's implicit **INFLATION**

objective is already well understood by the market. I am skeptical. Publicly expressed preferences by FOMC members for long-run **INFLATION** have ranged considerably, from less than 1 percent to 2.5 percent or more. Long-run **INFLATION** expectations implicit in the pricing of inflation-indexed securities vary significantly over time, and the apparently high sensitivity of long-term nominal interest rates to Fed actions suggests some uncertainty about the Fed's long-run inflation target (**Gurkaynak, Sack, and Swanson, 2003**). **Gavin (2003) points out that** the range of private-sector forecasts for **INFLATION** is typically higher for the U.S. than for inflation-targeting countries.

If announcing the OLIR *does not* constrain short-run policy unduly, **I REALLY CANNOT** see any argument against it. To reassure those worried about possible loss of short-run flexibility, *my* proposal is that the FOMC announce its value for the OLIR to the public *with the following provisos* (*not necessarily* in these exact words). (Bernanke, 2003 October 17)

In [5], Bernanke's use of *of course* micro-linguistically marks that he is directly engaged with an "academic" audience, because public audiences would not already know that "the value of OLIR would be a rough approximation of the 'truth.'" Such markers of prior knowledge, together with features that indicate a first-person perspective and denial of opposing claims, create the holistic rhetorical effect that he is socially engaged with private others, arguing for his own position, and against others', in a context of shared, specialized knowledge; in this way, these micro-linguistic choices function to help establish Governor Bernanke's ethos as a social member of the Federal Reserve and FOMC—that is, his cognitive authority to socially operate in this epistemological, "academic" context.

In addition, "The inclusion of explicit reference to the work of other authors is ... seen as a central feature of academic research writing" (Hyland, 2004, p. 22). In passage [4], Bernanke even explicitly mentions his citation practices. In academic writing, citing others is another way, in addition to boosters, of strategically aligning and orienting oneself to a particular disciplinary community and its context of knowledge. Furthermore, by defining an epistemological context, citations, in conjunction with boosters, also create rhetorical space within which to situate one's

own views—the novelty of one’s individual ideas—in relation to community-based knowledge (Kaufer & Geisler, 1989). In Bernanke’s case, these linguistic features, along with those marking his first-person perspective and denying other claims, as we can see in [5] above, work together to help create rhetorical space for the novelty of Bernanke’s ideas about economic topics—such as *inflation*—against the social and epistemological backdrop of what disciplinary others have already said and what they already know about such topics.

Interestingly, although the Chairman’s policy preferences assume a dominant role in the committee structure of the FOMC, and his votes on policy decisions are the only ones that really matter (Blinder, 2007), he publicly discusses monetary policy topics significantly less frequently than Bernanke does. Since many of these topics—for example, *inflation* and *unemployment*—are seen in a negative light by the public, I suggest that, whenever possible, Greenspan refrains from discussing them so that the public does not come to associate these topics—these important but “negative values”—with the trust that they place in Greenspan to lead the economy in a positive direction. So that these economic topics do not potentially undermine his ethos of administrative authority—that is, his credibility as a public decision maker—he leaves them to be discussed by Bernanke (and other Governors), as we can see in passage [5], who approaches such topics in the way that an academic researcher would.

Greenspan’s speeches are marked significantly more frequently (than Bernanke’s are) by topics that the public tends to believe in and champion—more specifically, innovations that are viewed as positively contributing to society, which can be seen in an excerpt from a speech by Chairman Greenspan, entitled “Regulation, Innovation, and Wealth Creation”⁵:

[6] All participants in competitive markets seek innovations that yield above-normal returns. In generally efficient markets, few find such profits. But those that do

⁵ For passage [6], words marking significant innovations that the public tends to value (Public_Innovations) are underlined.

exploit such discoveries earn an abnormal return for doing so. In the process, they improve market efficiency by providing services not previously available.

Most financial innovations in over-the-counter derivatives involve new ways to disperse risk. Moreover, our constantly changing financial environment supplies a steady stream of new opportunities for innovation to address market imperfections. Innovative products temporarily earn a quasi-monopoly rent. But eventually arbitrage removes the market imperfection that yielded the above-normal return. In the end, the innovative product becomes a "commodity" made available to all at a modest, fully competitive profit.

To require disclosure of the structure of the innovative product either before or after its introduction would immediately eliminate the quasi-monopoly return and discourage future endeavors to innovate in that area. The result is that market imperfections would remain unaddressed and the allocation of capital to its most-productive uses would be thwarted. Even requiring disclosure on a confidential basis solely to regulatory authorities may well inhibit such risk-taking. Innovators can never be fully confident, justly or otherwise, of the security of the information. (Greenspan, 2002 September 25)

It makes sense that Governor Bernanke's speeches would omit the "positive values" that underlie a relationship of trust between Chairman Greenspan and the public; Bernanke could possibly end up undermining the effectiveness of policy decisions by disrupting the institutional hierarchy of the Fed and gaining too much public recognition as the representative voice of the Fed.

In sum, the distribution of LATs on Factor 1 can be interpreted in support of the notion that establishing credibility with other experts requires different discursive resources than those for establishing credibility with members of the public (Miller, 2003). To this end, I suggest the factor label "Academic Argumentation vs. Public Discourse" to define the opposite poles of the functional spectrum underlying this factor. On the "positive" pole, the salient linguistic features work together to create the aggregate rhetorical effect that Bernanke is arguing for his individual position in an academic, epistemological context. At the "negative" pole, the frequent absence of these common linguistic features of academic discourse, together with Greenspan's frequent use

of language actions that reference innovations, serves the rhetorical function of reinforcing a set of shared positive values underlying a relationship of trust and confidence with public audiences.

My interpretation of Factor 1 seeks to contribute, broadly, to a theoretical understanding of institutional positions of authority as discursive constructs and, in particular, of the linguistic differences, or register variation, between institutional participants' *administrative* and *cognitive* social identities. Factor 1 begins to illustrate how participants' linguistically distinct registers—that is, the different sets of moves they frequently make in discourse—can play an important role in constituting the different types of authority through which institutions effectively function. My interpretation of Factor 2, although based on a different set of linguistic features, will also seek to support the notion that the social identities of institutional participants and the hierarchy in which they participate can take shape through relatively stable sets of linguistic choices with which they come to be functionally associated.

Interpretation of Factor 2: Public Representation vs. Economic Information

The salient linguistic features in Factor 2 include words and strings of words that indicate inclusive relations—a sense of social belonging—with others (e.g., *we, our, together*), emphatic assertions (e.g., *it is the case, this is true*), values that the public tends to accept (e.g. *happiness, justice, freedom*), personal feelings of high confidence and absolute knowledge (e.g., *certainly, absolutely, assuredly, undoubtedly, completely*), first-person assertions of affirmation (e.g., *I can assure, I have, I am*), the thought content of someone's mind (e.g., *understanding, belief, aware of, seem to*), and insistence (e.g., *you will need, we must, should be*), on the “positive” end of the factor. As with Factor 1, the “negative” pole of Factor 2 is defined by only one salient LAT—in this case, abstract (i.e., non-concrete) nouns, adjectives, and adverbs that are commonly used to

convey unique meaning in particular fields of knowledge (e.g., *economic, financial, mortgage, debt, interest, investments, market, capital*). Again, when the positive LATs occur together in a text, the negative LAT occurs significantly less frequently, and vice versa.

In Factor 2, the LATs that have positive weights share the rhetorical function, I suggest, of transforming an individual's views into the collective, public representation of a multiplicity of voices. Unlike the positive LATs in Factor 1, those in Factor 2 express first-person certainty, which, together with group-reference, rather than self-reference, closes off deliberative space for debate and the possibility of alternative, individual perspectives. As I will illustrate, the positive LATs mark a relatively high social status of the speaker and a persuasive purpose, rather than an informational one. In addition, like the “negative” function of Factor 1, the “positive” function of Factor 2 includes linguistic features of discourse that mark direct engagement with the public, as opposed to with more private, specialized, “academic” addressees and audiences. Combined, the positive LATs that co-occur significantly frequently in Factor 2 serve to discursively construct a speaker that is knowledgeable, confident, plural, and public—in short, a speaker who appears to be credible as an authority in public life.

In contrast, the negative LAT—abstract nouns, adjectives, and adverbs—mark a highly “academic” orientation, as the positive LATs do in Factor 1. In this case, these abstract words convey unique meanings in specialized economic, financial, or related fields of knowledge, or epistemological contexts. As with Factor 1, it makes sense here that the public orientation of the speeches in the corpus is complemented by the absence of abstract language, and vice versa; if a speech frequently uses abstract “academic language,” it would probably not also contain features that mark the speech's orientation to public audiences. The salient positive and negative LATs in Factor 2 also give way to a functional spectrum defined by an “academic/public” opposition. To

this end, I suggest the label “Public Representation vs. Economic Information” to represent the opposite poles of the rhetorical function underlying Factor 2. Figure 10 below plots the range of factor scores along this spectrum, for the 95 speeches in the present analysis.

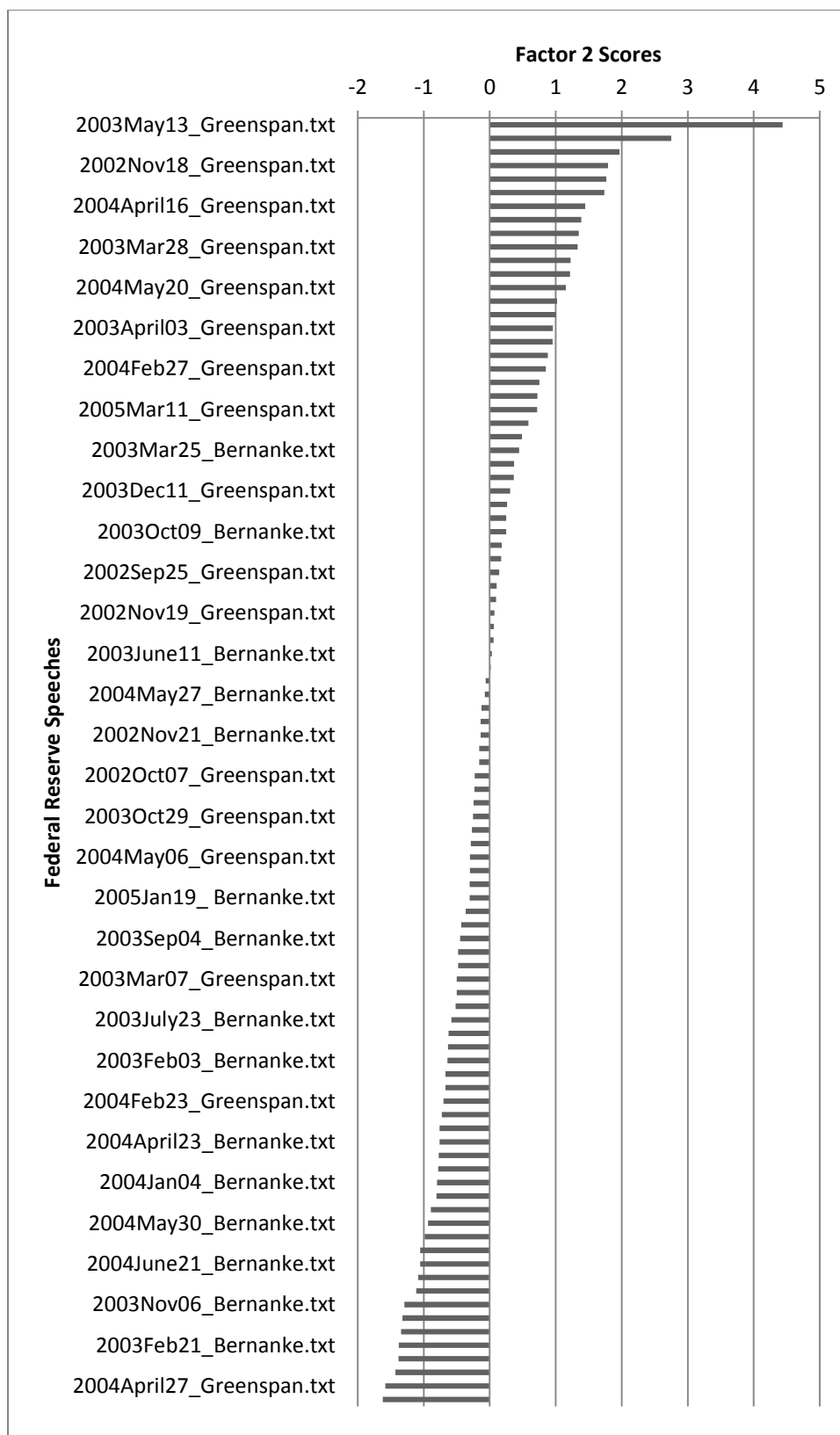


Figure 10. Factor 2 Scores for Governor Bernanke and Chairman Greenspan Speeches, 2002-2005

