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CRISIS DECISIONS: POLITICAL INFLUENCES ON FOMC DECISION-MAKING DURING THE 2007 FINANCIAL CRISIS AND THE CREATION OF FOREIGN CREDIT LIQUIDITY SWAP LINES

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ABSTRACT

In response to the 2007 financial crisis, the Federal Reserve made a series of unprecedented policy decisions to save the United States and the rest of the world from total economic collapse. Nineteen members of the Federal Open Market Committee (FOMC), the decision-making body of the Federal Reserve, debated the implementation of these unconventional policies in the same manner they make all of their policy decisions—in secret. Why does the Federal Reserve make decisions the way they do? The shrouded nature of FOMC decision-making inspired three decades of empirical research that has developed broad theories about the political and institutional influences on Fed policy decisions based on FOMC member voting and dissent behavior. My research addresses a practical gap in the theoretical literature. Previous research has modeled FOMC decision-making under relatively standard economic conditions. My analysis will "stress test" the existing theories of FOMC decision-making by analyzing the transcripts of the 2007-2008 FOMC meetings that surround the establishment of foreign liquidity swap lines with multiple foreign central banks. In my case analysis of the foreign liquidity swap lines decision, I will test the behavior and preferences of individual FOMC members against the leading theories FOMC decision-making to see if these theories hold during the 2008 financial crisis. This analysis has implications on the validity of current theories of influence on FOMC decisions, and their application to crisis response. This crisis episode will strip bear the decision-making processes of the Federal Reserve and reveal the strongest influences that determine their policy decisions. The Fed's decision to implement foreign liquidity swap lines has a number of implications about the changing role of the United States in international monetary policy, the emergence the Federal Reserve as the international "lender of last resort", and the effects of global monetary policy coordination among central banks.

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INTRODUCTION

The Federal Open Market Committee (FOMC) is a nineteen member committee charged with making some of the most important decisions in regards to U.S. monetary policy. Political scientists and economists have tried to grasp an understanding of the mysterious decision-making process of the Federal Reserve and the channels of influence that affect FOMC policy decisions. Preferences reflect influences, and those who study monetary policy have taken great interest in the political and legal influences on central bank decision-making. This program of research stems from the idea that the best macroeconomic outcomes are produced from central banks that are most removed from political influences. The development of "good" monetary policy is a practice that is regarded as highly technical, but the decisions are considered and implemented in a highly political arena. Even among the world's most independent central banks, it is difficult to imagine that monetary policy decision-making is done completely outside of a political context.

There has been three decades worth of research seeking to understand central bank decision-making, structure, and which type of central bank delivers policies that provide the best macroeconomic performance[1]. The literature has taken two main approaches. One area of central bank literature develops measures and indexes of central bank independence to study the relationship between central bank independence and the rate of inflation in a given country. Another area of central bank research focuses on the committee that makes monetary policy decisions in each country. Much of this research program focuses on the United States Federal Reserve because the Fed discloses its FOMC meeting transcripts relatively quickly compared to other central banks. Past research has looked at the influences on central bank decision-making

[1] Defined by Parkin (2012), "it cannot influence the average level of output or unemployment and the best contribution it can make is to deliver low inflation at a point on the Taylor curve" p 1.

during expansions, recessions, and even brief periods of financial turmoil. However, very little research has been done on central bank decision-making during the 2007 financial crisis.

In 2007, the United States Federal Reserve entered the national and international political spotlight. Each of its crisis responses were carefully scrutinized and often criticized by policy makers and the general public. Did the heightened attention and political pressures influence the decisions of the FOMC members? Did it affect the way that the FOMC reaches consensus and makes monetary policy decisions? Because of the secrecy of the Federal Reserve's meetings, these were questions that scholars were unable to analyze in a direct way—until now. On February 21st, 2014, after the Federal Reserve's customary five year delay, the transcripts of the 2008 FOMC meetings were released publicly. These transcripts provide a unique insight into the decision-making processes and member preferences regarding many of the unconventional rescue policies adopted during the global financial crisis. This unique window into the decision-making process of the Federal Reserve allows readers to be "a fly on the wall" of the policy meetings that will shape the future of monetary policy as well as the future health of our macro economy.

The Federal Reserve adopted a number of unconventional monetary policies beginning in December of 2007 to attempt to provide liquidity and restore confidence to the failing global economy. These policies included: the Term Auction Facility (TAF), large-scale asset purchases (quantitative easing), forward guidance, and reciprocal currency arrangements ("swap" lines) to international central banks. The latter mentioned policy is one of the most significant shifts in Federal Reserve policy from a domestic to global focus. Its implication on future monetary policy and the international perception of the Federal Reserve is one of the least analyzed or understood aspects of the Fed's role in responding to the global financial crisis.

Why did the FOMC decide to create international credit liquidity swap lines to foreign central banks in response to the 2007 financial crisis? What role, if any, did political influences and the decision-making process of the FOMC have on this decision? And what are the

implications of the Fed's new role as the international "lender-of-last-resort"? The answers to each of these questions will have important impacts on the perception and policy validity of the Federal Reserve. In this paper I will consider the leading theories of FOMC decision-making and make hypotheses about FOMC decision-making during crisis. I will test these hypotheses using the transcripts of the meetings surrounding the FOMC decision to establish/expand foreign central bank liquidity swap lines at each of the three phases of the policy. Based on my findings I will draw preliminary conclusions about the influences on FOMC decision-making and decision-making processes during crisis. Finally, I will take a broader look at the Fed's decision to act as the international "lender-of-last-resort" and its implications on global monetary policy coordination and possible issues of moral hazard.

LITERATURE REVIEW

Research on FOMC decisions study channels of influence such as political appointment, oversight, and ideology that may bias members' policy preferences and decision-making behavior. The classic empirical approach in this literature studies voting patterns of FOMC members and provides evidence that members' behavior may be politically influenced; however, their analysis is limited by a very low official FOMC dissent rate of about 7.5%.[2]

Meade (2005) takes an innovative approach to analyze the Committee's behavior during Greenspan's term as Federal Reserve Chairman. She uses transcripts from 72 FOMC meetings from 1989 through 1997 to record member preferences towards a given monetary policy action. She measures member *opinions*, which are usually explicitly stated during the second round of discussion, called the "go around", and compares their stated preferences to their official votes. Her findings are striking in that she determines the internal dissent rate is close to 30%, but the official dissent rate is 7.5%. Meade's results support the former vice chair of the Board of Governors assertion that FOMC members "often do not vote their true preference" (Blinder 2001, 39). This study has two important outcomes. The first is that studies of FOMC behavior that only analyze voting patterns leave influences on members' true preferences largely unexplained. Secondly, there is a transformation to consensus that takes place in the FOMC meetings between the time the member states their preference and the final vote. Meade offers two possible explanations for this phenomenon. One explanation is the role of the "bias" in monetary policy directives, which forecasts future tilts in the federal funds rate to build consensus for current

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[2] (Meade 2005), analyzed the dissent rate during Greenspan's tenure as Federal Reserve Chairman (1989-97). The key finding of her paper was that the official dissent rate of FOMC members was 7.5% while the rate of disagreement during internal Committee discussions was much higher—around 30%.

policy directives. This explanation is interesting for domestic monetary policy during normal economic times, but it will not play a role in the unconventional liquidity programs analyzed in this study.

The second explanation proposes a “threshold” difference between the proposed policy and the Committee member’s true preference, and beyond this threshold an FOMC member would dissent. Meade’s explanation of FOMC voting behavior echoes Havrilesky and Schweitzer (1990) and their argument for the disutility of dissent. A large number of dissents could weaken the institutional credibility of the Federal Reserve as a technical bureaucratic decision-making body. The longest serving Federal Reserve Chairman, William Martin, described the pressure for consensus, “you cannot comprehend the power at play in consensus building, the frustration at times in accepting those decisions for the sake of market stability” (Greider 1988, 611). FOMC member considerations for the perception of the Fed as an independent institution may be one explanation for confining their true preferences to internal debate. Vice-Chairman Schultz’s exchange with a Bank President in the 1980s illustrates this tension, “We at the Board in Washington may not be as monetarist as you would like, but we’re all on the same side. We should argue in the Board meetings but close ranks in public” (Greider 1988, 390).

Governors and Reserve Bank presidents may respond differently to political considerations. Federal Reserve Governors and Bank Presidents undergo two entirely different selection processes to the FOMC and this may have an impact on their behavior on the Committee. Reserve Board Governors (7) are appointed by the incumbent President and confirmed by the Senate for a term of fourteen years, after which they cannot be reappointed. The terms are staggered so that one expires on January 31 of each even numbered year. The Federal Reserve Chairman and Vice Chairman are appointed by the President and confirmed by the Senate for a term of four years, and can be reappointed. However, nominees must already be members of the Board or must simultaneously be appointed to the Board. The Reserve Bank

Presidents (12) are nominated to serve on the FOMC by the Board of Directors of their District's Reserve Bank and their appointment to the Committee is subject to approval by the Board of Governors. All of the Bank Presidents participate in FOMC discussions and state their opinions on proposed policies, but only five Bank Presidents have voting privileges of one-year terms on a rotating basis. The exception to this is the President of the Federal Reserve Bank of New York. This Bank President is a permanent voting member of the FOMC and is traditionally appointed by the President as the Vice Chairman (*The Federal Reserve System: Purposes and Functions* 2005).

