

IMAGINING THE FED: CENTRAL BANK STRUCTURE AND UNITED STATES
MONETARY GOVERNANCE (1913-1968)

by

NICOLAS WAYNE THOMPSON

A DISSERTATION

Presented to the Department of Political Science
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

June 2015

DISSERTATION APPROVAL PAGE

Student: Nicolas Wayne Thompson

Title: Imagining the Fed: Central Bank Structure and United States Monetary Governance (1913-1968)

This dissertation has been accepted and approved in partial fulfillment of the requirements for the Doctor of Philosophy degree in the Department of Political Science by:

Gerald Berk	Chairperson
David Steinberg	Core Member
Lars Skalnes	Core Member
Mark Thoma	Institutional Representative

and

Scott L. Pratt	Dean of the Graduate School
----------------	-----------------------------

Original approval signatures are on file with the University of Oregon Graduate School.

Degree awarded June 2015

© 2015 Nicolas Wayne Thompson

DISSERTATION ABSTRACT

Nicolas Wayne Thompson

Doctor of Philosophy

Department of Political Science

June 2015

Title: Imagining the Fed: Central Bank Structure and United States Monetary Governance (1913-1968)

This dissertation analyzes the institutional development and policy performance of the Federal Reserve System from 1913-1968. Whereas existing scholarship assumes Federal Reserve institutions have remained static since 1913, this project demonstrates that the Federal Reserve was a site of extensive institutional experimentation across its first half century of operations. The 1913 Federal Reserve Act created thirteen autonomous agencies without offering guidance regarding how these units should function as a coherent system. The extent to which this institutional jumble congealed into a central bank-like organization has fluctuated over time. Institutional changes were driven by external shocks and shaped by an ongoing internal debate about normative systemic governance. Some agents called for greater institutional centralization to increase the system's strategic capacity. Others drew upon shared liberal ideals to defend the system's decentralized governance traditions. These debates resulted in frequent reconstitutions of the policymaking regime. This dissertation argues the Fed's temporally-specific institutional configurations were consequential for United States monetary and exchange rate policies. During periods of relatively centralized Federal Reserve governance, internationally-oriented agents wielded control over the system's

policymaking levers to help stabilize the dollar's exchange rate. During periods of institutional fragmentation, by contrast, monetary policies grew increasingly rigid, promoting dollar instability. Consequently, the structure of American central banking institutions has important implications for both the domestic and international political economies. This project suggests that insights from the positive study of institutions should be applied to the design of central banking institutions. Although institutional fragmentation can check arbitrary power, it likewise can paralyze the policymaking process and undermine the formation and steady pursuit of long-term strategic goals.

CURRICULUM VITAE

NAME OF AUTHOR: Nicolas Wayne Thompson

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene
University of California, Santa Cruz

DEGREES AWARDED:

Doctor of Philosophy, Political Science, 2015, University of Oregon
Bachelor of Arts, Politics, 2007, University of California, Santa Cruz

AREAS OF SPECIAL INTEREST:

American Politics
International Political Economy

PROFESSIONAL EXPERIENCE:

Graduate Teaching Fellow, University of Oregon, September 2008 – June 2015

GRANTS, AWARDS, AND HONORS:

Travel Grant, American Political Science Association, 2014

William C. Mitchell Summer Research Award, University of Oregon, 2013, 2014

ACKNOWLEDGMENTS

I wish to express appreciation to all of those who have played key roles in the production of this manuscript. My deepest gratitude is reserved for the members of my dissertation committee who supported my choice to carry out an unorthodox project which challenged prevailing disciplinary boundaries. Professors Gerald Berk, David Steinberg, and Lars Skalmes dedicated countless hours helping sharpen my theoretical arguments and improve my analysis. I am also indebted to the broader Political Science Department faculty and graduate student body who have shaped my intellectual development and honed my research interests. I would also like to thank previous generations of Federal Reserve scholars and policymakers who laid the empirical foundations for this study. Similarly, I would like to thank the archivists at the Federal Reserve Bank of St. Louis who maintain the FRASER digital archive. Much of the primary research in this project would have been infeasible without their painstaking efforts of publishing the system's historical records online. A special thanks is reserved for my family members and my partner's family who have supported me throughout my academic journey. Finally, I would like to thank my partner, Reid Lesperance, for her support of my scholarly endeavors, willingness to relocate for my academic career needs, and faith in my ability to succeed within the academe.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION: POWER, DOMESTIC INSTITUTIONS, AND CURRENCY	
LEADERSHIP	1
The Institutional Sources of Currency Leadership	8
Research Design and Chapter Outline	13
II. AN INSTITUTIONAL THEORY OF U.S. MONETARY GOVERNANCE	18
Central Bank Architecture and Monetary Governance	19
Cycles of Central Bank Fragmentation in the United States	24
War as a Universal Central Bank Builder	24
Central Banks as Illiberal Institutions	25
III. ESCAPE FROM JEKYLL ISLAND: THE PARTISAN ROOTS OF FEDERAL	
RESERVE FRAGMENTATION (1913-1916)	30
Explaining the Federal Reserve System's Origin and Design	30
Reforming American Financial Institutions	36
The Financial Elite-led Explanation of the Federal Reserve Act	39
The Agrarian-led Explanation of the Federal Reserve Act	42
The Partisan Roots of Federal Reserve Fragmentation	44
The Fall of the Old Guard Republicans	47
The Money Trust Investigation and the 1912 Election	49
The Partisan Construction of the Federal Reserve Act	51
Subversive Agents: Formative Politics in the Federal Reserve (1914-1916)	58

Chapter	Page
McAdoo's Populist Bid for Supremacy	61
Warburg's Progressive Vision	68
Strong's Hegemonic Ambition	70
Collaborating to Reform the Federal Reserve Act.....	73
Conclusion: Assessing Federal Reserve System Development (1913-1916)	75
IV. THE FED'S STRUGGLE FOR POWER AND THE INTERWAR GOLD	
EXCHANGE STANDARD	79
The Friedman and Schwartz Hypothesis Revisited	80
U.S. Mercantilism and the Post-WWI International Political Economy	85
Economic Geography and the Limits of Federal Reserve Internationalism	89
The Fed's Struggle and the Interwar Gold Exchange Standard.....	94
The Discovery and Politicization of Open Market Operations.....	98
Orchestrating Great Britain's Return to Gold	102
Managing the Interwar Gold Exchange Standard (1925-1927).....	109
The Chicago Discount Rate Controversy	118
The New York Stock Market Boom and Wall Street's Capital Vortex.....	122
The New York Fed's Swift Response to the Stock Market Crash.....	128
Central Bank Fragmentation in the Gold Exchange Standard's Twilight	131
The 1931 Global Crisis and Sterling's Collapse	141
Conclusion: Ideas, Interests, and Institutions	150

Chapter	Page
V. CENTRAL BANKERS AND THE FIGHT TO SAVE BRETTON WOODS	161
How Federal Reserve Institutions Hastened Bretton Woods' Collapse	162
The Fed's Rationalization, Capture, and Wartime Development	166
The Battle for the Heart of the Federal Reserve (1951-1955)	175
The House that Martin Built: Policymaking on the Consensual FOMC	186
Economists at the Gates: Central Bankers in Bretton Woods' Heyday	188
The Battle to Shape Currency Policy inside Kennedy's New Frontier	197
Constructing the Dollar's Outer Perimeter Defenses.....	201
Monetary Policy Rigidity in the Kennedy Years	210
Keynesian Ascendancy and Macroeconomic Disorder under Johnson	216
The Collapse of Bretton Woods.....	226
VI. CONCLUSION: THE INSTITUTIONAL ROOTS OF U.S. CURRENCY	
LEADERSHIP	234
REFERENCES CITED.....	246

LIST OF FIGURES

Figure	Page
1. Varieties of Currency Leadership	12
2. Map of the Federal Reserve System.	63
3. U.S. Fiscal and Trade Surpluses and Gold Reserves (1920-1930)	88
4. Institutional and Policy Preferences across the Federal Reserve Banks	92
5. Paid-In Capital of the Federal Reserve Banks (millions)	94
6. New York and London Interest Rates (1923-1925).....	106
7. New York and London Interest Rates (1927)	117
8. Comparative National Monetary Gold Stock, \$ Millions USD	122
9. New York and London Interest Rates (1928-1929).....	124
10. Federal Funds Rate and U.S. Monetary Gold Stock in Millions (1958-1968)	165
11. Short- and Long-term Treasury Rates (1961-1965).....	204
12. Percentage of Unanimous FOMC Policy Directive Votes (1956-1964)	212
13. Federal Reserve Policy-Related Interest Rates (1965-1968)	224

LIST OF TABLES

Table	Page
1. Roll Call Votes on the Federal Reserve Act (1913)	58
2. Wartime Reforms of the Federal Reserve Act.....	78
3. Depression-era Financial Reforms.....	173

CHAPTER I

INTRODUCTION: POWER, DOMESTIC INSTITUTIONS, AND CURRENCY LEADERSHIP

We shall deal with our economic system as it is and as it may be modified, not as it might be if we had a clean sheet of paper to write upon; and step by step we shall make it what it should be...