Figure 10 depicts that Chairman Greenspan's speeches cluster relatively high on Factor 2, whereas Governor Bernanke's speeches cluster relatively low on Factor 2. Using the statistical procedure *ANOVA*, again, the mean factor score for each of the two groups of texts is computed and compared. Once again, the reported *p* value ($p = 0.001$) in Figure 11 indicates that there is a statistically significant relationship between Bernanke's and Greenspan's speech-texts, meaning that, as with Factor 1, Factor 2 explains statistically significant linguistic differences between the two groups of Federal Reserve speeches clustering at opposite ends of the functional spectrum in Figure 10. For Factor 2, though, *Chairman Greenspan's* speeches are marked by the significantly frequent co-occurrence of the positive LATs and the significantly less frequent occurrence of the negative LAT, and *Governor Bernanke's* speeches are marked by the frequent occurrence of the negative LAT and the significantly less frequent co-occurrence of the positive LATs.

Analysis of Variance					
Source	DF	Adj SS	Adj MS	F-Value	P-Value
Group	1	9.878	9.8784	10.92	0.001
Error	93	84.122	0.9045		
Total	94	94.000			

Model Summary			
S	R-sq	R-sq(adj)	R-sq(pred)
0.951070	10.51%	9.55%	6.83%

Means				
Group	N	Mean	StDev	95% CI
Bernanke (Governor)	42	-0.362	0.670	(-0.654, -0.071)
Greenspan (Chair)	53	0.287	1.124	(0.028, 0.546)

Pooled StDev = 0.951070

Figure 11. Factor 2 Analysis of Variance (ANOVA) Computed in Minitab

Based on the interpretation of Factor 1, the distribution of speeches along the functional spectrum of Factor 2 is not surprising; in fact, it is functionally consistent with and an extension

of the linguistic variation distinguishing Greenspan and Bernanke with respect to Factor 1. While most of Governor Bernanke's speeches are linguistically dense with abstract, academic language, many of Chairman Greenspan's speeches, including those on the "high" end of Factor 2, do not mark a specialized level of discussion; they are both contextually and linguistically "public." For example, the speech that Greenspan gave on May 13, 2004 was directly addressed to a group of teenage students on the topic of financial literacy. Contextually, speeches like this one provide an opportunity for the Chairman to situate himself within the public at large, and, linguistically, he marks the speeches' orientation to the public and his confidence within that realm by frequently making emphatic and insistent assertions about values that the public commonly holds, such as *productivity, capabilities, education, maturity, ability, pride, success, achievement, satisfaction, and honesty*⁶:

[7] ...it is so critical that you **productively** employ your current learning experiences to create the base **capabilities** necessary for continuing your **education** into your mature years. (Greenspan, 2004 May 13)

[8] The true measure of a career is to **be able to be** content, even **proud**, that you **succeeded** through your own endeavors without leaving a trail of casualties in your wake. ... But in my working life, I have found no greater **satisfaction** than **achieving success** through **honest** dealing and strict adherence to the view that, for you to gain, those you deal with should gain as well. (Greenspan, 2004 May 13)

As exemplified in [7] and [8], when Greenspan's speeches are marked by "positive public values," they also tend to contain linguistic features that mark the speaker's epistemic stance of certainty towards his propositions—for example, *it is so* in [7] and *the true* in [8]. As Johnstone (2008) notes, "Using *be* in the simple present tense is a way of presenting a claim as universally and hence incontrovertibly true" (p. 56), which is what Greenspan does when he uses *it is so* at

⁶ For passages [7]-[9], words marking emphatic assertions (Assert_Clipped_Verb) are underlined; words marking standards that the public tends to accept (Public_Values_Positive) are **bolded**; words marking insistence (Assert_Insistence) are underlined and italicized; working marking group membership with the author (Relations_Inclusive) are underlined and bolded.

the beginning of [7]. As I noted earlier, an epistemic stance of certainty towards one's claims can create a social identity of power. By repeatedly expressing a high level of confidence about his claims about "positive public values," over time, Chairman Greenspan emerges as an authority in the public realm; that is, his "office" comes to be functionally associated with a relatively stable set of linguistic choices that constitute what we recognize about his administrative authority in the Federal Reserve and FOMC.

Furthermore, linguistic features that mark insistence also tend to frequently co-occur with "positive public values" in Greenspan's speeches—for example, *necessary for* in [7] and *should* in [8]. By expressing the audience's obligation to act in certain ways—regarding what they ought to do for their *education* in [7] and for *achieving success* in [8]—Greenspan discursively enacts his administrative authority by assuming to be in the authoritative position to prescribe what the public should be obligated to do. Like Greenspan's linguistic choices for epistemic stancetaking, his insistence about these publicly-held values contribute to a register that, over time, comes to shape how his audiences view his social identity, especially in relation to the other members of the Federal Reserve and FOMC. Through the stable repetition of these insistent assertions over time, Greenspan develops a style of speaking through which he discursively constructs his social identity as the Chairman of the Federal Reserve and FOMC—his administrative authority as the representative voice.

Even in the speeches that are less overtly public, Greenspan still represents himself as *the* voice of the Federal Reserve:

- [9] In a **democratic** society such as ours, the central bank is **entrusted** by the Congress, and ultimately by the citizenry, with the tremendous responsibility of guarding the purchasing power of money. It is now generally recognized that price **stability** is a prerequisite for the **efficient** allocation of **resources in our** economy and, indeed, for **fulfilling our** ultimate mandate to promote maximum **sustainable** employment over time. But **the importance** of price **stability** has

sometimes been insufficiently appreciated **in our** central bank's history, and, as Allan Meltzer will soon point out, such episodes have had unfortunate consequences.

Far from being a bulwark of **stability** in the 1970s, the Federal Reserve conducted policies that, in the judgment of many analysts, inadvertently **contributed to** an environment of macroeconomic instability. *We should* strive to retain in **the collective** memory of **our** institution the ensuing **lessons** of that period. It may be the most fruitful and **proper** way to commemorate the events of October a quarter-century ago. (Greenspan, 2004 October 7)

In [9], Greenspan frequently uses *we* and *our*, markers of inclusive relations, which indicate that he is speaking for a larger group of people—both for the public (e.g., *our democratic society*, *our economy*) and for the Federal Reserve (e.g., *our ultimate mandate*, *our central bank's history*, *our institution*). Speaking for others builds one's authority by discursively enacting the authority to be in a position to speak for others (Kiesling, 1997). Greenspan also establishes his authority by drawing upon the institutional memory of the Federal Reserve (*the collective memory of our institution*). And, here, as with [7] and [8], we also see Greenspan taking an epistemic stance of certainty (e.g., *it is*) towards claims about “positive public values” (e.g., *entrustment*, *stability*, *efficiency*, *sustainability*). Unlike in Bernanke's speeches, with respect to Factor 1, we do not see all that much here in the way of expressing uncertainty; for example, Greenspan does not *believe* or *think* or *suspect* or *suggest* that *it might* or *it could* be “generally recognized that price stability is a prerequisite for the efficient allocation of resources in our economy.”

Nonetheless, we do find, in [9], linguistic features that seem to suggest that Greenspan is positioning himself against other claims—for example, *but* and *far from being*—and opening up dialogical space for other voices—for example, *generally recognized*, *as Allan Meltzer will soon point out*, *has sometimes been insufficiently appreciated*, *the judgment of many analysts*. In short, passage [9] seems to mark the sort of context of shared disciplinary knowledge that characterized Bernanke's speeches in Factor 1; Greenspan seems to be drawing upon discursive resources for

arguing with private, specialized others, rather than *eliding* other voices in an effort to establish himself as the sole voice and express an epistemic stance of absolute certainty. However, this is a good opportunity to reiterate that not every set of linguistic choices in a text represents a salient, relatively stable pattern within a recurring situation; in fact, the ability to distinguish an isolated linguistic occurrence from the frequent occurrence of linguistic features with which a situation is associated is part of what factor analysis—more broadly, corpus-based analysis—“buys” us.

Methodologically, factor analysis helps to identify the salient, relatively stable linguistic choices that a speaker frequently repeats in a recurring situation, meaning that, in this case, while Greenspan may use common features of argumentative discourse in particular passages, or even in particular speeches at large, these linguistic features are not salient in the gestalt of the factor; they do not frequently co-occur in Greenspan’s speeches in the broader corpus. Their presence in [9] and other parts of Greenspan’s speeches marks that, as Resche (2004) suggests, his speeches simultaneously addresses multiple audiences; yet, the fact that they are not *salient* suggests that his speeches are not directed *primarily* to an “academic” audience. I do not mean to suggest that these linguistic features are not important; however, considering that I am interested in how “the Chairman” can be understood at least in part as a discursive construct that is socially performed through a recognizable register, my focus is on discovering the features that define his register—the salient, relatively stable linguistic choices that, when frequently repeated by Greenspan over time, contribute to our impression of his social identity in the Federal Reserve and FOMC.

In excerpt [9], Greenspan implicitly claims the right to influence the FOMC’s monetary policy decisions. In this way, he is not explicitly drawing upon the institutionally-defined power that he has been granted by virtue of his formal position of authority as the Chairman; rather, he is constructing his authority—his administrative authority—by speaking as an authority in the

public, frequently combining discursive resources of publicly held values, confidence, plurality, and certainty. Greenspan's frequently co-occurring linguistic choices function to set the stage for the FOMC's "consensus" on monetary policy action—for example, decisions about the target for the federal funds rate—that is manufactured at FOMC meetings and, thus, to persuade the public to accept Greenspan's (i.e., the Chairman's) policy directives as the Fed's collective preferences. In repeatedly speaking as a member of the Federal Reserve and FOMC, Governor Bernanke also makes frequent linguistic choices towards achieving this rhetorical effect, choices through which he enacts a social identity of *cognitive* authority and, thus, implicitly complements Greenspan's public ethos by subordinating himself in the institutional hierarchy of administrative authority.