Havrilesky and Schweitzer (1990) find evidence for a difference in preferences between Governors and Bank Presidents by using individual members' career characteristics as a measure of "proximity to the central government". They analyzed the dissenting votes on standard domestic policy directives from 1960 to 1983 and found that Bank Presidents are more likely than Governors to dissent on the side of tightness towards the nominal interest rate at a statistically significant level.

Gildea (1990) incorporates bureaucratic theory into the preference literature on FOMC voting behavior and builds support for the null hypothesis of FOMC behavior in this case study. His empirical approach is inspired by previous research on a similar bureaucratic structure, the Supreme Court. These intuitions are similar in that, "both have tried to define its expertise as technical, its criteria as non-partisan, and its goals as 'above politics' but both the Court and the Fed have neither avoided nor been impervious to public opinion and political pressures" (Borins 1972, 185). Gildea uses a cross-sectional analysis of FOMC votes from January 1960 to 1982 to answer the same question that is central to my research, "Why do FOMC members vote differently when confronted by the same economic data and the same economic history?" (Gildea 1990, 211). Gildea's analysis finds evidence of partisan and political influences on Fed behavior. He uses a confidential questionnaire to obtain the political party affiliations from 21 FOMC

members across the period of his study and finds strong evidence for the influence of ideology on voting behavior supporting the idea that “monetary policy is a partisan process”. He also finds that Governors appointed by Democratic presidents tend to prefer more expansionary monetary policy than Governors appointed by Republicans. His results support existing literature for the political responsiveness of central bankers through the recruitment process (Woolley 1984; Puckett 1984).

The relationship between the president and FOMC behavior is expanded Chappell, Havrilesky, and McGregor (1993). They consider two channels of political influence on FOMC voting behavior—direct pressure from the incumbent president, or partisan considerations during the appointment process. Previous studies have found that Governors appointed by a Democratic President are more likely to dissent in favor of ease, while Republican appointees are more likely to dissent in favor of tighter monetary policy (Woolley 1984; Puckett 1984; Gildea 1990). Chappell, Havrilesky, and McGregor reinforce the previous findings on the power of appointment for partisan influence on FOMC decisions and additionally conclude that the partisan influence of the appointment process is much stronger than the influence of the current president. Traditional Republican appointees prefer a Federal funds rate 50 points higher than Democrat appointees, all other things equal. This is compared with a difference of just 7 basis points higher when Governors were serving under Republican rather than Democratic presidents, which was found to be significantly different in only one of eleven estimations (Chappell, Havrilesky, and McGregor 1993, 201). One of the most significant conclusions in Chappell, Havrilesky, and McGregor’s study was that Governors and Bank Presidents behave differently, at a statistically significant level. Their results indicate that Bank Presidents prefer a higher Federal funds rate than both Democratic and Republican appointed Governors. This finding links the appointment process as the channel of influence making Governors behavior more responsive to current politics and the Current president.

Chappell, Havrilesky, and McGregor provide weak evidence for an alternative channel of political influence through the Federal Reserve Chairman. They recognize the agenda setting power of the Chairman and their consensus building role at FOMC meetings while noting that the Chairman position acts as the liaison to the President and Congress. Fluctuations in the Federal funds rate across different administrations suggest that the Chairman may be politically responsive to the President. However, they qualify this finding with limitations of their data. Chappell, Havrilesky, and McGregor provide strong support for the appointment theory of political bias in FOMC voting behavior of Bank Presidents and Governors. Falaschetti (1999) takes a closer look at the role of oversight as a channel of political influence on FOMC voting behavior.

He argues that a lack of bureaucratic constraints insulate the Fed from traditional channels of influence. However, the appointment process and oversight remain as open channels for political influence on FOMC behavior. The ordinary methods of oversight such as budget appropriation are not available to the President and Congress when seeking to influence Fed behavior. Oversight in this study is defined as the Chairman testifying before Congress and the Chairman's ability to be reappointed as Chair by the President at the completion of their four year term. My data is limited to a one-year time span and is therefore unable to assess the political influence of oversight on the Chairman's behavior. However, it is important to mention the unique role of the Chairman as a consensus builder and liaison to the other branches of government because this role may have important, though currently unmeasurable, implications on FOMC decision-making behavior.

Gildea also analyzes the differences between FOMC members according to their historic ideology toward monetary policy. He divides the FOMC into two groups—"those members characterized by a more liberal voting record and those members characterized by a more conservative voting record" (Gildea 1990, 217). He also obtains party affiliation from 21

members of the FOMC using a confidential survey. His sample finds the partisan variable to be significant in FOMC voting behavior. He concludes that the creation of monetary policy is influenced by partisanship. For the time period from 2007-2008, without conducting a survey and achieving a substantial number of responses, it is not possible to obtain the party affiliation of most FOMC members. The Committee members keep this information private to maintain the Federal Reserve's perception of objectivity in policy creation. However, several reputable news organizations (Bloomberg, Thomson Reuters, the Wall Street Journal, and the Financial Times of London) specialize in tracking market conditions and the Federal Reserve, and take great interest in characterizing the voting records and monetary ideology of FOMC members as "hawks" or "doves" because of the ranking's ability to help predict future monetary policy. "Hawks" are defined as monetary conservatives whose primary concern is price stability. In the creation of monetary policy, hawks will generally favor higher interest rates in order to keep inflation in check. "Doves" are defined as monetary liberals who favor lower interest rates because they believe the increased economic output will outweigh the negative effects of a higher rate of inflation (Investopedia). Gildea's analysis and the existence of a hawk/dove ranking by market-watching news organizations support the idea that monetary policy is not created with a fully objective and technical analysis of current economic conditions. There is a subjective role in FOMC behavior, and it becomes important to incorporate individual member preferences and ideologies in order to gain a more complete understanding of FOMC decision-making. In the case of the 2007 financial crisis, it will be interesting to test if these ideological preferences, that were developed based on preferences towards inflation, continue to hold when faced with the international policy question to extend liquidity swap lines to foreign central banks.

The literature of FOMC decision-making makes great inroads to understanding domestic monetary policy creation in the Federal Reserve during normal economic times. Previous researchers and former FOMC members agree that it is no secret that there are subjective

ideological and political influences on FOMC behavior. Empirical analysis of FOMC voting and dissent behavior shows strong evidence for channels of political influence through the appointment process, oversight from the President and Congress, individual ideological preferences. However, the Federal Reserve places a high value in maintaining its perceived objectivity and autonomy in order to preserve the credibility and effectiveness of its monetary policy. Therefore, the existing literature also argues that there is a steep threshold for dissent and the Chairman plays an important role in transforming a relatively high level of dissensus during internal discussion (30% dissent rate) into consensus in the official vote (7.5% dissent rate). This literature creates an image of the Federal Reserve as a political institution during relatively normal economic times.

One of the greatest strengths and weaknesses of the previous literature on central bank decision-making is its consistency. Each of the previous researchers of FOMC decision-making have looked at political and individual preference influences on the same dependent variable, the *official vote/dissent on the domestic monetary policy directive* (the Federal funds rate). All of the previous literature considers relatively the same time period 1960-1980s, which were considered fairly normal economic times with no serious economic crises occurring during this time period. The variation in the previous literature comes from different measures and models of independent political variables that may influence Federal Reserve behavior. The first major departure from existing FOMC literature was Meade (2005) and her measure of stated preferences of Bank Presidents and Governors during internal policy debate. This was the first recognition that official votes/dissents may greatly understate the *true* preferences and influences of central bank Governors and Bank Presidents and that a finer dependent variable was needed to understand the decision mechanisms of Federal Reserve members more completely.

The current FOMC literature is in desperate need of a “stress test”. The theories developed by the existing empirical analyses are consistent across normal economic times, but

they tell us virtually nothing about Federal Reserve decision-making during a crisis. Crisis decisions arguably have the most important implications on the future health of the U.S. macro economy. Existing research models are unable to test theories political influence on the FOMC during crisis because the two greatest U.S. financial crises: the Great Depression (1930s) and the 2007 Financial Crisis are both out of the reach of current FOMC data. During times of crisis, the standard operating procedures of the Fed are thrown aside and all that remains is the skeleton of the Fed's decision-making processes and the most important influences on their decisions. A case study analysis of the 2007 financial crisis could test the strength of existing FOMC decision-making theories, and determine if political pressures and preferences influence crisis decisions. Another gap in the current Federal Reserve literature is the shift of monetary policy from domestic to global policy coordination. All previous literature has examined the political influences on domestic monetary policy dealing with the level of the interest rate. Does the same political pressure and influence exist on questions of international monetary policy coordination? The United States Federal Reserve decision to provide liquidity to foreign central banks through credit swap lines will test FOMC decision-making about an unconventional policy in a crisis environment. These circumstances have the opportunity to speak to an area of the literature that has not yet been considered—influences on FOMC behavior during crisis.