President Woodrow Wilson, Inaugural Address, 1913

The dollar is our currency, but it's your problem.

Treasury Secretary John Connally, G-10 Meeting, 1971

America's constitutional traditions have potential pitfalls, but saying so won't make you popular. Constitutional restraints on government are widely celebrated as the wellsprings of American democracy. In a country where politicians rally support by wielding copies of the Constitution, checks and balances, separated powers, and federalism, reign supreme. There is a darker side to U.S. constitutionalism, however. The same political divisions which prevent the enthronement of a tyrant likewise slow policy adjustments and erode national strategic capacity. As national power is fragmented and dispersed throughout polity and society, government's ability to decide upon and pursue national goals is limited.¹ Nearly two centuries ago, Alexis de Tocqueville warned that America's democracy was "decidedly inferior" in the foreign policy realm and susceptible to "abandon[ing] a mature design for the gratification of a momentary

¹ Samuel Huntington derided the U.S. as a "Tudor polity," arguing that the Constitution's crafters, in their haste of to prevent the rise of an absolute monarch, built a decentralized political order incapable of governing. Huntington, Samuel P. 1968. *Political Order in Changing Societies*. New Haven: Yale University Press: 68.

passion.”² By fragmenting foreign policy authority across the executive and legislative branches, the Constitution created “an invitation to struggle” over national strategic priorities.³ As the U.S.’s unrivaled economic success vaulted it onto the world stage in the twentieth century, its fragmented foreign policymaking processes developed into a governance dilemma that Theodore Lowi has called “Woodrow Wilson’s Problem in Reverse.”⁴ Given the hegemonic pull of the U.S. economy, other states have long looked to the U.S. for international leadership.⁵ Instead of engaging a coherent state actor, however, foreigners are confronted with “an extension of domestic processes, practices, and values.”⁶ The Janus-faced nature of fragmented U.S. political processes means that foreigners and Americans alike are often frustrated in their attempts to steer the U.S. government on a steady strategic course sustaining a coherent foreign policy mix.

The governance dilemma Lowi highlights is rooted in the American practice of using constitutional restraints to suppress and disperse power at the domestic level. Fragmenting devices functioned adequately in the antebellum era when societal wealth and power were dispersed widely. As national wealth grew and concentrated rapidly after the Civil War, however, America’s fractured governing institutions proved incapable of suppressing societal power. Reluctantly, in response to economic development,

² Toqueville, Alexis de. [1835] 1990. *Democracy in America: Volume 1*. New York: Vintage Books: 235.

³ Corwin, Edwin. 1975. *The President, Office and Powers, 1787-1957: History and Analysis of Practice and Opinion*. New York: New York University Press: 171.

⁴ Lowi, Theodore J. 1967. “Making Democracy Safe for the World,” In *Domestic Sources of Foreign Policy*, ed. James N. Rosenau. New York: The Free Press, 301– 302.

⁵ Kindleberger, Charles. 1973. *The World in Depression, 1929-1939*. Berkeley: University of California Press.

⁶ Lowi 1967.

Americans began building bureaucratic agencies.⁷ To navigate their collective “dread” of central state authority, however, Americans drew from the constitutional order around them to design agencies with decentralized federal structures and fragmented authority.⁸ Since bureaucracies were designed to solve specific problems at discrete moments in time, Americans haphazardly layered new institutional orders atop of old.⁹ As the American state grew, institutional fragmentation increased, expanding the scope of conflict over national priorities, and further reducing state strategic capacity.¹⁰

The trend toward increasing fragmentation has not been secular, however. National crises, such as the march to war, trigger consolidations of governing authority within the American state. When it is agreed that crisis conditions require urgent policy responses, agents withdraw fragmented claims to governing authority. As state power concentrates, presidents are empowered to make swift decisions based on their perceptions of the national interest.¹¹ A president’s grasp on state power quickly erodes after crises pass, however. As excluded agents re-invoke claims to governing authority,

⁷ Skowronek, Stephen. 1982. *Building a New American State: The Expansion of National Administrative Capacities, 1877-1920*. New York: Cambridge University Press.