Unlike Chairman Greenspan's speeches, Governor Bernanke's speeches are significantly more "academic," with respect to Factor 2, as they were with respect to Factor 1. In this case, the "academic" nature of Bernanke's speeches is rooted in his abstract language that conveys unique meaning in the epistemological contexts of economics, finance, and related, specialized fields of knowledge. For example, the speech that Bernanke gave on February 21, 2003 begins with the following sentence⁷:

- [10] Economic growth and prosperity are created primarily by what economists call "real" factors--the productivity of the workforce, the quantity and quality of the capital stock, the availability of land and natural resources, the state of technical knowledge, and the creativity and skills of entrepreneurs and managers.
(Bernanke, 2003 February 21)

Bernanke's use of the compound nouns *economic growth*, *natural resources*, and *capital stock*, and the nouns *factors*, *workforce*, *quantity*, *quality*, *availability*, *land*, and *state* mark discourse that is linguistically abstract; they do not refer to specific, concrete instances, but, instead, they refer to generalized categories of information. Without providing specific examples to illustrate

⁷ For passage [10] and [11], abstract (i.e., non-concrete) nouns, adjectives, and adverbs that are commonly used to convey unique meaning in particular fields of knowledge (Academic_Abstract_N_AJ_AV) are underlined.

these general categories—that is, to “accommodate” (Fahnestock, 1986) or “adapt” (Penrose & Katz, 2010) them—for “public” audiences, Governor Bernanke implicitly directs his discourse to “academic” addressees and audiences who have the specialized knowledge to infer the meaning.

Another speech that exemplifies the “low” end of Factor 2 is one that Bernanke gave on April 24, 2003, from which the following excerpt is taken:

[11] My review of investment-forecasting methodology suggests several complementary ways to go about answering that question. First, one should consider the “fundamental” determinants of investment, the macroeconomic factors that determine the user cost of capital and the demand for business output. Second, one can take a more disaggregated approach and look at various sectors and types of capital to assess their potential for growth. Finally, a complete analysis requires some evidence on the views of managers and analysts about the expected profitability of new investment. Putting these pieces together, though no late-nineties type of boom seems likely, most factors point to a moderate pickup in business investment and economic growth in the second half of 2003 and in 2004. However, even putting aside the possibility of unexpected developments on the geopolitical front or elsewhere, the state of expectations among corporate leaders is an important wild card that must always be considered when forecasting investment.

The fundamental factors affecting investment are, as I have indicated, broadly supportive of continuing recovery. The user cost of capital is low and, dominated by continuing reductions in the quality-adjusted prices of high-tech equipment and historically low interest rates, will likely continue to decline. The partial expensing provision passed by the Congress in 2001 provides a significant incentive for firms to purchase equipment and certain types of software before the provision expires in the third quarter of 2004. Under the general heading of financing conditions, favorable factors include the good financial condition of the banking system, improvements in corporate liquidity, and the substantial narrowing of risk spreads in corporate bond markets (though these remain somewhat elevated by historical standards). (Bernanke, 2003 April 24)

Similarly, in excerpt [11], we find discourse that is linguistically saturated with words that refer to general categories of specialized knowledge, including (compound) nouns (e.g., *methodology*, *approach*, *analysis*, *investment*, *business output*, *developments*, *interest rates*, *prices*, *financing conditions*, *firms*, *system*), adjectives (e.g., *complementary*, *macroeconomic*, *corporate*, *general*

geopolitical), and adverbs (e.g., *broadly*). The unique and concrete meanings of these discipline-specific abstractions are conveyed only through contextual relations of specialized knowledge shared by the addressor—Governor Bernanke—and his “academic” addressees and audiences.

Bernanke’s frequent use of linguistic abstractions functions rhetorically to align himself with the “discourse community”—“[a] group of people who regularly talk to one another about a particular topic or in a particular situation” (Johnstone, 2008, p. 133)—of the Fed and FOMC. In short, Bernanke’s frequent use of abstract language “indexes” his cognitive authority. Johnstone (2008) writes: “An indexical form is a linguistic form or action which, in addition to or instead of contributing to the denotational or ‘literal’ meaning, points to and sometimes helps establish ‘social’ meaning” (p. 133). Bernanke’s frequent use of nouns, adjectives, and adverbs that refer to general categories function, in this way, as indexical forms that contribute to constructing his social membership in the Federal Reserve and FOMC. That is, by not speaking more concretely about economic and financial topics, Bernanke points to their pre-existing “literal” meaning and, in doing so, establishes a shared epistemological context through which the “social” meaning of his group membership in the Federal Reserve and FOMC—his cognitive authority—discursively emerges.

In sum, the abstract, academic nature of Governor Bernanke’s speeches marks an explicit primary purpose of transferring economic information and a specialized level of discussion in a relatively private context. I have argued that Bernanke makes these explicit linguistic choices to invent his cognitive authority, and that these micro-linguistic features (i.e., LATs) also implicitly serve to implement the rhetorical function of publicly dissociating himself from the Chairman in the institutional hierarchy of the Federal Reserve and FOMC. On the other hand, the significantly frequent omission of linguistic abstraction in Greenspan’s speeches and the co-occurrence of the

positive LATs that I discussed in detail earlier mark a relatively high social status and degree of (administrative) power, which, I suggest, Greenspan micro-linguistically invents (i.e., an *artistic* appeal to authoritative ethos) as a rhetorical means of “dictating” the FOMC’s policy decisions and, through these “consensual” decisions, enhancing the credibility of the Federal Reserve to public audiences.

Conclusion

In this chapter, I have extracted and interpreted two factors—groups of frequently co-occurring linguistic features—that explain significant linguistic differences between Governor Bernanke’s and Chairman Greenspan’s speeches, in an effort to advance the conception of ethos in the argumentative analysis of policy by understanding the discursive resources that political actors draw upon to *create* the authority by which they are publicly recognized. The underlying rhetorical function of the factors, I have suggested, contributes to a theoretical understanding of how administrative and cognitive authority are micro-discursively constructed and, in this case, how the linguistic contrast between the two types of authority functions rhetorically to dissociate the Governor’s and Chairman’s available means of policy influence in the institutional hierarchy of the Federal Reserve and FOMC. To provide further textual evidence of “the Chairman” as a discursive construct, we should examine what happens linguistically when Bernanke becomes the Chairman of the Federal Reserve in 2006.

In the next chapter, I will analyze the linguistic variation between the 42 speeches that Bernanke gave as a Governor—the ones I analyzed in the present chapter—and the 47 speeches that he gave when he became the Chairman of the Federal Reserve and FOMC. I have found that the linguistic features frequently co-occurring in his *Governor* speeches are no longer salient in

his *Chairman* speeches, and, more interestingly, the linguistic choices he makes as the Chairman are remarkably similar to those made by Chairman Greenspan. I will interpret the results of these findings as textual evidence of distinct *Governor* and *Chairman* registers, and, more broadly, that formal positions of institutional power can be understood at least in part as discursive enactments of ethos, thus blurring the traditional, Aristotelian demarcation of *non-artistic* (i.e., non-speech) and *artistic* (i.e., speech-based) appeals to ethos, and that, in addition to explicit ethotic appeals (i.e., obvious rhetorical features on the surface of a text), a speaker's invented ethos can emerge implicitly through a speaker's micro-linguistic choices.

CHAPTER 4

CHAIRMAN BERNANKE, 2006-2007: THE DISCURSIVE CONSTRUCTION OF ADMINISTRATIVE AUTHORITY AS A RHETORICAL MEANS OF POLICY INFLUENCE

In the last chapter, I analyzed the linguistic variation between the speeches by Governor Bernanke and Chairman Greenspan, while they served together as members of the U.S. Federal Reserve and the Federal Open Market Committee (FOMC)—the U.S.’s monetary policy-making committee—between 2002 and 2005. To conduct this analysis, I extracted and interpreted two factors—groups of linguistic features—that explained significant differences between the two groups of texts. Based on this analysis, I argued that Bernanke discursively constructed his role as a Governor by drawing upon linguistic resources for creating his *cognitive* authority—a means of socially indexing group membership in the Federal Reserve and FOMC, and, at the same time, a means of rhetorically subordinating his policy influence in the *administrative* hierarchy of this institutional context. That is, I have suggested that, as a Governor, Bernanke spoke in a way that contributes to how the FOMC effectively functions as an institution whose “consensual” policy decisions are based on the individual preferences of the Chairman.

In this chapter, I analyze the linguistic changes that Bernanke made when he became the Chairman of the Federal Reserve and FOMC in 2006—that is, the linguistic differences between the speeches he gave as a *Governor* and the speeches he gave as the *Chairman*. Interestingly, my findings indicate that the linguistic differences between these two groups of speeches are similar to the linguistic differences between Governor Bernanke’s and Chairman Greenspan’s speeches between 2002 and 2005, which I analyzed in the previous chapter. I take these findings as further evidence that “the Chairman” can be understood at least in part as a discursive construct that is

socially enacted through a recognizable register; in short, in becoming the Chairman, Bernanke began speaking *as the Chairman*, making linguistic choices that were significantly different than those he had made as a Governor, and, moreover, resembling those that Greenspan had made as the Chairman.

In this chapter, I continue to use factor analysis to conduct another register analysis—in this case, of the 47 speeches that *Chairman* Bernanke gave between 2006 and 2007, and the 42 speeches that he gave as a Governor between 2002 and 2005, which were part of the corpus that I analyzed in the previous chapter. In the analysis that follows, I present and analyze one factor that explains significant linguistic differences between the two groups of speeches. As the table in Figure 13 shows, the factor comprises at least five linguistic features—LATs—with salient factor loadings, or weights (i.e., above 0.4 or less than -0.4), which, according to Biber (1988), allows for a meaningful interpretation of the functional dimension underlying the factor (p. 88). In this case, although two extracted factors allow for a meaningful interpretation and can explain significant linguistic variation across the two registers, I will focus on only the one factor that is remarkably similar to the factors in the previous chapter, since the primary purpose of the present analysis is to demonstrate how the linguistic variation between Bernanke's two registers—that is, between the linguistic features associated with each of Bernanke's authoritative identities across two different situations—also explains the linguistic differences between Chairman Greenspan's and Governor Bernanke's registers.