THEORIES

Political theories explaining FOMC voting behavior are robust across different measures and models of FOMC voting behavior on domestic monetary policy directives under normal economic conditions. Theories of political influence on FOMC decisions through the appointment process, Presidential and Congressional oversight, and individual member ideology have all shown strong empirical evidence as rival explanations to the "textbook" definition of the Federal Reserve. The "ideal" Fed is an independent institution which formulates monetary policy based on technical interpretations of the current economic data and recent economic history. While the empirical data has provided convincing arguments for influences on Fed behavior toward domestic policy issues during normal economic times, a large portion of Federal Reserve decision-making has been left unexplained, how does the Fed make decisions in times of crisis?

The same empirically based theories of influence that were tested during normal economic times can be examined through the lens of the 2007 financial crisis. This case is so recent that it does not have enough FOMC data available to perform a quantitative analysis of Fed behavior. We will not be able to "gauge the average casual effect" of the independent forces influencing FOMC decision-making during this crisis period, but by applying existing theories to a case study analysis of FOMC decision we can better understand the causal mechanisms at work within each FOMC meeting (Gerring 2004). This case study will analyze the six FOMC meetings from December 2007 to October 2008 surrounding the decision to establish reciprocal currency agreements (swap lines) with foreign central banks. The small-n nature of this study will allow us to "peer inside the box of causality" and understand with greater clarity the intermediate and underlying decision-making processes that take place during the development of FOMC policy.

Analyzing the effects of political influence and ideological preferences in a crisis environment will test the degree of variance in the explanatory power of these theories on Fed behavior. The transcripts of the 2007-2008 FOMC meetings reveal the deliberations about the most formative, decisive, and unconventional monetary policy since the Great Depression. Viewing the FOMC behavior through the lens of crisis will "strip bear" the influences on monetary policy decision-making down to the most important explanatory mechanisms of FOMC decision-making.

The meetings surrounding the FOMC decision to open up credit liquidity swap lines to foreign central banks are the core meetings of the Fed's crisis response. This policy directive was one of the proposed unconventional policies seeking to calm uncertainty in global market. The implication of this decision, is perhaps more interesting than any of the other unconventional programs created during the crisis. The foreign liquidity swap lines forever changed the role of the Federal Reserve in the global economy by extending itself as "the lender of last resort" to foreign governments in need of dollar liquidity. It was a highly unconventional policy that had only been employed once before on a much smaller and more temporary scale after the terrorist attacks on September 11, 2001 (Fleming and Klagge 2010)[3]. The Fed's program of foreign exchange swap lines was first discussed during the September 18th, 2007 FOMC meeting and voted on during the December 6th, 2007 conference call. The swap lines went through an evolution of three structural phases—each phase expanded the scope, size, and (arguably) the riskiness of the program. Each policy expansion was deliberated and voted on during three subsequent FOMC meetings and one conference call during 2008 as the financial crisis reached its peak domestically and internationally.

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[3] The 2001 swap lines expired after thirty days and were extended to bolster liquidity in U.S. dollar funding markets after the crisis.

Federal Reserve literature stresses the importance of a high degree of consensus for the perceived autonomy of the Fed and efficacy of its monetary policies. It can be inferred that there is an even higher premium on consensus during periods of economic uncertainty. Central bank Governors and Bank Presidents are aware of the importance of consensus during the crisis policy meetings. President Fisher speaks in a FOMC meeting just after the fall of Lehman Brothers, "Forgive me for quoting Bob Dylan—but money doesn't talk; it swears. When you swear, you get emotional. If you blaspheme, you lose control. I think the main thing we must do in this policy decision today is not to lose control, to show a steady hand. I would recommend, Mr. Chairman, that we embrace unanimously—and I think it's important for us to be unanimous at this moment" (September 16, 2008 FOMC meeting transcript). Consensus on the official vote was a high priority during the 2007 financial crisis. Other than the lone dissent by President Poole (who retired from the FOMC in March 2008) during the first two decisions regarding swap lines, all policy decisions regarding the implementation and expansion of the foreign liquidity swap lines were approved unanimously. However, the recent release of the 2008 meeting transcripts depicts a much less united front during the internal discussions of FOMC members. The disjoint between stated preferences of each FOMC member during the round of policy discussion, called a "go-around" and the official vote make Meade's (2005) measure of stated preferences central to the development of the dependent variable in this case study. The stated opinions towards the swap line policy will provide a more representative measure of the role of political and ideological preferences on central bankers' decisions during the crisis. The transformation to consensus that takes place at each FOMC meeting before the final vote may also provide evidence on theories of the disutility of dissent or the role of the Chairman as a consensus builder.

The appointment explanation of FOMC decision-making has received the strongest and most consistent support from existing central bank literature. This theory of central bank decision-making stems from early literature that closer proximity to the central government will

make central bankers more politically responsive. This theory was developed from evidence of a policy bias in the Federal funds rate and the idea that the Presidential appointment and Senate confirmation process provides a channel of political influence through the party of the President that the central bank Governor was appointed by. Chappell, Havrilesky, and McGregor (1993) found that traditional Republican appointees favor a Federal funds rate that is on average 50 basis points higher than the funds rate proposed by Democratic appointees. They also found weak evidence for the influence of the current President on monetary policy decisions, all else equal. They found that the Federal funds rate was about 7 basis points higher on average when FOMC members were serving under a Republican president rather than a Democrat. Each of these theories provide interesting explanations of partisan political influence on FOMC decisions. However, the currently available dataset of the 2007 crisis analysis does not allow for this partisan analysis. My transcript data on the swap lines considers the time period December 6, 2007—October 28, 2008. During, this entire time period Republican President George W. Bush held office. This does not allow for any variation in the party of the current president, and therefore the influence of the current President on FOMC decision-making cannot be tested in this analysis.

The year 2007-2008 was a unique time period in Federal Reserve history in which all members but one (President Poole—retired March 2008) on the FOMC were appointed or began their term under a Republican administration. Beginning the September 16, 2008 meeting—all of the members of the FOMC were selected to the Committee during a Republican presidency (Thoma, 2008). The lack of variation in partisan appointments limits my ability to test theories of party of the appointing President to explain decision-making towards the swap line policy during the financial crisis.

Lack of party variation of the current and appointing Presidents for the FOMC limits my ability to test partisan appointment and the partisanship of the current President as explanations of

FOMC behavior during crisis. However, the lack of variation acts as a constant that allows me to test one of the other major finding of previous FOMC literature—the appointment explanation of the difference in the behavior of central bank Governors and Bank Presidents. This theory is based on the findings that central bank Governors are more likely to dissent on the side of monetary easing and Bank Presidents are more likely to dissent on the side of tightness (Havrilesky and Schweitzer 1990; Gildea 1990). The appointment process of central bank Governors gives them a closer proximity to the central government and therefore should make them more politically responsive to the policy interests of the central government (Woolley 1984; Puckett 1984; Chappell, Havrilesky, and McGregor 1993). The case of the 2007 financial crisis considers an unconventional policy option that will immediately address the uncertainty and liquidity issues in the international market—liquidity issues that may begin having negative spillovers in the United States. I hypothesize that Bank Presidents will be more likely than central bank Governors to state disapproval towards the swap line policy during policy deliberations. Evidence of this theory will make a strong case for the increased political responsiveness of central bank Governors through the political appointment process and closer proximity to the central government. Support for the null hypothesis would be no difference between central bank Governors and Bank Presidents in the stated preferences towards the implementation of swap lines during policy deliberations. Evidence supporting the null hypothesis would imply that the appointment process and proximity to the central government does not play a role in central bankers' decisions towards unconventional policies during times of crisis.