⁸ Morone, James A. 1991. *The Democratic Wish: Popular Participation and the Limits of American Government*. New Haven: Yale University Press.

⁹ Orren, Karen and Stephen Skowronek. 1994. “Beyond the Iconography of Order: Notes for a New Institutionalism.” In *The Dynamics of American Politics: Approaches and Interpretations*, eds., Lawrence C. Dodd and Calvin Jillson. Boulder: Westview Press, 311-30.

¹⁰ Lowi (1967, 314) notes, “Fragmentation and conflict perpetuate themselves in separated agencies, each with statutory integrity, none enjoying many rights to intervene in the processes of others... seriously impair[ing] efforts to put these instruments to the service of political strategies.”

¹¹ Lowi 1967; Zakaria, Fareed. 1999. *From Wealth to Power: the Unusual Origins of America's World Role*. Princeton: Princeton University Press.

the polity re-fragments. As Lowi laments, the return of fragmented governance leads to strategic conflict and declining foreign policy coherence.

In the wake of the twentieth century's two world wars, U.S. presidents embarked on grand international order-building initiatives to re-establish a liberal international economy and make American power appear less threatening abroad.¹² Their ability to bind the U.S. to international regimes was limited, however, by constitutional requirements that the Senate ratify international treaties. Consequently, the U.S. didn't join the League of Nations after WWI and the post-WWII attempt to construct an International Trade Organization was stillborn. Even when U.S. politicians surmount constitutional barriers and commit the U.S. to join international organizations, they are unable to prevent subsequent policymakers from exploiting the U.S.'s powerful position inside them. Thus, the U.S. is both a "system maker" and a "privilege taker."¹³

At the core of Lowi's governance dilemma is an American pathology. Most Americans hold incoherent institutional and policy preferences. They celebrate their political institutions, and the constitutional traditions which inform them, while consistently lamenting the policy outcomes their institutions produce. Americans regularly bemoan Washington's gridlock, but few advocate fundamental reforms to the U.S.'s governing institutions. Most would agree with former Federal Reserve Board Chairman William McChesney Martin's sentiment that "...an institution will in the last analysis render good or bad public service depending upon the abilities of the human

¹² Ikenberry, G. John. 2000. *After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order after Major Wars*. Princeton: Princeton University Press.

¹³ Mastanduno, Michael. 2009. "System Maker and Privilege Taker: U.S. Power and the International Political Economy." *World Politics* 61 (1): 121-154.

beings engaged in its operation rather than upon its organizational form and structure...”¹⁴ Instead of rationalizing their fragmented governing institutions, Americans prefer to exercise their democratic prerogatives by voting politicians out of office. While the faces in Washington regularly change, collective disappointment over policy outcomes does not.

This dissertation explores this institutional dilemma from the vantage of U.S. monetary and exchange rate policy. Today, these are considered separate issue areas delineated by a neat institutional division-of-labor.¹⁵ The Federal Reserve System, America’s central bank, is charged with charting domestic monetary policy (interest rate policy), while the Treasury presides over international monetary policy (exchange rate policy). This dissertation’s empirical chapters demonstrate that this institutional division-of-labor was not cemented prior to the U.S.’s *de facto* abandonment of dollar convertibility into gold in 1968, however. From the Federal Reserve’s 1914 origin through the final days of Bretton Woods, central bankers collaborated with, and competed against, U.S. Treasury officials to shape national currency policies. Central bankers played pivotal roles in stabilizing the interwar gold exchange standard and the Bretton Woods fixed exchange regime. Their ability to promote currency stability was limited, however, by the institutional structures they inhabited as well as external policies beyond their control. As will be demonstrated in this study’s empirical chapters,

¹⁴ Congress. Joint Committee on the Economic Report. Subcommittee on General Credit Control and Debt Management. 1952. 82nd Cong., 1st sess., 11 March, 5.