	FACTOR 1 LAT (WEIGHT)	DEFINITION OF LAT	EXAMPLES OF LAT
+	Reason_Contingency (.780)	words marking contingently reasoned claims	<i>if, may, might, could be, can, depends on, possible</i>
	Reason_Deny_Disclaim (.569)	words marking denial of others' claims	<i>not, has not, does not, is not, cannot, neither, nor</i>
	Reason_Concessive (.530)	words marking concession to the merits of opposing claims or to the potential weaknesses of its own claims	<i>although, even if, though, admittedly, regardless of</i>
	Public_Values_Negative (.497)	words marking standards that the public tends to reject	<i>injustice, unhappiness</i>
	Academic_Abstract_Metadiscourse (.438)	words that help guide the audience through the text	<i>this paper will argue, the purpose of this article is</i>
	Academic_Citation (.408)	words marking citation of external sources	<i>according to, [author(s)] (2006), [author(s)] argues that, the argument suggests that</i>
—	Relations_Inclusive (-.586)	words marking group membership with the author	<i>we, our, all, together</i>
	Public_Values_Positive (-.474)	standards that the public tends to accept	<i>happiness, justice, freedom</i>

Figure 12. Overview of Salient Linguistic Features (i.e., LATs) in the Extracted Factor

As Figure 12 shows, the extracted factor comprises linguistic features—Language Action Types (LATs)—with positive and negative weights. To recap, “LATs” (Kaufer & Butler, 2000; Kaufer et al., 2004a; Kaufer et al., 2005; Ishizaki & Kaufer, 2012) are words or strings of words that rhetorically prime audiences to have specific types of reading or listening experiences with the text—in other words, micro-linguistic strategies that writers or speakers use to implement specific types of rhetorical effects. For example, Figure 12 indicates that, with respect to Factor 1, some of the texts in the corpus of 89 Federal Reserve speeches create the effect of reasoning on the audience; that is, the text uses patterns of words that prime the audience to experience the text as constructing and opposing claims. The question in this factor analysis is: Why do these argumentative texts also contain words indicating values that the public tends to reject and words that make audiences feel as though they are reading academic discourse, and why do the texts in

the corpus that share these linguistic features tend to omit words that express social belonging and indicate values that the public tends to champion?

This is the central question in interpreting the results of this factor analysis because, as I have discussed in previous chapters, the positive LATs—the ones at the top of the table in Figure 12—combine to mark an underlying, commonly shared rhetorical function, and texts containing words that design these types of experiences tend to omit words that create the types of audience experiences at the bottom of the table in Figure 12—the negative LATs—and vice versa. These clusters of LATs with positive and negative weights (in parentheses next to the LATs in Figure 12) form opposite ends of the functional dimension underlying the interpretation of this factor, and any given text in the corpus will fall somewhere along this spectrum; where it falls depends on the text's factor score, which is computed by adding the frequencies of the positive LATs, and then subtracting, from that sum, the frequencies of the negative LATs. Computing factor scores will allow us to analyze whether the factor can differentiate the two groups of texts into speeches given by *Governor* Bernanke and speeches given by *Chairman* Bernanke.

As I have discussed, ultimately, I am interested in analyzing linguistic *variation* because, simply put, I seek to understand whether differences in a speaker's social identity—in this case, changes in levels of recognized authority—are associated with differences in styles of speech. In this chapter, I use factor analysis as a means of examining whether Bernanke's linguistic choices are associated with his authoritative role in the Federal Reserve and FOMC—in particular, how his speeches changed when he became the Chairman of the Federal Reserve. Analyzing how his speeches are linguistically different across these two situations of varying types and degrees of authority can shed theoretical light on how a speaker's "office" can be functionally associated with a relatively stable set of linguistic choices that, when repeated by a speaker over time, can

emerge as a constitutive factor of what audiences recognize about the speaker's social identity. Methodologically, factor analysis can help an analyst systematically identify the salient choices that a speaker frequently repeats, and the results of a factor analysis can provide the analytical input for measuring the extent to which these relatively stable sets of choices are different across situations.

Interpretation of Factor 1: Academic Argumentation vs. Public Representation

As Figure 13 shows, the one extracted factor comprises LATs with positive and negative salient weights, meaning that when the LATs with positive weights—the ones at the top—occur together in the Federal Reserve speeches, the negative LATs—the ones at the bottom—do not co-occur in the speeches, and vice versa. Because the frequent co-occurrence of the positive or negative LATs marks an underlying rhetorical effect, the factor is defined by complementary rhetorical effects; that is, the more salient the “positive” effect is in the speeches, the less salient the “negative” effect is in those speeches, and vice versa. Therefore, to reiterate, the “negative” LATs do not imply a lesser level of importance than the “positive” LATs; rather, the “negative” LATs work together to mark a rhetorical effect that complements the rhetorical effect shared by the “positive” LATs, defining one of the poles of the functional spectrum along which the texts in the corpus can be plotted. A little later, I will compute factor scores and plot the texts along this spectrum in order to evaluate how well these complementary effects separate the speeches into categories of “Chairman speeches” and “Governor speeches,” but, for now, I will begin by interpreting the factor in order to understand, in the first place, what the macro-rhetorical effects are that the LATs aggregate to form.

The salient “positive” LATs in Factor 1 include words and strings of words that prime an audience to experience the Federal Reserve texts as reasoning contingently (e.g., *if, may, might, could be, can, depends on, possible*), denying others’ claims (e.g., *not, has not, does not, is not, cannot, neither, nor*), conceding to the merits of opposing claims or to the potential weaknesses of its own claims, while still reasoning against these opposing claims and towards its own claims (e.g., *although, even if, though, admittedly, regardless of*), containing standards that the general public tends to devalue (e.g., *injustice, unhappiness*), using meta-discourse, frequently found in academic writing, to help the audience navigate the text (e.g., *this paper will argue, the purpose of this article is*), and citing external sources (e.g., *according to, [author(s)] (2006), [author(s)] argues that, the argument suggests that*). These LATs frequently occur together in the Federal Reserve speeches, and when they do, the “negative” LATs in Factor 1 are frequently absent.

The salient “negative” LATs in Factor 1 include words and strings of words that prime an audience to experience a sense of group membership with the author (e.g., *we, our, all, together*), as well as words or strings of words that prime an audience to experience some Federal Reserve texts as containing standards that the general public tends to positively value and champion (e.g., *happiness, justice, freedom*). These two LATs form the opposite ends of the functional spectrum that defines Factor 1; when they frequently co-occur in the Federal Reserve speeches, the LATs at the “positive” end of the spectrum tend to co-occur significantly less frequently. In this way, the LATs at the two ends—“positive” and “negative”—mark complementary rhetorical effects; simply put, when a Federal Reserve text implements $X\%$ of the “positive” rhetorical effect, that text implements $100\% - X\%$ of the “negative” rhetorical effect. I suggest the label “Academic Argumentation vs. Public Representation” to define the complementary rhetorical effects of the functional spectrum underlying the factor.

Similar to the factor analysis in the previous chapter, the distribution of the LATs here, I argue, reflects a contextual difference between a speaker's situational position of *administrative* and *cognitive* authority. That is, I suggest that while some of the speeches are associated with a speaker's relatively higher social status in a public context, other speeches are associated with a speaker's social membership in an academic, disciplinary context. As I will specifically illustrate in a bit, the one "negative" LAT in Factor 1 marks a speaker who occupies a position of power to act as the representative voice of the public, whereas, taken together, the "positive" LATs mark a speaker who is socially engaged with private others in a context of specialized knowledge. Given the contextual power relations in the Federal Reserve and, in particular, the FOMC, as defined by the structural hierarchy of an autocratically collegial monetary policy committee, it makes sense that, in a corpus comprising *Governor* and *Chairman* speeches, we would find common markers of academic discourse frequently used in some speeches and frequently omitted in speeches that contain discursive representations of public authority.

At this point in the analysis, I have sought only to understand why the positive LATs in Factor 1 frequently occur together in the Federal Reserve speeches, and why when they occur together, the negative LATs tend to be absent, and, vice versa, why the negative LATs co-occur, and why when they co-occur, the positive LATs co-occur significantly less frequently. In order to understand how well this factor explains the linguistic differences between the two groups of speeches—*Governor* Bernanke's and, later, *Chairman* Bernanke's—we must go on to compute factor scores for each of the speeches in the corpus. In chapter two and briefly at the beginning of this chapter, I discussed how to compute factor scores. Essentially, a factor score is a text's "linguistic footprint" within a factor—in this case, whether a text is characteristic of academic argumentation more or less than it is of public representation. Figure 14 plots the factor scores

for the 89 speeches in the corpus—42 speeches that Bernanke gave as a Governor and the first 47 speeches that he gave as the Chairman. In chapter two, I discussed my rationale for including only Chairman Bernanke's first 47 speeches in the corpus.

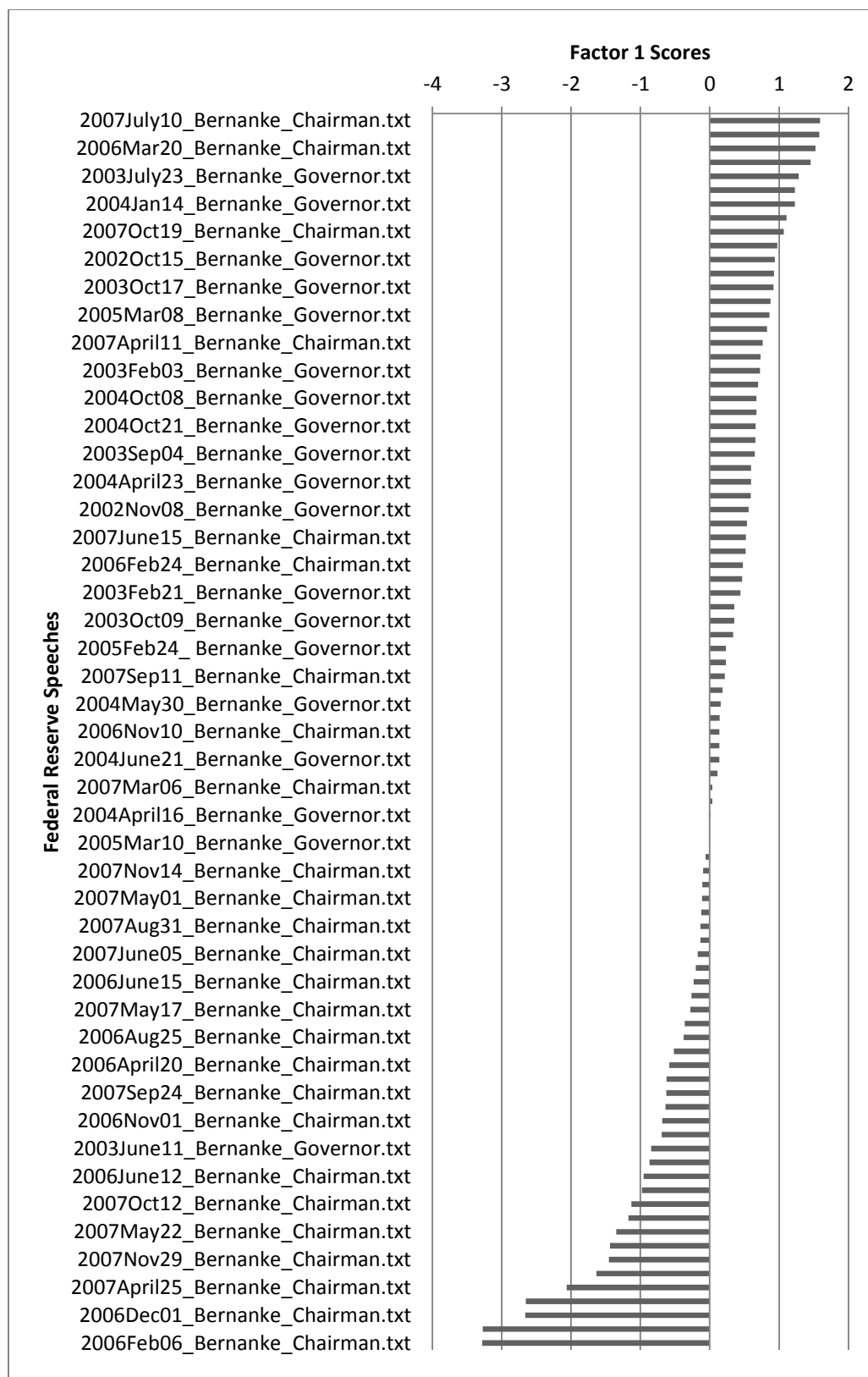


Figure 13. Factor 1 Scores for Governor Bernanke and Chairman Bernanke Speeches, 2002-2007

Figure 13 illustrates that *Governor* Bernanke's speeches cluster relatively high on Factor 1, whereas *Chairman* Bernanke's speeches cluster relatively low on Factor 1. In other words, it suggests that the LATs with positive weights in Factor 1—*contingent reasoning*, *denying claims*, *concession*, *negative public values*, *meta-discourse*, and *citation*—tend to occur together in the *Governor* Bernanke's speeches, while, at the same time, the negative LATs—*inclusive relations* and *positive public values*—tend to co-occur less frequently in his speeches, and vice versa; the negative LATs in Factor 1 tend to co-occur in *Chairman* Bernanke's speeches, while the positive LATs tend to occur together less frequently in his speeches. Using *ANOVA*, which, in this case, computes and compares the mean factor scores of all the Federal Reserve speeches in the corpus, we can verify if the visual clustering in Figure 13 can be taken to represent significant linguistic differences between the two groups of speeches. Figure 14 below reports the mean factor scores for the *Governor* and *Chairman* speeches, and a *p* value. This *p* value ($p = 0.000$) indicates that there is no chance that the observed linguistic differences between *Chairman* Bernanke's and *Governor* Bernanke's speeches are due to random error.