The second theory explaining FOMC decision-making that I would like to test is the monetary ideology theory first examined by Gildea (1990). He divided the members of the FOMC committee into two groups—"monetary liberals" and "monetary conservatives" based on their average voting history towards domestic monetary policy directives determining the level of the Federal funds rate. He also surveyed a sample of 21 FOMC members and was able to gather

information on their party affiliation. He ran a regression on this sample and found that partisanship matters in decisions of monetary policy during normal economic times. It would be interesting to see the strength of the partisan preference theory in explaining FOMC members' decisions during crisis. However, most FOMC members keep their party affiliation private to help protect the autonomy of the Fed. Therefore, without obtaining a confidential survey like Gildea, there is no reliable or systematic way to determine party affiliation of the FOMC members during the 2007 financial crisis. However, there is plenty of information available that analyzes their monetary ideology. Market-watching news organizations such as Bloomberg, Thomson Reuters, the Wall Street Journal, and the Financial Times of London all collect information on the voting behavior of members of the Federal Open Market Committee and use it to develop a "hawk/dove" ranking on their preferences towards monetary policy and the desired level of inflation. The hawk/dove bias of an FOMC committee is an important predictor of the trajectory of monetary policy for each year's new FOMC committee. The reliability of this ranking receives some criticism, as some people argue that the FOMC members are not acting as a "hawk" (monetary conservative) or a "dove" (monetary liberal), but reacting to the current state of the economy. The measure of monetary ideology is not a perfect one, but despite the criticism—a lot of time and effort goes into the development of these rankings each year. This means that it plays an important role in predicting FOMC behavior towards the Federal funds rate. I am interested to see if monetary ideology plays a role in the decision preferences of central bankers during the 2007 financial crisis. The policy decision to create swap lines with foreign central banks has no implications on standard monetary policy or the rate of inflation. I hypothesize that there will be a difference in the stated preferences of FOMC hawks and doves in regards to the policy decision to establish foreign liquidity swap lines. If support is found for this hypothesis it would appear as an ideological split between the stated preferences of hawks and doves on the policy decision to implement foreign liquidity swap lines. Evidence supporting this

hypothesis would imply that the hawk/dove ranking includes measures more than just monetary ideology and may contain some partisan preference as well. The most basic conclusion we can draw from evidence supporting this hypothesis is that monetary ideology played a role in decisions during the 2007 financial crisis—including decisions that did not have a direct effect on the rate of inflation such as foreign liquidity swap lines. A further implication of evidence supporting this hypothesis could suggest that the monetary ideology measure contains some amount of partisan preference that may create an ideological bias towards a question that did not deal with interest rates or the level of inflation. Support for the null hypothesis would show no monetary ideology bias across the six policy decisions to implement and expand the swap lines. This would mean that monetary ideology does not influence FOMC decision-making during times of crisis.

The null hypothesis in this analysis is that central bankers act as calculating technocrats who respond to the current macroeconomic conditions. If partisan influence does not influence FOMC member preferences and behavior, then each of the FOMC members should reach the same decision about the best policy response to the financial crisis. If the lack of bureaucratic controls on the Fed is sufficient to insulate them from channels of political influence, then we would expect the FOMC members to act as technicians basing their responses off of interpretations macroeconomic variables and financial indicators such as the 3-month LIBOR—OIS spread. The transcripts from the crisis indicate that FOMC members might be giving priority to these types of considerations. President Plosser frames the decision to implement swap lines in this way, "the real question for me at the end of the day is that it seems the ultimate justification for something like this has to be related to our macroeconomic objectives" (FOMC Transcripts Sept. 18, 2008). This null hypothesis has one important qualifier, and that is the assumption that all of the FOMC members are reaching the same conclusion about the current state of the economy. The 2007 financial crisis was the most widespread and severe economic crisis that the

United States has experienced since the Great Depression in the 1930s. FOMC transcripts from late 2007 indicate a variety of different interpretations of the severity of the economic crisis until the fall of Lehman Brothers on September 9, 2008. The Lehman Brothers bankruptcy is considered a turning point in the 2007 financial crisis. After this event, economic perceptions became largely unified in the FOMC transcripts. Therefore, unification in preferences, behavior, and voting in the three Committee meetings after September 9, 2008 would provide strong evidence in favor of the null hypothesis.

ANALYSIS

This study was conducted on decisions made between September 16, 2007 and October 29, 2008. It uses the transcripts of six meetings of the Federal Open Market Committee that focus on the adoption of liquidity swap lines with foreign central banks. The stated preferences of present members and the votes of the voting members of the FOMC are analyzed and tested against established theories of appointment, oversight, and ideology.

Flemming and Klagge (2010) define the evolution of the reciprocal currency agreement (swap lines) facility over three broad structural phases during which the decision-making analysis takes place. The first phase takes place from December 6, 2007—September 16, 2008. This phase includes the initial establishment of the swap lines to the European Central Bank (ECB) in an amount capped at $20 billion allowed to be drawn in tranches of up to $10 billion. This original agreement was adopted alongside the Term Auction Facility (TAF) in the United States and it was viewed as the European extension to this liquidity provision program. On December 11, 2007 the FOMC voted to extend swap lines of up to $4 billion to the Swiss National Bank for the same 180 day period as the ECB. During the first phase of the reciprocal currency agreement, $67 billion in dollar liquidity was lent to relatively low-risk foreign central banks.

The second phase of swap lines lasted from September 17, 2008—October 12, 2008. After Lehman Brothers declared bankruptcy on September 15, 2008 the market experienced a period of heightened uncertainty. The LIBOR rate jumped 6.4% overnight, which strained the available dollar liquidity for European banks.[4] The FOMC reacted by authorizing the Foreign

[4] The LIBOR (London Interbank Offered Rate) is the world benchmark for the short-term interest rate. It is estimated by 16 international member banks and it is the rate at which the world's most preferred borrowers are able to borrow money. It is published daily by the British Bankers Association (BBA) at 11:45 GMT (Investopedia).

Currency Subcommittee to expand swap lines to the Bank of Canada, Bank of England, Bank of Japan, Danish National Bank, Norges Bank, the Reserve Bank of Australia, Swedish Riksbank, and increase the liquidity caps on the ECB and the Swiss National Bank. By the end of the second phase the Fed had voted to increase the available dollar liquidity from $67 billion to $620 billion. By October 12, 2008, nearly $330 billion in loans outstanding was on the Fed's balance sheet.

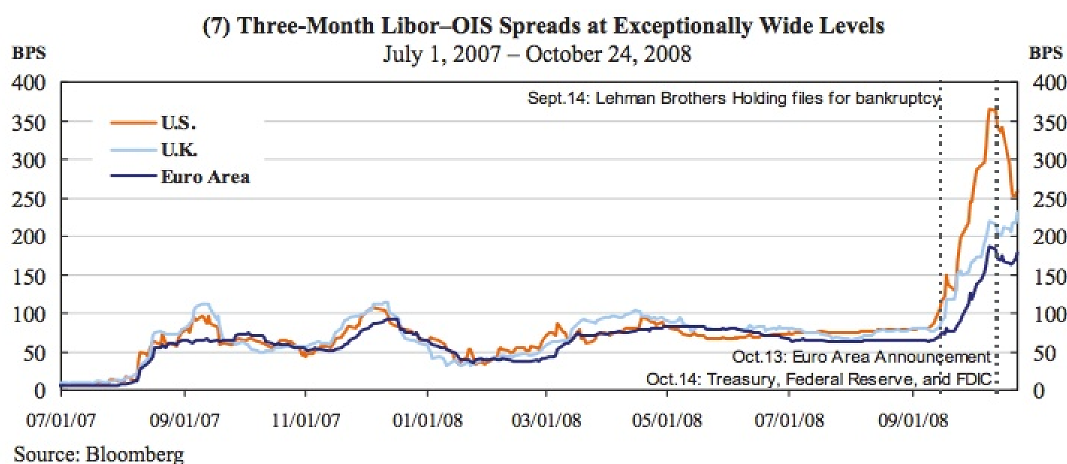


Figure 1 Three-Month Libor--OIS Spreads at Exceptionally Wide Levels[5]

The third phase of foreign liquidity swap lines was a FOMC response to further deterioration of the domestic and international financial market. Figure 1above shows the peak in the 3-month LIBOR—OIS Spreads on October 13-14, 2008. At the October 28-29, 2008 FOMC meeting, the Bank Presidents and Governors voted unanimously to extend swap lines to the Reserve Bank of New Zealand and four emerging market economies: Mexico, Singapore, Brazil, and Korea coordinating their policy with the International Monetary Fund (IMF) in order to ease growing dollar funding tension in the emerging markets. This phase of the swap line expansion was the most controversial because it carried the most downside risk for the Federal Reserve,

[5] Figure from Board of Governors of the Federal Reserve System, October 28-29,2008 FOMC Meeting, Presentation Materials

increased the size of its ballooning balance sheet, and set a dangerous precedent for the Fed as the international "lender-of-last-resort", which could lead to future moral hazard problems.