¹⁵ Destler, Irving M. and C. Randall Henning. 1989. *Dollar Politics: Exchange Rate Policymaking in the United States*. Washington, D.C.: Institute for International Economics; Henning, C. Randall. 1994. *Currencies and Politics in the United States, Germany, and Japan*. Washington, D.C.: Peterson Institute.

however, the Fed's central bankers have suffered from the same pathology of misaligned institutional and policy preferences that plagues U.S. society broadly. Time and again, internal governance struggles have resulted in the casting off of hierarchical policymaking institutions in favor of more fragmented processes. I argue that participatory processes have repeatedly undermined the system's policy goals.

Since the 1970s, the U.S. has adopted a floating exchange rate regime. From a social welfare perspective, the floating dollar standard likely benefits a majority of Americans. In a large economy where domestic commerce dwarfs international transactions, most citizens benefit from the domestic monetary policy autonomy afforded by exchange rate flexibility.¹⁶ Contemporary economists also generally argue that fixed exchange rate systems do not promote international trade and social welfare.¹⁷ Earlier generations of scholars and practitioners firmly believed, however, that stable exchange rates lubricated international trade and investment.¹⁸ A minority of contemporary economists argue that the U.S. should attach greater priority to promoting exchange rate stability due to the dollar's central role in the global economy.¹⁹

¹⁶ From the perspective of the macroeconomic trilemma, in a world of high capital mobility, states are forced to choose between exchange rate stability and domestic monetary policy autonomy. For a theorization of the societal distributional implications of this choice, see Frieden, Jeffry. 1991. "Invested Interests: the Politics of National Economic Policies in a World of Global Finance." *International Organization* 45 (4): 425-451. Recent scholarship has argued that even in states with small domestic markets, the median citizen prefers monetary policy autonomy over exchange rate stability. See, for example, Bearce, David H. and Mark Hallerberg. 2011. "Democracy and de facto Exchange Rate Regimes." *Economics & Politics* 23 (2): 172-194.

¹⁷ For example, see Bacchetta, Philippe, and Eric Van Wincoop. 2000. "Does Exchange-Rate Stability Increase Trade and Welfare?" *American Economic Review* 90 (December): 1093-1109.

¹⁸ For example, see Nurkse, Ragnar. 1944. *International Currency Experience: Lessons of the Interwar Period*. No. 4. Geneva: League of Nations.

¹⁹ For example, see McKinnon, Ronald I. 2013. *The Unloved Dollar Standard: From Bretton Woods to the Rise of China*. New York: Oxford University Press.

This project is agnostic regarding the desirability of fixed exchange rate systems. Rather, exchange rate policy is explored as an arena where international and domestic politics collide to evaluate my broader argument regarding the institutional determinants of strategic capacity. At the conclusion of each of the twentieth century's world wars, key U.S. leaders recognized the re-establishment of fixed exchange regimes as a strategic priority. Many considered stable exchange rates a prerequisite for restoring a prosperous, liberal, international economy. Declaring an exchange rate parity and implementing the policies necessary to sustain it are two different beasts, however. After World War One, the U.S. was the only state to quickly re-establish its currency's convertibility into gold. It failed to support this external commitment with dollar-stabilizing policies, however. Instead, the U.S. implemented austere macroeconomic policies and trade protectionism which exported deflationary pressures abroad and promoted dollar undervaluation. Consequently, John Maynard Keynes derided the early 1920s international monetary regime as "A dollar standard... set upon the pedestal of the golden calf."²⁰

For better or for worse, the world has lived in an era of international dollar leadership since WWI.²¹ The U.S.'s explosive growth in relative economic power during the war was evidenced by its rapid transition from a net debtor country to the world's foremost creditor and its concentration of global monetary gold reserves. Since Keynes'

²⁰ Keynes, John Maynard. 1923. *A Tract on Monetary Reform*. London: Macmillan.

²¹ Barry Eichengreen and Marc Flandreau (2012) have argued that the Federal Reserve System's market-making actions helped buoy the dollar to international currency status during WWI, earlier than is conventionally understood. Alternatively, Silber (2007) has argued the Treasury Secretary's 1914 closure of the New York Stock Exchange supported the U.S.'s rise to monetary supremacy. See Eichengreen, Barry and Marc Flandreau. 2012. "The Federal Reserve, the Bank of England, and the Rise of the Dollar as an International Currency, 1914–1939." *Open Economies Review* 23 (1): 57-87; Silber, William L. 2007. *When Washington Shut Down Wall Street: The Great Financial Crisis of 1914 and the Origins of America's Monetary Supremacy*. Princeton: Princeton University Press.