Analysis of Variance					
Source	DF	Adj SS	Adj MS	F-Value	P-Value
Group	1	20.14	20.1387	25.82	0.000
Error	87	67.86	0.7800		
Total	88	88.00			

Model Summary			
S	R-sq	R-sq(adj)	R-sq(pred)
0.883185	22.88%	22.00%	19.42%

Means				
Group	N	Mean	StDev	95% CI
Bernanke (Chair)	47	-0.450	1.101	(-0.706, -0.194)
Bernanke (Governor)	42	0.5032	0.5426	(0.2323, 0.7741)

Pooled StDev = 0.883185

Figure 14. Analysis of Variance (ANOVA) Computed in Minitab

At the very least, the *ANOVA* in Figure 14 suggests that, in becoming the Chairman of the Federal Reserve, Bernanke significantly changed how he socially interacted with the public and the other members of the Federal Reserve. Moreover, though, the linguistic features contrasting the speeches that Bernanke gave as the Chairman from the speeches that he gave as a Governor are remarkably similar to the linguistic features differentiating his Governor speeches from the speeches that Chairman Greenspan gave. I take these linguistic similarities to indicate that not only did Bernanke begin speaking differently as the Chairman, but that he began speaking *as a Chairman*; that is, he adopted a Chairman register—a relative stable style of speech associated with his new social identity. Of course, one could imagine that there are other contextual factors at play in explaining why Bernanke began making different linguistic choices as the Chairman, but, against the backdrop of the factor analysis and *ANOVA* in the previous chapter, the present factor analysis and *ANOVA* seem to suggest that the linguistic differences are largely associated with Bernanke's difference in social identities across the two situations. Consider the following difference, for example.

As I briefly discussed in the first chapter, perhaps the most salient difference between his two groups of speeches is that, in speaking as the Chairman, Bernanke no longer asserted that his *comments, remarks, opinions, or views* reflect or represent *his own* thoughts. Repeated over time in Governor Bernanke's speeches, and omitted in Chairman Greenspan's, these statements come to be linguistically associated with Bernanke's role as a Governor, and their absence comes to be associated with Greenspan's role as the Chairman. Therefore, given these established patterns of association, when Bernanke began leaving these statements behind, he was socially enacting his new position as the Chairman, omitting discursive resources that he had frequently used to enact his subordinate role as a Governor. As I explained in the previous chapter, these statements were

put together by combining micro-linguistic choices that mark citation (e.g., *remarks, comments*) and denial (e.g., *do not*). By frequently omitting these LATs as the Chairman, Bernanke implies the holistic rhetorical effect that, now, his preferences *do* (or, at least when it comes time to vote on policy decisions, *will*) reflect or represent those of his colleagues at the Federal Reserve and FOMC. As I will explain in a bit, Chairman Bernanke also makes linguistic choices to *explicitly* enact his vested power to make decisions on behalf of the Federal Reserve and for the public—in short, his administrative authority within the institutional context of the Federal Reserve.

In addition, as the Chairman, Bernanke made significantly fewer linguistic choices of the sort that he had frequently made as a Governor to directly address and socially align himself with the “discourse community” of the Federal Reserve and FOMC. The following passages are from a speech that is “high” on Factor 1—in other words, that contains prototypical linguistic features on the textual surface of speeches that *Governor* Bernanke gave⁸:

[12] In this particular episode, the risk of doing too little appeared to exceed the risk of doing too much, and the FOMC undertook a relatively aggressive strategy of rate cuts, as I mentioned in the introduction. Similar considerations presumably played a role during the 1994-95 tightening cycle, when concerns that **inflation** might rise significantly induced a relatively more rapid tightening. Indeed, interesting research by Ulf Söderström (2002) has shown that uncertainty about the persistence of **inflation** should induce more aggressive policies. For example, **if** policymakers are worried that **inflation may be** difficult to control once it is “out of the bottle,” so to speak, a more preemptive approach to controlling **inflation may be** justified. (Bernanke, 2004 May 20)

[13] ALTHOUGH we can draw no general conclusions about the effects of policymakers' uncertainty on the pace of policy adjustment, empirical studies and simulations of realistic economic models suggest that, normally, relatively gradual policy adjustment produces better results in an uncertain economic

⁸ For passages [12]-[15], words that help guide the audience through the text (Academic_Abstract_Metadiscourse) are underlined; words marking standards that the public tends to reject (Public_Values_Negative) are **bolded**; words marking citation of sources (Academic_Citation) are underlined and italicized; words marking contingently reasoned claims (Reason_Contingency) are **underlined and bolded**; words marking concession to the merits of opposing claims or to the potential weaknesses of its own claims (Reason_Concessive) are UNDERLINED AND UPPERCASE; words marking denial of others' claims (Reason_Deny_Disclaim) are **BOLDED AND UPPERCASE**.

environment (*Sack, 1998, 2000; Rudebusch, 2001; Söderström, 2002; Orphanides, 2003*). In practice, then, a desire on the part of policymakers to be conservative in the face of many different forms of uncertainty is **probably** an important reason for gradualism in monetary policy. (Bernanke, 2004 May 20)

- [14] Specifically, by leading market participants to anticipate that changes in the policy rate will be followed by further changes in the same direction, policy gradualism **may** increase the ability of the Fed to affect long-term rates and thus influence economic behavior. (Bernanke, 2004 May 20)
- [15] Of course, gradualism is not the only approach that **might be** used to try to increase the FOMC's influence on long-term rates. Cold turkey policies would also likely lead to a strong response of long-term rates to changes in the funds rate, because under this approach changes in the funds rate **could be** presumed to be long lasting. However, theoretical analyses have tended to show that, in models in which financial-market participants are assumed to be forward-looking, optimal monetary policies generally involve some degree of gradualism (*Woodford, 2000, 2003*). One advantage of the gradualist approach in this context is that **it can** provide a powerful lever on long-term rates with relatively modest volatility in short-term rates. Less variable short-term rates reduce the risk that the policy rate will hit the zero lower bound on interest rates; they **may** also reduce stress in the financial system, as I will discuss shortly. More subtly, *Woodford (2000) has also shown* in theoretical models that purely forward-looking policies such as the cold turkey approach **may NOT BE** consistent with the existence of a rational expectations equilibrium in the economy. In practical terms, *Woodford's result suggests that* such policies **may** lead to excessive volatility in expectations and hence in financial markets. (Bernanke, 2004 May 20)

As I discussed in the previous chapter, many of the linguistic features that are frequently found in Governor Bernanke's speeches mark a register of "academic" discourse, including the use of citations, meta-discourse, and epistemic stancetaking—defining features of academic discursive practices (Hyland, 2004). I argue that Bernanke enacted his role as a Fed Governor by frequently drawing upon these sorts of discursive practices as a means of constructing his expert identity as a member of the Federal Reserve and FOMC, and, thus, as a means of equipping the Chairman with the available resources to discursively construct and, moreover, contrast his public identity.

As I have discussed, of central importance in academic discourse is for writers to situate their claims within a community-based context of knowledge. To explicitly define this context,

academic writers frequently cite others—for example, *research by Ulf Söderström (2002) has shown that* in [12], *empirical studies and simulations of realistic economic models suggest that* and in (*Sack, 1998, 2000; Rudebusch, 2001; Söderström, 2002; Orphanides, 2003*) in [13], and (*Woodford, 2000, 2003*), *Woodford (2000) has also shown that*, and *Woodford's result suggests that* in [15]. Citations can, of course, indicate specifically those with whom a writer or speaker is directly engaged, but, in doing so, they can also construct the writer or speaker as a member of the particular discipline with which the cited works are associated (Scollon, 1994). In this way, citations can be understood as contributing to constructing an expert identity—one's cognitive authority—by displaying a writer or speaker as a knowledgeable member of a discipline.

Along with citation, academic writing is frequently marked by the use of meta-discourse (Hyland, 2004)—sometimes referred to as “talk about talk” or “discourse about discourse.” The meta-discursive practices in Governor Bernanke's texts—for instance, *as I mentioned* and *so to speak* in [12], *specifically* in [14], and *as I will discuss shortly* in [15]—not only help to organize the structure of his speeches and to facilitate the listening process, but they indicate interactions with particular groups of listeners. As Hyland (2004) suggests, meta-discourse “is integral to the contexts in which it occurs and is intimately linked to the norms and expectations of particular cultural and professional communities” (p. 110). In other words, the use of meta-discourse, like the use of citation practices, can function to align a speaker or writer with a particular discourse community by displaying knowledge of that community's social conventions. In this case, we might understand Governor Bernanke's meta-discursive practices as expressing his interactivity with the other members of the Federal Reserve and FOMC.

As Hyland (2004) further notes, meta-discourse can function as a means of “negotiating a particular relationship with the [audience] to display professional status and expertise” (p. 110).

That is, meta-discourse can function not only to situate a speaker or writer within the context of a particular community, but, at the same time, it can contribute to establishing the expert identity of that speaker or writer, both within and outside of that social context. Like his use of citations, Bernanke's use of meta-discursive patterns creates the appearance that he knows how to socially operate as a member of the Federal Reserve and FOMC. While functioning to help construct his expert identity—his ethos of cognitive authority—in the epistemological context of the Federal Reserve and FOMC, his meta-discursive practices can also be seen as operating simultaneously to dissociate himself from public life—the authoritative position of the Chairman. By deploying such discursive resources, Governor Bernanke indicates to the public more generally—the ones who will be affected by the Federal Reserve's policy actions—that he is discursively operating within a private context of deliberation and that, therefore, they should not take what he has to say to publicly represent the Federal Reserve and FOMC at large.