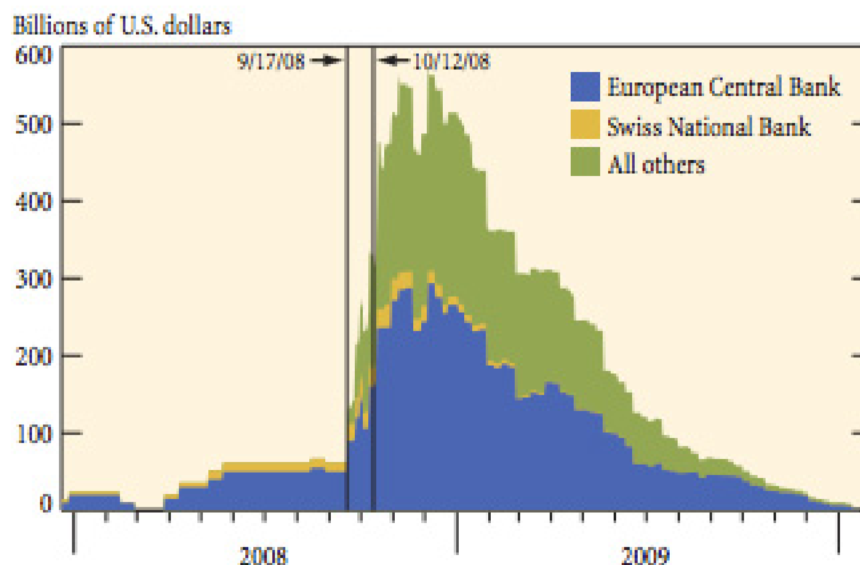


Figure 2 Foreign Exchange Swap Line Amounts Outstanding by Foreign Central Bank[6]

Figure 2 illustrates the size and distribution of the swap lines before and after the final expansion to the emerging market economies on October 29, 2009. The peak lending of the swap facility, can be seen on the graph as the week of December 10, 2008. The amount of outstanding loans to foreign central banks totaled $580 billion at this time. The Fed was able to absorb this additional balance sheet expansion after Congress' passage of the Emergency Economic Stabilization Act of 2008 on October 9, 2008. This gave them the authority to pay interest on bank reserves so that they no longer had to sterilize their market interventions.

[6] (Flemming and Klagge 2010)

This study will test political theories of FOMC decision-making within this economic narrative. This case study analysis will look at the transcripts of each of the six FOMC meetings during the September 16, 2007—October 29, 2008 period at which foreign liquidity swap lines were discussed and voted on. The unit of analysis is the stated preference toward the swap line policy for each FOMC member present at each meeting. Stated preferences of the five Governors and twelve Bank Presidents were collected and tested against each of the hypotheses of political influences on FOMC member decision-making. The preferences are coded in three categories: "support", "not support", and "reluctant support". These broad preference groups are supplemented by quotes of FOMC members from the meeting transcripts in order to illustrate the causal mechanisms behind their decisions. The committee position, voting status, region bank, hawk or dove ranking, party of President at the time of appointment to the board, whether President and Senate were the same party at the time of appointment, and whether current President is of the same party as the President at time of appointment have been recorded for each FOMC member across this 13 month period. These characteristics will be used to test classic political explanations of FOMC member behavior such as the channels of influence through: appointment, oversight, and monetary ideology.

The first theory is the power of the appointment process acting as a channel of influence for the Bank Presidents and Governors. This hypothesis states that Governors will be more responsive to the political influence of the current President than Reserve Bank Presidents, who are not appointed by the President, but by the Board of Directors of their Reserve Bank. Chappell, Havrilesky, and McGregor (1993) tested variations of this hypothesis by looking at individual voting records for 349 FOMC meetings over the period from 1960-1987. This allowed them to test the relative importance of the relationship between preferences of the FOMC members and the party of the current President (oversight) and preferences o the FOMC members and the partisanship of the appointing President (power of appointment). This data is limited by its size

and cannot tell us much about the difference between the theories of oversight and appointment; however, it is striking in that this 13 month period reveals a lot about the differences in behavior between Governors and Bank Presidents.

Two things are unique about this case analysis: first, the party of the President in office (George W. Bush, Republican) does not change over this 13 month period; second, this is a rare moment in history in which all but one FOMC member (Poole) have been appointed or selected to the FOMC under a Republican administration. While this lack of variation could cause trouble in an empirical analysis, here, it acts as a proxy variable uniquely aligning the perceived preferences of all of the Bank Presidents and Governors. Therefore, any variation in behavior between Governors and Bank President's will be viewed as a product of the appointment process and proximity to the central government rather than a difference in party preference.

Strong evidence of a difference in behavior and preferences of Bank Presidents and Governors is found across each of the six meetings regarding swap lines. Bank Presidents are found more likely to ask questions regarding the proposed swap line expansion and express uncertainty or disapproval of the proposed policies. Active involvement in deliberation and dissent is expected when considering a new and highly unconventional response to a crisis environment. The interesting relationship is the lack or dissent or involvement in discussion by the central bank Governors as illustrated by Figure 3.

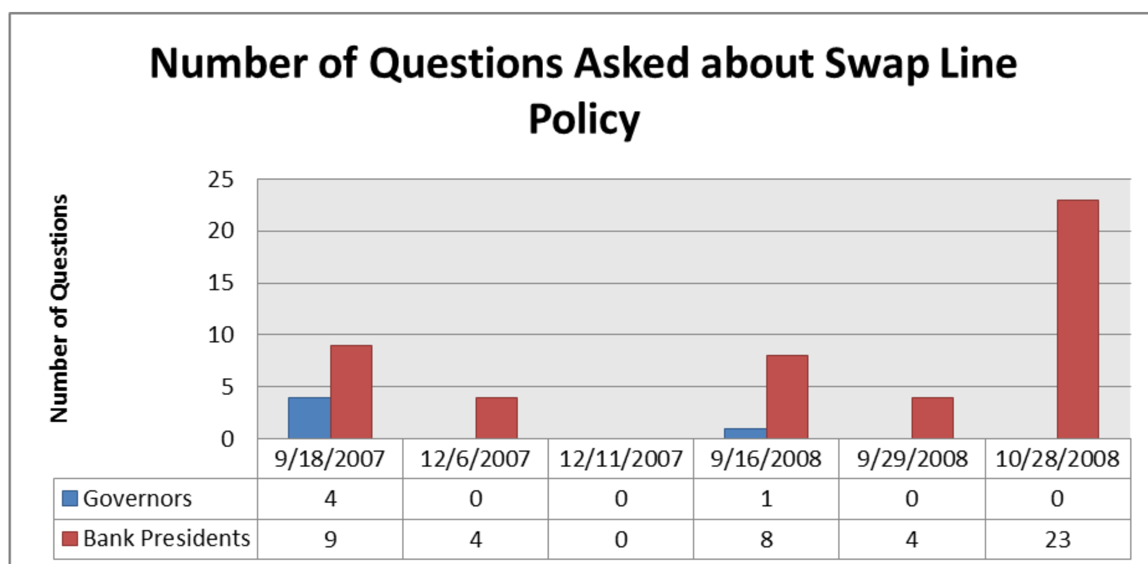


Figure 3 Central Bank Governors and Presidents Behavior Regarding Questions

Across all six meetings regarding the implementation of swap lines, the Governors asked total of five clarifying or dissenting questions about the swap lines compared to 52 questions asked by the Bank Presidents. The Governors' behavior did not change notably across the severity of the crisis or the size and riskiness of the swap lines, whereas the Bank Presidents asked the most questions in a single meeting (23) during the October 28, 2008 FOMC meeting in which the Federal Reserve was considering to extend swap lines to four emerging-market economies (EME's): Mexico, Brazil, Korea, and Singapore. Bank Presidents expressed concern over downside risks to the Federal Reserve, and the implications of these actions creating a "pile-on" effect of other financially distressed emerging markets. President Evan's expressed his discomfort with being backed by the "full faith and credit" of central bank counterparties in EME's. He prompted the staff, "Could you take us through a state of the world in which we actually generate a loss?" His concern for the safety of the Federal Reserve's balance sheet was shared by Bank Presidents Rosengren, Lacker, and Stern who suggested that the swap lines be collateralized with those countries U.S. Treasury holdings rather than their own currency to avoid the downside risk of depreciation. The Governors comments appeared to be more concerned with

the international coordination aspect of the policy and to avoid creating a stigma against these four EME's. Governor Kohn voiced this concern in response to the suggestion of collateral to protect the Fed's balance sheet: "I think I'd be a little concerned about stigmatizing the swaps by saying that we have enough doubts about these other countries that we need to take collateral—we don't have confidence that their central banks will meet the obligations that they have taken on."

This difference in behavior between Governors and Bank Presidents supports existing theories that state that Governors are likely to be more politically responsive because of their closer proximity to the executive branch through the appointment process. This case provides strong evidence in support of the appointment and possibly the oversight theory because; President Bush appointed all five of the Governors that sat on the FOMC during the financial crisis. However, the lack of variation for the in-party President and the appointing President's party does not allow us to draw immediate conclusions of the relative importance of oversight or appointment channel of influence for central bank Governors. It does provide strong evidence for a difference in the casual mechanisms in decision-making between Bank Presidents and Governors when considering the adoption of foreign liquidity swap lines.

Measuring the difference in the frequency and nature of questions asked by central bank Governors and Bank Presidents provides interesting insight into what each position views as important considerations when making policy decisions. However, it could be that central bank Governors do not ask as many questions because they are closer to the policy formulation process by sitting on the Board of Governors. It may be the case that their questions about the swap lines are addressed in the closed meetings of the Board of Governors before the meeting of the entire FOMC which includes Bank Presidents, Governors, and staff. These alternative explanations may very well explain the differences observed in the question-asking behavior of the Bank Presidents and Governors across the course of the crisis.