early critique, successive generations of scholars have criticized the U.S. for destabilizing the international monetary regime.²² The frequency with which the U.S. has disrupted international monetary relations makes it appear as though it is an inherently-poor currency leader. This is hardly surprising. The number of citizens who benefit from a flexible exchange rate far surpass those who prefer the discipline of external stability. Given the lopsided nature of this distributional struggle, it is truly remarkable that U.S. policymakers ever succeeded in stabilizing fixed exchange rate systems. Nevertheless, for periods during both the interwar period and Bretton Woods, the U.S. did manage to absorb international adjustment costs and stabilize fixed exchange rate regimes.

The Institutional Sources of Currency Leadership

Scholars since Charles Kindleberger have argued that economically dominant states have a responsibility to stabilize the international economy. Kindleberger provided a demanding list of international leadership functions which needed to be performed by “one stabilizer,” including: maintaining an open market for distressed goods, supplying steady capital exports, providing international lender-of-last resort facilities, managing a fixed exchange rate system, and coordinating domestic monetary policies.²³ Subsequent scholars have refined Kindleberger’s stabilizing functions and parsed them across

²² For example, see Kindleberger 1973; Block, Fred L. 1977. *The Origins of International Economic Disorder: a Study of United States International Monetary Policy from World War II to the Present*. Berkeley: University of California Press; Henning, C. Randall. 1998. “Systemic Conflict and Regional Monetary Integration: The Case of Europe.” *International Organization* 52 (3): 537-573.

²³ Kindleberger 1973, 292. Lake (1993) has argued that Kindleberger’s five functions can be subsumed within the three functions of providing: an international vehicle currency, sufficient global liquidity, and an international property rights regime. Lake, David A. 1993. “Leadership, Hegemony, and the International Economy: Naked Emperor or Tattered Monarch with Potential?” *International Studies Quarterly* 37 (4): 459-489.

discrete policy areas. One strand of this literature focuses on the political economy and sources of international currency leadership.

The benefits and costs of currency leadership are straightforward. The main benefits include seigniorage revenue for the state and denomination rents for society's international financiers.²⁴ Because currency leaders can settle international transactions in their domestic currency, and foreigners are willing to hold that currency as an asset, currency leaders can easily finance external deficits and are not forced to stockpile foreign reserves. The costs of currency leadership mirror its benefits. Because reserve currencies are used as a medium of exchange and a store of value, foreigners have a stake in ensuring reserve currency stability. Consequently, currency leaders must take into account follower states' preferences when charting macroeconomic policies. If follower states decide a leader's policies are reckless, they can threaten to liquidate their stockpiles of that reserve currency and thereby push adjustment costs onto the currency leader.²⁵

The literature on the sources of international currency leadership focuses on economic structural considerations and domestic policies and institutions. There are three key economic determinants of currency leadership: confidence, liquidity, and transactional networks.²⁶ Market participants prefer a reserve currency which they

²⁴ James, Harold. 1996. *International Monetary Cooperation since Bretton Woods*. New York: Oxford University Press: 152; Broz, J. Lawrence. 1997. *The International Origins of the Federal Reserve System*. Ithaca: Cornell University Press: 55-85; Toniolo, Gianni. 2005. *Central Bank Cooperation at the Bank for International Settlements, 1930-1973*. New York: Cambridge University Press: 352.

²⁵ For an analysis of the politics of currency followership, see Pauly, Louis W. 2006. "Monetary Statecraft in Follower States." In *International Monetary Power*, ed. David M. Andrews. Ithaca: Cornell University Press, 184-207.

²⁶ Helleiner, Eric. 2008. "Political Determinants of International Currencies: What Future for the US Dollar?" *Review of International Political Economy* 15 (3): 354-378.

believe will retain its value, will remain readily available, and will be accepted by others. These structural sources provide strong incumbency advantages, introducing a high degree of path-dependence into the international monetary regime.²⁷ Scholars also argue that would-be currency leaders' domestic policies shape market participants' reserve currency decisions. Scholars have also specified domestic prerequisites for international currency leadership. These include institutionally-embedded commitments to relatively conservative monetary policies and deep and liquid financial markets.²⁸ One means of cultivating these domestic conditions is by delegating monetary policy discretion to an independent central bank.²⁹ In the early twentieth century U.S., international financiers demanded that a central bank be established to manage the gold standard, cultivate domestic financial markets, and issue an internationalizable currency.³⁰ Before the Federal Reserve Act was even passed by Congress in 1913, however, the leaders of this elite social movement recognized that the proposed reform would create too fragmented of a central banking system to achieve their domestic and international objectives.³¹

²⁷ This leads some scholars to argue that only one reserve currency can achieve a global status at any given point in time. See, for example, Cohen, Benjamin J. 2004. *The Future of Money*. Princeton: Princeton University Press, 2004.