While the stancemaking moves that Governor Bernanke frequently makes in his speeches contribute generally to his “academic” register, the particular stancetaking moves that Governor Bernanke repeats over time and, thus, with which his social identity as a Fed Governor comes to be associated indicate a level of uncertainty towards his claims. Modal auxiliary verbs like *might* in [12], *may (be)* in [13], [14], and [15], and *could be* in [15], and modal adjuncts like *probably* in [13] can function as discursive resources that writers deploy to acknowledge and make room for alternative voices. Martin and White (2005) refer to such locutions broadly as “dialogically expansive” because they allow for other possibilities. They refer to these particular instances of dialogical expansion more specifically as locutions through which the authorial voice—in this case, Governor Bernanke—“entertains” alternative possibilities to its propositions by explicitly presenting its position as one among these others. In entertaining alternatives to its own position,

in many cases, the speaker can be understood as indicating that his or her knowledge regarding the propositions should not be taken as that of absolute certainty, but rather as contingent and subjective.

In the case of the Federal Reserve, Governor Bernanke's use of modalized propositions functions in the same way as when he explicitly states that his comments, remarks, opinions, or views represent his own thoughts and are not to be understood as representing those of the other members of the Federal Reserve and FOMC. In entertaining alternatives to his propositions—for example, to whether *a desire on the part of policymakers to be conservative in the face of many different forms of uncertainty is an important reason for gradualism in monetary policy* [13], or to whether *policy gradualism will increase the ability of the Fed to affect long-term rates and thus influence economic behavior* [14], or to whether *less variable short-term rates also reduce stress in the financial system* [15]—Bernanke indicates that the positions he represents through his propositions are among other potential positions. In doing so, Bernanke creates deliberative space for the Chairman's voice to implicitly emerge as the authorial representation of the Federal Reserve and FOMC. Epistemically, by indicating a lack of certainty in his propositions, he marks his social status within the contextual power structure of the Federal Reserve, showing deference to the Chairman's vested position of authority within the autocratically-collegial monetary policy structure of the FOMC.

Similarly, as we can see in [12], for example, Governor Bernanke's speeches are marked by contingent support for his claims—if *policymakers are worried that inflation may be difficult to control*, then, he claims, *a more preemptive approach to controlling inflation may be justified*. The use of *if* suggests that the premise upon which the claim is based is not certain to hold; that is, policymakers might *not* be worried about controlling inflation. Here, Bernanke expresses his

lack of confidence in the truth of the claim not only through the modal auxiliary *may be* in both the premise and the claim, but also through the contingency of the premise; if the premise does not hold, then we no longer have a reason to believe that the claim is true. Similar to how modal auxiliaries indicate Bernanke's epistemic stance towards his claims and create deliberative space for alternative possibilities, markers of contingency reserve room for doubting the propositional content of Bernanke's speeches and, at the same time, dialogically expand the deliberative space within which the FOMC makes monetary policy decisions—in particular, discursively allowing the Chairman's authority to emerge as a rhetorical basis for effective policymaking.

Together with citing others, using meta-discourse, taking an epistemic stance, or attitude, of uncertainty towards his claims, and reasoning contingently towards his claims, we frequently find markers of concession on the textual surface of Governor Bernanke's speeches. Concession is another way in which writers or speakers acknowledge alternative viewpoints as they argue for their own perspectives. For example, *although*, as we see in [13] above, is a common marker of concession. In general, it functions to acknowledge that there are opposing positions available—that is, that there are alternative perspectives vying to have their voices heard and the merits of their viewpoints recognized. In [13], Governor Bernanke uses *although* to acknowledge a way in which one might oppose the viewpoint that *relatively gradual policy adjustment produces better results in an uncertain environment*. By explicitly recognizing where alternative viewpoints may have merit—we can draw no general conclusions about the effects of policymakers' uncertainty on the pace of policy adjustment—Bernanke hedges about the certainty of what he supports and also, as an expression of interactivity, marks the epistemological context in which he is socially engaged—namely, the voices of private, specialized others.

As I discussed in the previous chapter, Governor Bernanke's speeches contained far more references to central monetary policy topics than Chairman Greenspan's speeches did, between 2002 and 2005. I suggested that because many of these topics—for example, *unemployment* and *inflation*—are viewed negatively by the public, the Chairman frequently omitted them from his public speeches as a means of maintaining his credibility in public life—that is, his authority to make decisions that will lead the economy in a positive direction. By focusing on such “negative values,” the public might infer that the economy is not doing well and that, therefore, they should question the administrative authority of the Chairman. The same linguistic variation holds in the present case: Governor Bernanke's speeches contain many more of these “negative values” than his speeches as the Chairman. Interestingly, as I will discuss more in a bit, *Chairman* Bernanke's speeches, as with Chairman's Greenspan's, frequently focused, instead, on values that the public tends to accept.

Through combining “academic” discursive resources of citations, meta-discourse, and an epistemic stance (of uncertainty), along with contingent and concessive reasoning, and negative values, Governor Bernanke, I argue, created the holistic rhetorical effect of establishing an expert identity within the private, publicly-removed epistemological context of the Federal Reserve and FOMC. In other words, working in concert, these micro-linguistic choices functioned in common to publicly indicate his social belonging to this “democratic” policymaking institution, while, at the same time, furnishing the Chairman with the available *artistic* means to invent the ethos of authority upon which the Chairman of the Federal Reserve “dictates” the FOMC's decisions on monetary policy. In this way, the Federal Reserve uses its public deliberation as an opportunity to reconcile the “undemocratic” nature of the FOMC's autocratically collegial structure with the democratic society in which it operates; that is, it uses the discursive space of public speeches to

rhetorically prime the public to accept the “consensual” monetary policy decisions that emerge from FOMC meetings, since, rightfully so, these decisions are based on the preferences of the member who, through discourse, appears to know what is best for the public.

When Bernanke was appointed to be the Chairman of the Federal Reserve in 2006, the features that linguistically characterized the speeches that he gave as a Governor, between 2002 and 2005, are no longer salient. Perhaps most saliently on the textual surface, we can see that he cites others significantly less frequently as the Chairman. The elision of his citation practices can be understood as marking a rhetorical shift from a private to a public context of discourse. Given that citations explicitly reference those with whom a writer is directly engaged—the perspectives that writers draw upon to support or position themselves against—and, thus, define a context of shared disciplinary knowledge, omitting citations is associated with a contextual change to more general audiences and a lesser extent of shared specialized knowledge with them. Simply put, the significantly fewer citations in Chairman Bernanke’s speeches suggest that, as the Chairman, his speeches became more “public.” More broadly, the lack of citations, meta-discourse, epistemic uncertainty, contingent and concessive reasoning, and negative values linguistically mark a shift in context—in particular, of the speaker’s social identity of authority. In becoming the Chairman, Bernanke speaks *as the Chairman*, discursively enacting the *administrative* authority to “dictate” monetary policy decisions that intimately affect the lives and well-being of the American public, leaving behind the constellation of choices that he had frequently made to discursively construct an ethos of *cognitive* authority in the “academic” context of the Federal Reserve and FOMC.

In becoming the Chairman, Bernanke also discursively constructs his authority *explicitly*, in addition to implying it through the absence of linguistic choices that he had frequently made as a Governor. One of the linguistic features that recurrently distinguished Governor Bernanke’s

speeches from Greenspan's between 2002 and 2005 was that Greenspan used significantly more markers of inclusive relations, which indicated that he was speaking for a larger group of people, and, in doing so, discursively enacting his authority by claiming to be in a position of power to speak for others. However, Chairman Bernanke's speeches are much more inclusive, in the way that Greenspan's were, than his speeches were as a Governor. As the Chairman, Bernanke began drawing upon the same discursive resource of speaking as the authoritative voice of the Federal Reserve that Greenspan had for transforming his personal preferences for policy actions into the "consensual" policy directives that would emerge from FOMC meetings as majority votes. That is, Bernanke began discursively enacting the Chairman's administrative authority—his power to make decisions, on behalf of the Federal Reserve, that intimately affect members of the public.

Interestingly, the speech that most exemplifies the "low" end of Factor 1—the pole that defines Chairman Bernanke's speeches—is the first speech that Bernanke gave as the Chairman. Bernanke's first term as the Chairman began on February 1, 2006, and his speech on February 6, 2006 is saliently marked by linguistic features of inclusive relations with both the public and the other members of the Federal Reserve, as well as values in which the public tends to believe. The following are excerpts from this speech⁹:

[16] I would like to begin by thanking President Bush for the confidence he has placed in me and for attending this ceremony. Today marks only the third visit of a President to the Federal Reserve. Franklin D. Roosevelt dedicated this building in 1937 and Gerald R. Ford visited in 1975. Mr. President, you do **us** a great honor. (Bernanke, 2006 February 6)

[17] Members of the President's economic team and the heads of the federal financial regulatory agencies have also joined **us** this morning. I have greatly enjoyed collaborating with many of you during my time in Washington, and I look forward to working with you in the future. Thank you for coming. (Bernanke, 2006 February 6)

⁹ For passages [16]-[20], words marking standards that the public tends to accept (Public_Values_Positive) are underlined; words marking group membership with the author are **bolded**.

[18] Former chairmen Paul Volcker and Alan Greenspan also honor us with their attendance. Their leadership and insight have contributed immeasurably to the strength and stability of **our** economy. **The nation** and **the world** owe a debt of gratitude to these two great Americans. (Bernanke, 2006 February 6)

[19] That these distinguished guests have chosen to join **us** today is a testament to the centrality of **this institution** to **the nation's** economic life. **Our** mission, as set forth by the Congress, is a critical one: to preserve price stability, to foster maximum sustainable growth in output and employment, and to promote a stable and efficient financial system that serves all Americans well and fairly. In his remarks in this building in 1937, President Roosevelt described as **our** purpose "to gain for all of **our** people the greatest attainable measure of economic well-being, the largest degree of economic security and stability." (Bernanke, 2006 February 6)

[20] To my Board colleagues and to the staff here today, I would like to say thank you for your service to your **country** and to **the world**. I am happy to be back among you and look forward to working with you in the days and years ahead. **Together** I am confident that **we** will meet whatever challenges the future may bring. (Bernanke, 2006 February 6)

In these passages, Bernanke draws upon discursive resources for speaking on behalf of others—*us, our, the nation, the world, this institution, country, together, we*. In doing so, he linguistically represents himself to be in a position of authority to speak for others—for both the members of Federal Reserve and the general public.

In all the above passages, Bernanke speaks on behalf of the Federal Reserve—*us* in [16], [17], [18], and [19], *this institution* in [18], *our mission* in [19], *our purpose* in [19], *together* in [20], and *we* in [20]. Such markers of inclusive relations, which we frequently find in Chairman Bernanke's speeches, create the audience experience that Bernanke's colleagues on the Federal Reserve Board are part of the group of which Bernanke speaks on behalf. In contrast, *Governor* Bernanke explicitly states that his views are only his own. Whereas *Governor* Bernanke speaks on behalf of himself, *Chairman* Bernanke speaks for a plurality of voices at the Federal Reserve; that is, while *Governor* Bernanke discursively dissociates himself from the Chairman's vested power to publicly represent the Federal Reserve, *Chairman* Bernanke lays claim to speak as the

institutional authority. This linguistic contrast between Bernanke's speeches as a *Governor* and as the *Chairman* suggests that the Chairman *discursively constructs* a position of authority that, traditionally, has been understood as a byproduct of a speaker's *non-artistic* ethos—the authority that a speaker *uses* by virtue of a socially recognized position of power, rather than *invents* in the rhetorical situation.