According to Havrilesky and Schweitzer (1990) and Chappell, Havrilesky, and McGregor (1993) differences in between central bank Governors and Bank Presidents should be noticed in their voting behavior. However, almost all of the decisions regarding swap line implementation and expansion were adopted by unanimous votes (other than President Poole's dissenting votes at the December 6, 2007 and December 11, 2007 meetings). By using Meade's (2005) method of measuring the stated preferences of Bank Presidents and Governors during the "go-around" we are able to observe more evidence of the behavioral difference between Federal Reserve Governors and Bank Presidents in figures 4 and 5.

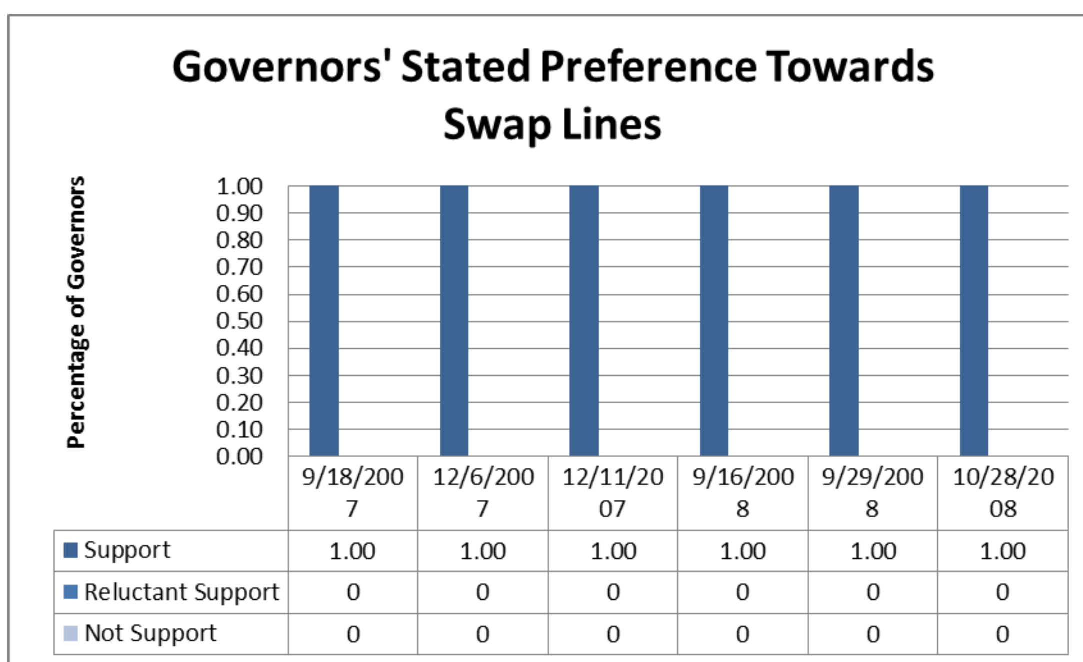
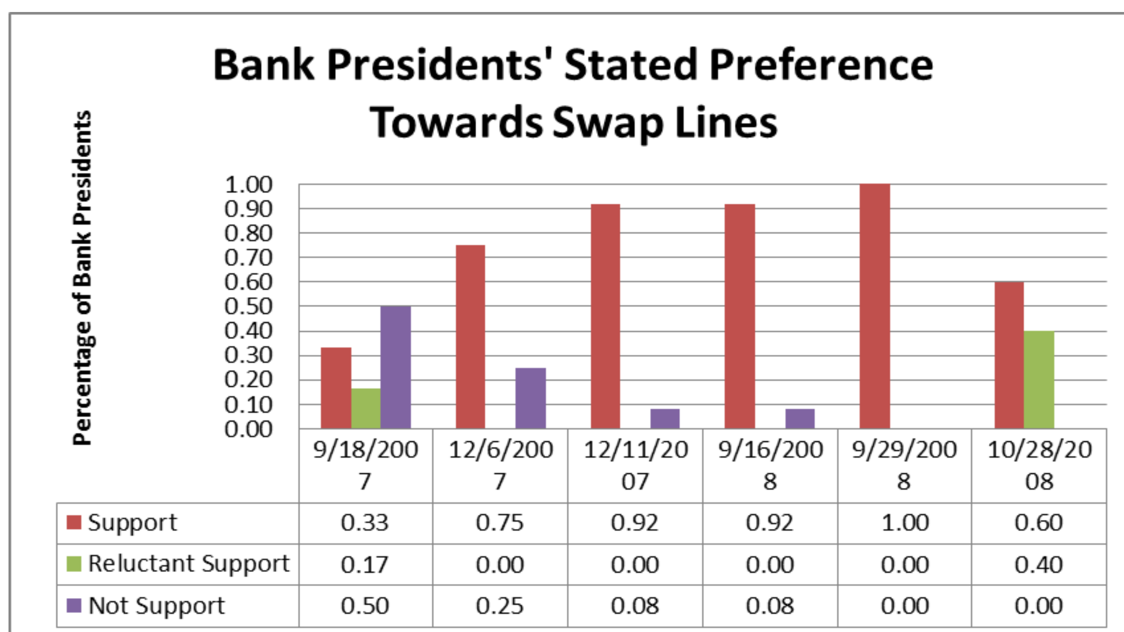


Figure 4 Governors' Stated Preference towards Swap Lines



	9/18/2007	12/6/2007	12/11/2007	9/16/2008	9/29/2008	10/28/2008
Support	0.33	0.75	0.92	0.92	1.00	0.60
Reluctant Support	0.17	0.00	0.00	0.00	0.00	0.40
Not Support	0.50	0.25	0.08	0.08	0.00	0.00

Figure 5 Bank Presidents' Stated Preference towards Swap Lines

The stated preferences of the Bank Presidents show a significant amount of variation when compared to the preferences of the Governors. The transcripts show that Federal Reserve Governors only spoke when speaking in support of the swap line policies and did not show signs of disapproval of the Chairman's proposed course of action during the policy go-arounds. As illustrated in Figure 5, the Bank Presidents exhibited a much different approach to policy deliberation. In the early discussions of the swap lines there is a clear sense of discomfort over the use of swap lines as a liquidity facility in Europe. One explanation of the uncertainty of the Bank Presidents over the proper course of action for the international economy is that early in the crisis many FOMC members did not recognize the severity of the economic situation. Hindsight is able to give analysts a clear view of the severe market stresses as early as 2007, but central bankers did not have this luxury. It is evident in the transcripts that most FOMC member did not recognize this as the largest financial crisis since the Great Depression at the 2007 FOMC meetings when the swap lines were first considered. President Stern indicates a different read of the problems facing the economy at the December 6, 2007 FOMC meeting, "I don't pretend to

have great insight into that, but my sense is that this is more of a capital, balance sheet, credit loss problem than a liquidity problem per se." This statement may explain his disapproval of the policy in the go-around. Many other Bank Presidents voiced more optimistic views than were warranted at the time that the swap lines were first considered. President Lacker spoke against the use of credit facilities saying, "Times like these don't come around very often--you know, once a decade--and my sense is that the precedent we set here is going to be remembered for a long time and it's going to affect market behavior for a long time to come as well". He grouped the 2007 financial crisis with the type of financial crises that the United States experiences once in a decade. While he was wrong in his perception of the severity of the crisis, he properly weighed the implications of the Federal Reserve's decisions on the future of the economy.

The differences in the Bank Presidents stated preferences may provide evidence for the null hypothesis. The preferences of the Bank Presidents begin to condense as the severity of the economic crisis is widely recognized on September 15, 2008 when Lehman Brothers filed for bankruptcy. This supports the null hypothesis that the differences in central bankers stated preferences was because of different perceptions of the current state of the economy.

However, what explains the consistent behavior of the central bank Governors across the course of the financial crisis? These five voting members exhibit unwavering support for the swap lines across the course of the financial crisis. Again, the difference in behavior between the central bank Governors and Bank Presidents makes a strong case for political channels of influence in FOMC decision-making. Central bank Governors may place a stronger priority in supporting Chairman Bernanke's policy directives because they recognize that he will have to justify each of these new liquidity facilities developed during the crisis during Congressional testimony. It also may be that they have a close proximity to government because the president who appointed them is the current President. For this reason, Federal Reserve Governors may

have an incentive to support any type of low risk facility that may pull the current administration out of financial trouble.

September 18, 2007 FOMC Meeting		
	Support	Not Support
Dove	Bernanke Kohn Mishkin Geithner Evans* Rosengren Pianalto Yellen	Lockhart
Hawk	Krozner Warsh Stern*	Hoenig Poole Fisher Plosser Lacker

December 6, 2007 FOMC Meeting		
	Support	Not Support
Dove	Bernanke Kohn Mishkin Geithner Evans Rosengren Pianalto Lockhart Yellen	
Hawk	Krozner Warsh Hoenig Fisher Plosser	Poole Stern Lacker

December 11, 2007 FOMC Meeting		
	Support	Not Support
Dove	Bernanke Kohn Mishkin Geithner Evans Rosengren Pianalto Lockhart Yellen	
Hawk	Krozner Warsh Hoenig Fisher Plosser Stern Lacker	Poole

September 16, 2008 FOMC Meeting		
	Support	Not Support
Dove	Bernanke Duke Kohn Cumming** Evans Lockhart Rosengren Pianalto Yellen	
Hawk	Krozner Warsh Fisher Plosser Stern Bullard Hoenig	Lacker

September 29, 2008 FOMC Meeting		
	Support	Not Support
Dove	Bernanke Duke Kohn Geithner Evans Rosengren Pianalto Lockhart Yellen	
Hawk	Krozner Warsh Fisher Plosser Stern Lacker Bullard	

October 28-29, 2008 FOMC Meeting		
	Support	Not Support
Dove	Bernanke Duke Kohn Geithner Rosengren Pianalto Yellen	
Hawk	Krozner Warsh Fisher Plosser* Stern*	

Table 1 Hawk vs. Dove Swap Line Stated Preference Matrix

There has been a significant amount of evidence for the affect of the political influence through the appointment and oversight channels of the Executive and Legislative branch of

* President Evans and Stern at the September 18, 2007 meeting and President Plosser and Stern at the October 28, 2008 FOMC meeting all expressed "Reluctant Support" for the adoption of the proposed swap line policy.
**First Vice President, Christine Cumming, of the Federal Reserve Bank of New York stood in for Vice Chairman Geithner when he was unable to attend the September 16, 2008 FOMC meeting.

government. But is there a case for monetary ideology in affecting FOMC member preference? This analysis was done by using each FOMC member's "hawk" or "dove" ranking as measure of their monetary ideology. This information was gathered from a number of credible news organizations such as: Bloomberg, Thomson Reuters, the Wall Street Journal, and the Financial Times of London. Any FOMC member with a hawk-dove ranking from 1 to 3 was coded as a dove, and a ranking from 4-5 was coded as a hawk. The results provide evidence of an ideological bias towards the adoption of swap lines. It appears that noted Fed "hawks" show less of a preference towards the establishment or expansion of swap lines at each stage of the crisis. This could be explained by a hawk's preference to address financial stress through conventional monetary policy. This shift in policy was addressed by noted hawk President Fisher at the October 28, 2008 FOMC meeting "Frankly, I think we are at the point now where the liquidity mechanisms that we're trying to use, not our interest rate targeting, are really our monetary policy." Unlike hawks, it may be the case that doves are interested in taking unconventional measures in order to return to a state of normalcy in the market. Many different explanations of the difference in policy preference can be perceived, however the important finding from these transcripts is that there was a difference in the behavior of the Governors and the Bank Presidents. Additionally there was a difference in FOMC member behavior based on ideology. Close analysis of these six crisis meetings of the FOMC provide additional evidence of decades worth of research of political influence on central bank behavior. Many would expect that central bankers would fall back on macroeconomic principles when faced with a crisis environment, but it appears that political pressures are very prevalent in crisis decision behavior.

CONCLUSION

Viewing Federal Reserve decision-making through the lens of the 2007 financial crisis helps to draw out two important observations about decision-making on the FOMC. The first conclusion is that political pressure and ideological preference is very present in the internal debates of the FOMC committee—even when deciding on international questions of crisis relief. The second observation is that even when stated preferences were significantly divided in internal deliberations, Governors and Bank Presidents reached the same conclusion by the time of the official vote and voted nearly unanimously each time to approve the establishment and expansion of foreign liquidity swap lines. In my crisis analysis I have found significant support for the appointment and ideology hypotheses through my analysis of the transcripts of internal debate against the backdrop of an official voting record that initially looks like evidence for the null hypothesis. I will conclude that this consensus is the result of an internal phenomenon taking place during the FOMC meetings and further study of which can tell us a lot about the transformation to consensus in Federal Reserve decision-making.

First, we find strong support for the appointment process and proximity to the central government as explaining the difference in behavior of the Governors and Bank Presidents. Over the course of the crisis Bank Presidents asked 52 clarifying/dissenting questions about the proposed swap line policy compared to five questions ask by the Governors. Bank Presidents were also much more likely to state their disapproval or reluctant support for a swap line policy. Reserve Bank Presidents were unanimously in favor of the swap line policy during the policy go-around only at one meeting throughout the entire course of the crisis (September 29, 2008 FOMC meeting). Compare this to the behavior of the central bank Governors, who did not disapprove of the swap line policy once during each of the six crisis meetings regarding this policy. The

difference between the behavior of the Reserve Bank Presidents and Governors in internal deliberations is very clear throughout the course of the crisis. This is evidence for the existence of a systematic political difference in the factors which influence their policy preferences. The appointment process and therefore closer proximity to the central government for central bank Governors is a likely explanation for their increased political responsiveness, preference towards international coordination to alleviate the financial crisis, and preference towards internal and external consent in order to support the perceived autonomy of the Fed during a crisis situation. It becomes clear through the analysis of the crisis transcripts that Reserve Bank Presidents place a priority on the preservation of the Federal Reserve balance sheet and the effects of the proposed swap line policies on the health of their Reserve Bank districts. Both the central bank Governors and the Reserve Bank Presidents carry a degree of subjectivity into the internal deliberations of the FOMC. This preference bias is created by the appointment and selection process of each of the FOMC members.

Close analysis of the swap line transcripts supports the theory of monetary ideology as an influence on stated preferences towards the foreign liquidity swap lines. Each FOMC member's stated preference towards the foreign liquidity swap lines during the policy go-around was matched with their monetary ideology ranking of a hawk or dove. The hawk/dove ranking is a measure of central bank members' preferences towards the rate of inflation—and it is not expected to be a very descriptive or meaningful measure when considering questions of international monetary policy. However, the finding in the analysis is striking in that there appears to be a correlation between monetary ideology and preference towards the establishment of swap lines. Inflation doves appear much more likely than inflation hawks to approve the use of swap lines across the course of the crisis. Because inflation is not an issue when considering the decision to implement foreign liquidity swap lines we can draw two possible conclusions from this outcome. The first is that the correlation between the hawk ranking and the stated disapproval

of swap lines could be entirely coincidental. The *n* in this study is too small to prove or disprove the statistical significance of this correlation—the relationship may only be observed in the transcripts. The second and more interesting conclusion is that measures of monetary ideology may include other ideological and partisan preferences within the hawk or dove ranking. No measure able to completely separate all of the different preferences and factors that influence a FOMC members' ideology—and this measure may be able to tell us to some degree about the influence of partisanship on stated preferences in the Fed. However, we are unable to prove or disprove this conclusion without party affiliation information available for each of the FOMC members at this time. If this information could be obtained through a confidential survey we may be able to test for partisan influence during crisis decision-making in future research. However, at this time we can conclude that FOMC members stated preferences towards swap lines differed according to their monetary ideology, and there may be an underlying partisan influence present in their preferences.

One final implication that can be derived from the policy meetings during the 2007 financial crisis is the transformation to consensus that took place during each of the six meetings regarding the implementation of swap lines. In each of the six meetings varying degrees of uncertainty and disapproval towards swap line implementation were voiced by FOMC members during the policy go-around. However, over the course of the financial crisis only one FOMC member officially dissented in regards to the swap line program. A superficial analysis of the swap line implementation would provide evidence of a united Fed, and support for the null hypothesis that all FOMC members were reaching the same policy conclusion because they were making decisions based off of the same interpretation of the current economic conditions and recent economic history. The image of a united Fed creates a perception of certainty and autonomy in the midst of crisis and this is exactly the perception the Fed wants to have in order to produce credible and effective monetary policy. Closer analysis of the FOMC internal transcripts

shows that the null hypothesis does not holding during crisis situations and political and ideological considerations are very present in FOMC internal policy debates. What causes the Fed to transform from a state of disunity during internal deliberations to consensus in the official vote? The theories of the disutility of dissent and the role of the Chairman in building consensus may provide interesting explanations for this phenomenon and future research of the mechanisms of Federal Reserve decision-making. One other theory that may be interesting to test is the role of the Federal Reserve staff members in building consensus around the unconventional policies proposed during the crisis. The transcripts show that the staff members were very active in answering central bankers' questions and providing their professional opinion on the economic impacts of unconventional proposals such as swap lines. The disutility of dissent, the role of the Chairman in building consensus, and the role of the Federal Reserve staff are three interesting theories describing the transformation to consensus that takes place during crisis FOMC meetings. It would be interesting to test these relationships in future research to understand more about the decision-making process of the Fed. However, the data on the financial crisis is currently too limited to test the full impacts of each of these theories throughout the course of the 2007 financial crisis. In two years, after all of the financial crisis transcripts are made public this could be an interesting topic for future FOMC decision-making research to understand more completely the mechanisms that cause the transformation from politically driven opinions to consensus in the official vote.