In speaking as the authoritative voice of the Federal Reserve, Chairman Bernanke further creates his *administrative* authority by situating his institutional authority within public life. For example, in [18], he speaks on behalf of *the nation* and *the world* in claiming that *the nation and the world owe a debt of gratitude to these two great Americans*. Essentially, he has taken it upon himself to express how the public at large feels towards former Federal Reserve Chairmen Paul Volcker and Alan Greenspan; in doing so, he claims the authoritative right to speak as the voice of the public. In [19], again, he speaks on behalf of *the nation*, and, in [20], once more, he speaks on behalf of *the world*, and also on behalf of the *country*, thanking Volcker and Greenspan for their service. By speaking on behalf of these public institutions, he constructs his administrative authority by discursively fashioning himself to be the representative spokesperson of the public at large. The textual surfaces of the passages above are not saturated with linguistic markers of an “academic” context of specialized knowledge that is shared by private others—for example, the citations and meta-discourse that we frequently find in Bernanke's speeches as a Governor; rather, they are dense with linguistic patterns that mark an interactive relationship with a public audience.

Furthermore, together with using linguistic markers of inclusive relations to discursively position himself to speak on behalf of public others, Chairman Bernanke situates himself within public life by focusing on values that the public tends to uphold. As I discussed, as a Governor,

Bernanke's speeches contained "negative values" that frequently co-occurred with markers of an "academic" register, but, in contrast, as the Chairman, these "negative values" are significantly absent, replaced with salient "positive values." As I discussed in the previous chapter, the same variation holds between Chairman Greenspan's speeches and Governor Bernanke's: Chairman Greenspan's speeches contained significantly more "positive values" than Governor Bernanke's, while Governor Bernanke's speeches used significantly more "negative values" than Chairman Greenspan's. By focusing on, for instance, *confidence* and *honor* in [16], *working with others* in [17], *insight* and *stability* in [18], *sustainability*, *efficiency*, *fairness*, *attainability*, *well-being*, and *security* in [19], and Bernanke's *colleagues* and their *service* in [20], Chairman Bernanke marks the contextual transition into his new role of authority—his *administrative* authority as a public policy maker. By reinforcing a shared set of positive values, Bernanke situates himself in public life and primes the public to "buy into" his policy preferences as the "consensual" basis for the FOMC's monetary policy decisions.

Working together, the linguistic markers of inclusive relations and positive public values in Chairman Bernanke's speeches contribute to constructing a speaker who has the authoritative right to represent the Federal Reserve in making decisions that affect the interests of the public; that is, these discursive resources serve the common function of marking the position of power by which Bernanke—more broadly, the Chairman—is recognized in the institutional context of the Federal Reserve and FOMC. By frequently using micro-linguistic choices marking inclusion and positive public values, Chairman Bernanke discursively enacts the administrative authority that, without probing the textual surface of his speeches for their latent ethotic appeals, may, at first, appear merely as *non-artistic* ethos—institutional authority that exists prior to and outside of discourse—that he uses to "dictate" policy decisions, rather than *artistic* ethos—authority that

emerges through discourse—that he invents through public deliberation to prepare the public for the “consensual” policy outcomes of FOMC meetings. Furthermore, by not speaking in this way as a Governor, the linguistic variation between Bernanke’s *Chairman* and *Governor* speeches, I suggest, is functionally associated with the contextual differences in Bernanke’s social identity across the two situations in which he speaks as a member of the Federal Reserve and FOMC.

Conclusion

In this chapter, I have conducted a register analysis of 89 Federal Reserve speeches given by Ben Bernanke—42 speeches that he gave as a *Governor*, and 47 speeches that he gave as the *Chairman*. In particular, I have extracted and interpreted a factor—a group of linguistic features that frequently co-occur—that not only explains significant linguistic differences between these two groups of speeches, but that reflects similar lines of variation between Governor Bernanke’s speeches and Chairman Greenspan’s speeches, when they served on the Federal Reserve together between 2002 and 2005. I take the findings presented in this chapter to further support the notion that “the Chairman” can be conceptualized at least in part as a discursive construct; that is, more broadly, a speaker’s register—the relatively stable set of linguistic choices that a speaker makes in a recurring situation—contributes to forming the social identity of authority that we recognize about a speaker. In the case of the Federal Reserve, the Chairman is not merely vested with the institutional power to “dictate” the group’s policy decisions; rather, the Chairman draws upon a set of discursive resources to perform his ethos of administrative authority—his policy-making influence in the institutional context of other social actors.

This case study has theoretical implications on the traditional boundaries between *artistic* and *non-artistic* conceptions of ethos, the broader distinction between a text and its context, and

the relationship between rhetorical appeals to *ethos* and *logos*. In the next and final chapter, I will discuss these implications and the contribution that this dissertation seeks to make to scholarship on rhetorical studies, public policy, and the Federal Reserve. Finally, in the following chapter, I will also discuss some directions for building on this case study in order to more robustly realize the implications and contributions of this dissertation through future work.

CHAPTER 5

CONCLUSION: IMPLICATIONS AND FUTURE WORK

In this dissertation, I have explored the role that discourse plays in shaping the authority by which we recognize social actors in formal positions of institutional power. As a case study, I have analyzed a corpus of 142 speeches given by members of the United States Federal Reserve, drawing upon *register analysis* to examine the extent to which the social identities of a *Governor* and the *Chairman* are associated with repeated and different sets of linguistic choices. Based on the analysis, I have argued that, in becoming the Chairman of the Federal Reserve, Ben Bernanke began speaking *as the Chairman*, making linguistic choices that were significantly different than those that he had made as a Governor, but that resembled those that Alan Greenspan had made as the Chairman. In short, this analysis suggests that “the Chairman” is not merely a formal position of institutional power that is *used* for “dictating” policy decisions; it is also discursively *invented* through a relatively stable set of linguistic choices that, when frequently repeated over time, can come to constitute what we recognize about the Chairman’s authority in the institutional context of the Federal Reserve. In this chapter, I discuss several implications of this case study and some possible ways in which these implications can be further researched through expanding this case study in future work.

Implication: Administrative Authority as an Artistic Influence on Ethos

For one, this case study implies that the traditional, theoretical boundaries that separate *artistic* (i.e., discourse-based) and *non-artistic* (i.e., non-discourse) influences on ethos may not be as clear-cut as they are traditionally presumed to be. To recap, Kennedy (2007) suggests that

Aristotle would consider the authority that a speaker possesses by virtue of a formal position in an institution to be among the *atechnic pisteis*, or *non-artistic proofs*—means of persuasion that the speaker *uses*, rather than *invents*, in the present rhetorical situation. Traditionally, this ethos is thought to preexist the discourse; the speaker does not provide this ethos discursively, but, rather, carries it into the present rhetorical situation. As such, this type of ethos is sometimes referred to as “prediscursive” (Maingueneau, 1999), and it seems to have precedence in how *argumentative policy analysis* (e.g., Gottweis, 2007) approaches the analysis of ethos in deliberative arguments.

While more recent scholarship acknowledges the role that non-artistic influences have on ethos (e.g., Amossy, 2001; Baumlin & Baumlin, 2004; Hyde, 2004), institutional power seems to remain external to an artistic conception of ethos. In summary of this scholarship, Cheng (2012) writes that

in practice, it is difficult to bracket non-artistic influences on *ethos*; rather, *ethos* results from negotiations between the discourse and factors outside the immediate rhetorical situation, such as prior reputation, social roles, and institutional power.
(p. 428)

In *On Rhetoric*, Aristotle seems to exclude such “outside factors” from the conception of ethos with which the domain of rhetorical inquiry should be concerned (2007: 1.2.4). Although more recent scholarship brings these factors into the rhetorical domain and, thus, calls attention to the role they play in constituting ethos, it seems to maintain the traditional distinction between the *artistic* qualities of ethos and the *non-artistic* influence of a speaker’s authority.

However, this case study suggests that a speaker’s authority could also be understood to be among the *etechnic pisteis*, or *artistic proofs*—means of persuasion that develop in discourse and emerge out of the rhetorical situation. Therefore, if a speaker’s authority is a persuasive type

of ethos in modern discourse (Crowley & Hawhee, 2004, p. 176) and can be a form of “oratorical ethos” (Perelman & Olbrechts-Tyteca), or “invented ethos” (Crowley & Hawhee, 2004), then, by assuming the classical distinction between *speech-based* and *non-speech* ethos, an analyst could easily overlook the ways in which authority persuades in modern rhetorical situations. That is, by approaching modern discourse with such a theoretical framework, we might mistake a speaker’s *artistic* ethos for what appears to be *non-artistic* ethos. While, typically, the office of the Federal Reserve Chairman may be understood as a non-artistic influence, this case study suggests a more robust understanding of how ethos functions as an important means of persuasion in deliberative rhetoric. Without such an understanding, we may also fail to fully understand how rhetoric can contribute to the effective functioning of authority-based institutions.

Implication: The Effective Implementation of Policy in a Democratic Society

In a speech on November 14, 2007, former Chairman Ben Bernanke reasons that, in order for the Federal Reserve to make effective monetary policy, they must communicate well with the public:

Most importantly, monetary policy makers are public servants whose decisions affect the life of every citizen; consequently, in a democratic society, they have a responsibility to give the people and their elected representatives a full and compelling rationale for the decisions they make. Good communications are a prerequisite if central banks are to maintain the democratic legitimacy and independence that are essential to sound monetary policy making. (Bernanke, 2007 November 14)

Bernanke suggests that communicating well with the public is necessary for the Federal Reserve to be able to legitimize itself as a policy-making institution in a democracy society; in particular, the policy makers of the Federal Reserve must publicly communicate their justification for what policies they decided. We can infer that, due to the Federal Reserve's monetary policy committee structure, communicating this justification also involves providing the public with a rationale for why the decisions that the Federal Reserve makes are based on the individual policy preferences of the Chairman, even if the policy makers communicate this rationale implicitly.

This case sheds light on the ways that deliberative rhetoric can function to “democratize” a United States institution whose philosophy for effective policy making is based in part on the “undemocratic” assumption that, when the time comes to vote on policy actions, the Chairman's preferences should “dictate” the group's policy decisions. As I have discussed, the Federal Open Market Committee (FOMC)—the Federal Reserve's monetary policy committee—operates as an “autocratically-collegial” committee (Blinder, 2007), which manufactures “consensus” among its twelve members in order, as Shapin (1995) would suggest, to enhance the credibility, or ethos, of the FOMC with the public. By assuming that the Chairman merely *adopts* the formal position of authority granted to him in an autocratically-collegial committee structure and *uses* his office of power to override the preferences of the other members, we would fail to closely investigate the discourse leading up to policy decisions and, in turn, fail to understand the constitutive role that it plays in *inventing* the authority by which the Chairman influence's the group's policy actions.

Through the Chairman's and Governor's *artistic* (i.e., discourse-based) appeals to their respective roles of *administrative* and *cognitive* authority, the Federal Reserve is able to orient the group's “consensus” to the member who appears to know what the best course of action for the public is—the Chairman. That is, this case study suggests that, by discursively constructing

the Chairman's ethos of administrative authority, the Federal Reserve justifies to the public the way that the FOMC closes ranks and unites around the Chairman's policy preferences when the time comes to vote on future courses of policy action. The rhetorical space of public deliberation affords the members of the Federal Reserve the opportunity to invent the institutional hierarchy by which the FOMC manufactures group "consensus," inspires confidence with the public, and, ultimately, effectively implements monetary policy. In this rhetorical way, the Federal Reserve is able to reconcile the FOMC's "undemocratic" approach to making and communicating its policy decisions—that is, the apparent "dictatorial" spirit of its autocratically-collegial monetary policy committee—with the democratic society in which it seeks to effectively implement policy.

Implication: The "Contextualization" of Institutional Power

Following from the first implication that I discussed, this case study also implies, more broadly, that the line constituting the dichotomy of *text* and *context* might not be so straight and narrow (e.g., Andrus, 2011). Perelman and Olbrechts-Tyteca (1969) suggest: "The office of the speaker ... forms a context which has an undeniable influence" (p. 319). While the office of the speaker might appear to be an *a priori* aspect of the social situation surrounding a text, this case gives way to a more robust understanding; namely, we might better understand the office of the speaker in terms of "contextualization" (Cook-Gumperz & Gumperz, 1976) rather than *context*. As Bauman and Briggs (1990) put it, "communicative contexts are not dictated by the social and physical environment but emerge in negotiations between participants in social interactions" (p. 68). This distinction between *contextualization* and *context* draws attention to the social process whereby contexts are *textually* produced. This case illustrates that, in an ongoing series of public deliberation, the Chairman's office of power both forms a context and (at least in part) is formed

by texts—speeches by Governors and the Chairman of the Federal Reserve. Therefore, we might say that it is the *contextualization* of the office of the speaker that has an undeniable influence.

As I suggested more specifically earlier, by assuming clear-cut boundaries separating the *contextual* and *textual* influences on an audience, we would fail to examine texts for the role they play in constructing their social environments. This case highlights that “it is necessary to study the textual details that illuminate the manner in which participants are collectively constructing the world around them” (Bauman & Briggs, 1990, p. 69). Specifically, this case studied speeches by members of the Federal Reserve and, I suggest, illuminates how the institutional participants collectively construct the offices of power by which we publicly recognize their levels of social influence. If a rhetorical approach to studying policy making suggests that the participants’ texts have contributed to forming the context of their offices, then we might consider working such a discursive element into our conception of public policies. Recall Cochran and Malone’s (2009) conception of public policies as “purposeful decisions made by authoritative actors, recognized because of their formal position, as having the responsibility for making binding choices among goals and alternatives for the society” (p. 11). We might consider mentioning, for example, that these decisions are made by authoritative actors who are sometimes recognized because of their *styles of speaking*.

Implication: Authority as an Invented Appeal to Ethos in Deliberative Rhetoric

If authoritative actors are also recognized because of their *registers*, then authority is not merely *appealed to* as a premise in argumentation, but can be, first, *discursively constructed*. As Miller (2003) points out, “Achieving credibility with another expert group ... requires rhetorical resources different from those that succeed with the public” (p. 193). In other words, not only is

authoritative ethos discursively *invented* as a rhetorical appeal, but the resources for inventing an ethotic appeal to *cognitive* authority are linguistically different than those for inventing an ethotic appeal to *administrative* authority. However, the roles of administrative and cognitive authority in argumentation seem to be studied primarily in the social context of “argumentation schemes” (e.g., Walton et al., 2008), rather than as appeals to ethos in deliberative rhetoric. As a scheme—a structure of inferring a claim from premises—the appeal to authority, sometimes referred to as the *argumentum ad verecundiam*, uses the opinion of someone in a recognized position of power (*administrative* authority), or someone who is considered to be expert in a domain of knowledge (*cognitive* authority), to support one’s conclusion. In contrast, as an appeal to ethos, a speaker or writer draws upon or creates *personal* authority as a means of appearing credible to an audience.

This case study examines administrative and cognitive authority as rhetorical appeals to ethos and, in particular, highlights some linguistic differences between the discursive resources that a *Governor* of the Federal Reserve uses to construct a social identity of expertise and those that the *Chairman* uses to construct the power to make decisions that affect and are binding on others in the public—for example, monetary policy decisions about the federal funds rate, which affect the supply and cost of money and credit in the economy and, in turn, employment, output, growth, and the prices of goods and services. More broadly, this case suggests that the cognitive or administrative authority to which one appeals in *argumentum ad verecundiam* may have been discursively invented in a prior social context; if so, analyzing how that cited authority emerged could inform the “critical perspective” (Walton, 1989, pp. 23-26) that we adopt when evaluating the validity of authority-based arguments.

Implication: Ethos as a Micro-Discursive Construct

However, analyzing the emergence of authoritative ethos through explicit features on the surface of a text could come up empty because the speech might not make such a direct appeal to the speaker's authority. To move beyond the more obvious rhetorical features of persuasion, this case study followed in the methodological footsteps of Cheng (2012) and Oddo (2014) by using *discourse analysis* for a deeper understanding of how the Federal Reserve speeches carry out an ethotic function. The micro-linguistic features that we frequently find in these speeches, together with the linguistic variation between Greenspan's *Chairman* speeches and Bernanke's *Governor* speeches, and between Bernanke's *Governor* speeches and his *Chairman* speeches, suggests that the positions of cognitive and administrative authority in the Federal Reserve are associated with a relatively stable set of micro-linguistic choices—a register—that contribute to constituting the cognitive or administrative authority to which one might subsequently appeal in the *argumentum ad verecundiam*. More generally, this case highlights some of the ways in which micro-linguistic features can aggregate to form a speaker's ethos as a rhetorical means of influence in deliberative argumentation.

Implication: Ethos as an Emergent Byproduct of Logos

By adding to our understanding of how ethos can be constituted implicitly through latent micro-linguistic choices, this case study also blurs the traditional lines that separate categories of ethotic and logical appeals. Aristotle conceptualizes *ethos* as “whenever the speech is spoken in such a way as to make the speaker worthy of credence” (2007: 1.2.4). As for *logos*, simply put, a rhetorical appeal to logos refers to “what is said” in a speech; it can also refer, more specifically, to the words in the speech or the arguments (Kennedy, 2007, p. 38). Therefore, as Garver (2004)

points out, the substantive distinction between *ethos* and *logos* starts to collapse when the speech makes the speaker appear credible by reasoning well—that is, when the speech exhibits qualities of ethos through logos. This case highlights a similar way in which ethos can be conceptualized as a byproduct of logos. On a micro-level, the linguistic choices of words and strings of words—*logos*—by the Federal Reserve participants aggregate to form, on a more macro-level, a way in which the speeches are spoken—a register—that makes the speakers appear as authorities on the decisions that are made in this institutional context, and, hence, as worthy of credence—*ethos*. In this way, ethos seems to emerge as a result of logos.

Implication: The Discursive Practices of the United States Federal Reserve

Broadly speaking, this dissertation has taken a *rhetorical* approach to analyzing how the Federal Reserve makes monetary policy, and, in doing so, it has sought not only to contribute to our understanding of ethos in *argumentative policy analysis* and to fill a gap in rhetorical studies of financial deliberation, but also to shed some additional light on the discursive practices of the Federal Reserve in particular. In recent years, Federal Reserve scholars have become interested in the roles that the Federal Reserve's communication and credibility with the public play in the effective implementation of policy (e.g., Chappell et al., 1997; Blinder et al., 2001; Maier, 2002; Ehrmann & Fratzscher, 2007). In fact, the Federal Reserve itself has begun dedicating speeches to the issue of communicating with the public (e.g., Bernanke, 2004 January 3, 2004 October 7, 2007 November 14). Based on the case study of this dissertation, I have argued that the Federal Reserve's public discourse functions implicitly to rationalize their Chairman-based "consensus" of policy decisions, upon which, as Blinder (2007) suggests, an "autocratically-collegial" policy committee achieves its credibility—its collective *ethos*—as a public decision-maker. Generally

speaking, I hope that this dissertation has advanced our understanding of the Federal Reserve's discursive practices.

Future Work

The robustness of the implications of this research is limited by the inherent constraints of any case study. In order to more robustly support these implications, there is additional work that can be done. The first direction could be to expand upon the present case study by analyzing the linguistic variation between (1) Chairman Greenspan's speeches and, in addition to *Governor* Bernanke's speeches, those of the other members who served on the Federal Reserve and FOMC with Chairman Greenspan, and (2) between *Chairman* Bernanke's speeches and those of others who served with him. Following the methodology of the present case study, a good starting place for (2) would be to analyze the linguistic variation between Chairman Bernanke's speeches and the speeches by Janet Yellen, who served as the Vice Chair of the Federal Reserve and FOMC from 2010 to 2014, and who was appointed to succeed Bernanke as the Chair in February 2014. The recent appointment of Yellen provides the opportunity to build another "Chair" corpus and (3) analyze the linguistic variation between Yellen's *Vice Chair* and *Chair* speeches.

This analysis in (2) and (3) would provide insight into whether *Vice Chair* Yellen spoke differently than *Chairman* Bernanke, whether Yellen speaks differently as the *Chair* than she did as the *Vice Chair*, and whether the linguistic choices that she makes as the *Chair* resemble those that Bernanke had made as the Chairman. These findings could provide additional evidence that the "Chair of the Federal Reserve" is not merely a formal position of institutional authority; it is also a discursive construct. Therefore, expanding upon this case study in this way could further instantiate the implications of this dissertation. However, these implications would still be based

on the discursive construction of authority in the institutional context of the *Federal Reserve*. A further possibility for future research, therefore, could be to go beyond the institutional context of the Federal Reserve and explore the linguistic patterns associated with offices of authority in other contexts. Even more broadly, future research could also move beyond *authority* to explore the discursive nature of other factors of ethos or social identity that, traditionally, are presumed to be *non-artistic*.

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APPENDIX

LIST OF FEDERAL RESERVE SPEECHES IN CORPUS

Speeches by Chairman Alan Greenspan

1. Greenspan, A. (2002, August 30). Economic volatility. *Symposium sponsored by the Federal Reserve Bank of Kansas City*. Jackson Hole, WY. Retrieved from <http://www.federalreserve.gov/boarddocs/speeches/2002/20020830/default.htm>
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11. Greenspan, A. (2003 March 4). Home mortgage market. *Annual Convention of the Independent Bankers of America*. Orlando, FL. Retrieved from <http://www.federalreserve.gov/newsevents/speech/2003speech.htm>
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14. Greenspan, A. (2003 April 3). Financial education. *JumpStart's annual meeting*. Washington, D.C. Retrieved from <http://www.federalreserve.gov/newsevents/speech/2003speech.htm>
15. Greenspan, A. (2003 April 4). Market economies and rule of law. *2003 Financial Markets Conference of the Federal Reserve Bank of Atlanta*. Sea Island, GA. Retrieved from <http://www.federalreserve.gov/newsevents/speech/2003speech.htm>
16. Greenspan, A. (2003 April 9). The Reagan legacy. *The Ronald Reagan Library*. Simi Valley, CA. Retrieved from <http://www.federalreserve.gov/newsevents/speech/2003speech.htm>
17. Greenspan, A. (2003 May 8). Corporate governance. *2003 Conference on Bank Structure and Competition*. Chicago, IL. Retrieved from <http://www.federalreserve.gov/newsevents/speech/2003speech.htm>
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