The credibility of Federal Reserve policy decisions comes from its perceived independence and insulation from political pressures. The null hypothesis in this analysis is the ideal description of the decision-making process of the Federal Reserve. In this description, consensus is formed around a single policy alternative because it is calculated as the best response to the current economic conditions. This idealistic characterization of the FOMC is the description of a monetary policy institution that is fully independent from ideological and

political pressures. Analysis of the FOMC meeting transcripts during the 2007 financial crisis shows that political channels of influence through appointment, oversight, and ideological pressures do, in fact, weigh-in on the decision-making process of the FOMC members. Therefore, perceived independence through consensus in decision-making must be built through other means such as the role of the Chairman, and the disutility of dissent. The transformation process from dissent to consensus that takes place during the FOMC meetings is critical to the perceived independence of the Federal Reserve and therefore, the effect of their policies. This research of FOMC decision-making during the financial crisis has important implications on the efficacy of the policies developed during the 2007 financial crisis—especially in the case of foreign swap lines. It raises the question of the true origin of these crisis responses. To what degree were crisis programs implemented as a true response to the current global economic conditions, and to what degree were they a response to current political pressure for action? This research is limited in determining the degree to which political considerations influenced FOMC decisions during the crisis, but it provides evidence for the important conclusion that political influences were present in these meetings and decisions. These findings put a chink in the armor of the Federal Reserve's perceived independence, and the argument that these policies were the best responses to the financial crisis. The important political outcome of this research is that it provides evidentiary support for arguments that criticize the Fed's behavior during the 2007 financial crisis. The Fed is no longer a bastion of independence, but a political institution subject to classic bureaucratic problems in decision-making.

The biggest limitation I faced in my research was the limited size and availability of crisis data. The Fed continued the swap line program until February 1, 2010. The transcripts I analyzed were able to capture the initial swap line policy proposal at the beginning of the crisis, each of the important decisions about the expansion of the swap lines, and the peak of the swap line use on December 10, 2008. The transcript data available covered the most important

decisions made about the swap lines, as well as the most severe period of the financial crisis. This gave me a good perception of the influences on the FOMC's decisions, however, it would be interesting to see transcript data about the FOMC's opinion of the appropriateness and effectiveness of the program as the initial severity of the crisis subsides in 2009-2010. Unfortunately, the transcripts of the Federal Open Market Committee meetings are only released after a five year delay, so future research would have to wait on the release of these transcripts in 2016. My data was also limited by the lack of partisan variation in the current President and the appointing party of the current FOMC members. My data covered small time period—September 18, 2007-October 29, 2008—during the 2007 financial crisis and the current President (George W. Bush) did not leave office until January 2009. My analysis was therefore unable to address arguments and theories based on the political influence of the party of the current President and the effect on FOMC member preferences. My analysis took place during a rare period in history when all of the FOMC members, with the exception of President Poole in 2007, were appointed or took their positions under a Republican administration. The lack of variation in the appointing party of FOMC members did not allow me to test the possible relationships between appointment under a president from the same/different party as well as the behavior of Governors in the "out-party" (appointed by the party that is not the same as the current president). These limitations could be overcome by extending the analysis to cover the entire lifetime of the swap line program. After 2009, President Obama took office and new Governors and Bank Presidents were appointed to the FOMC. This would have provided the variation needed to analyze the effect of Presidential partisanship on decision-making, but this data will not be available for another two years. My analysis experienced one other limitation in my analysis of ideological effects on Bank President's and Governors stated preferences. Because of the lack of available and reliable data on political party of each FOMC member, I was prompted to use each member's hawk/dove ranking as a measure of monetary ideology. This is a measure of preferences towards domestic

inflation and by no means a perfect measure to use in questions of international monetary policy that have no direct effect on the level of domestic inflation. The validity of this measure for predicting domestic policy preferences is sometimes criticized by economists and analysts. However, credible market-watching firms such as Bloomberg, Thomson Reuters, the Wall Street Journal, and the Financial Times of London constantly measure and update these hawk/dove rankings for the Committee each year because of its predictive abilities. Therefore, while this measure is not a perfect measure of ideology, it does reflect the usual preferences of each FOMC member; therefore it is useful in my analysis to see if personal ideology had any effect on the decision to implement foreign liquidity swap lines.

Future research could extend this analysis in the manner of time, or the type of policy decisions analyzed. Analysis considering a larger number of meetings regarding the swap line decisions could further refine and give even more insight into the important influences affecting the decisions to continue and expand this liquidity program over the course of the crisis. More transcript data could also take an empirical approach to this case study analysis to allow for more concrete theories of influences on FOMC decision-making during crisis. Future analysis could also be extended to other controversial Fed decisions during the financial crisis such as the decision to implement the Term Auction Facility (TAF), a domestic liquidity program initiated at the same time as the swap lines, or their decisions to lend to systemically important financial institutions under article 13-A of the Federal Reserve charter—effectively bailing-out financial institutions the Fed deemed “too big to fail”. One of the most interesting areas of research that arises out of this analysis is the transformation to consensus that takes place during each FOMC meeting. What are the most important processes and factors that cause FOMC members to go from a relatively high level of dissent during the questions and policy go-arounds to a point of consensus at the official vote that leads to a 7.5% official dissent rate. Possible explanations for this transformation of preferences during each meeting could be: the role of the Chairman, factors

affecting the disutility of dissent, or the role of the Federal Reserve staff members—who were very active in FOMC discussion during the 2007 financial crisis. This case study analysis found that many of the differences in stated preferences and behavior of FOMC members are rooted in political influences on the Federal Reserve. Analysis of the most important factors that create consensus during crisis, and therefore a perception of independence and policy credibility for the Fed would be an interesting next step in understanding the nature of the Federal Reserve as a political institution.

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EDUCATION

The Pennsylvania State University, Schreyer Honors College University Park, PA
Bachelor of Arts in Economics, Bachelor of Arts in Political Science Expected May 2014

International Studies Institute at Palazzo Rucellai Florence, Italy
- Intensive study of Italian language, culture, and the European Union through course work and time abroad. Spring 2013

Honors/Awards: Class Marshall Department of Political Science Spring 2014, Paterno Fellows Program, Phi Kappa Phi Honor Society, President Sparks Award 2012, President's Freshman Award 2011, Dean's List Every Semester, Catherine Baker Knoll Scholarship

RESEARCH EXPERIENCE

Radboud University, The Future of Health Care Think-tank Nijmegen, the Netherlands
Research Team Member May 2013—Present
- Work with a team of ten students from Radboud University Honours Program and Penn State Honors College to develop a consultative report on a future cost-effective model of health care for a growing aging population.

De facto States Project, Penn State Political Science Department University Park, PA
Research Assistant Jan. 2012—Present
- Research databases analyzing and extracting relevant information about each de facto state.
- Translate passages of sources from Spanish to English.
- Synthesize regime type and territory data from multiple sources and develop a descriptive code sheet of each de facto state.
- Communicate effectively through code sheets and progress presentations during weekly meetings.

Center for Strategic and International Studies Washington, D.C.
Research Intern, Program on Crisis, Conflict, and Cooperation May 2012—Aug. 2012
- Collaborated with team members in the design, coding, and analysis of a dataset of 396 potential regime transition events from 1989-2010.
- Analyzed US responses to potential regime transitions and wrote case studies about the effect of US involvement on potential transitions in the post Cold-War era.
- Organized events and hosted international speakers offering analysis of current international crises.

LEADERSHIP EXPERIENCE

Presidential Leadership Academy University Park, PA
Member April 2011—Present

- Participate in highly selective critical thinking and leadership program based on academic achievements, community service, and demonstration of leadership potential.
- Practice multidimensional decision-making through team policy projects, interaction with leaders in business and government, and weekly blogs discussing current events.

Delta Zeta Sorority University Park, PA
Sisterhood Chair, Member Nov. 2011—Present

- Participate in charities such as: the Painted Turtle Camp for children with chronic illness, the Starkey Hearing Foundation, and THON—the Penn State IFC/Panhellenic Dance Marathon raising money to fight childhood cancer.

University Park Undergraduate Association University Park, PA
Panhellenic Representative Aug. 2010—Present

- Represent the Panhellenic community and develop a stronger relationship between the two organizations.
- Design events to explore issues affecting student life such as, Sexual Violence Awareness Week and Mental Health Awareness.

Blue and White Vision Council University Park, PA
Undergraduate Representative Sept. 2012—Dec. 2012

- Advocated for students' interests as the only Undergraduate Representative on a 24-member council composed of Trustees and University academic and administrative leaders focusing on the strategic challenges and opportunities facing Penn State and its leadership in the next five to ten years.