²⁸ Broz 1997, 9; Walter, Andrew. 2006. "Domestic Sources of International Monetary Leadership," In *International Monetary Power*, ed. David M. Andrews. Ithaca: Cornell University Press, 2006: 51-71.

²⁹ Central bank independence remains the workhorse institutional approach to analyzing central bank behavior. This literature suggests a positive relationship exists between central banks' level of autonomy when forging monetary policy decisions and price stability outcomes. For an overview of this broad literature, see Stanley Fischer, "Central-bank Independence Revisited." *The American Economic Review* (1995): 201-206.

³⁰ Broz 1997; Eichengreen, Barry. 2011. *Exorbitant Privilege: The Rise and Fall of the Dollar and the Future of the International Monetary System*. New York: Oxford University Press.

³¹ Warburg, Paul M. 1913. "The Owen-Glass Bill as Submitted to the Democratic Caucus: Some Criticisms and Suggestions." *The North American Review* 198 (695): 527-555.

This dissertation argues that benign and coercive currency leadership are distinguishable empirically and relatively centralized political institutions are better suited for promoting benign currency leadership. I suggest that the alignment of currency leaders' *de jure* and *de facto* exchange rate regimes provides a useful metric for evaluating the nature of their leadership. When currency leaders adopt a currency peg, they can promote international monetary stability by enacting policies which align their currency's legal and market values. According to this definition, benign currency leadership entails provision of a steady currency anchor for fixed exchange rate regimes. Contrastingly, when currency leaders on fixed regimes allow their real exchange rates to diverge widely from their nominal values, they export destabilizing shocks. A similar logic applies when currency leaders adopt flexible exchange rates. Under a floating regime, currency leaders are freed from external constraints in determining their economic policies. Currency leaders might be tempted to leverage their powerful position to pressure other states to make exchange rate adjustments. In the modern era of floating exchange rates, U.S. officials have occasionally pressured other states to appreciate their currencies to fight dollar overvaluation, a coercive behavior described by one analyst as an "exchange rate weapon."³²

In short, states exercise benign currency leadership by sheathing their monetary power (see Figure 1). Benjamin Cohen has identified two ways in which states exercise international monetary power, by delaying the absorption of international adjustment

³² Henning, C. Randall. 2006. "The Exchange Rate Weapon and Macroeconomic Conflict." In *International Monetary Power*, ed. David M. Andrews. Ithaca: Cornell University Press, 117-138.

costs and shifting those costs onto their trading partners.³³ Since currency leaders have the “exorbitant privilege” of settling international payments in their domestic currency, they can persistently live beyond their means.³⁴ This makes it easy to forego needed policy adjustments which would entail distributing adjustment costs domestically. Currency leaders which absorb international adjustment costs exercise more benign forms of currency leadership. By contrast, leaders that refuse to absorb adjustment costs exercise more coercive forms of currency leadership and destabilize fixed exchange rate regimes.

Figure 1: Varieties of Currency Leadership

		Leadership Style	
		Benign	Coercive
Regime	Fixed	Absorb international adjustment costs; Enact policies which promote real exchange rate stability	Delay and deflect international adjustment costs Ignore divergences between real and nominal exchange rate
	Floating	Provide sufficient international liquidity; Accept market-determined exchange rate level; Tolerate external pegs	Delay and deflect international adjustment costs; Use "exchange rate weapon" to pressure other states

In a highly fragmented country like the U.S., distributing adjustment costs domestically can be a difficult process. Decisions over fiscal and trade policies are governed by protracted institutional processes which require both legislative and executive branch approval. Those policy instruments adjust slowly and only sometimes in response to changing economic conditions. In the U.S.’s veto player filled political system, the one institution which can seemingly make quick and decisive policy

³³ Cohen, Benjamin. 2006. “The Macrofoundations of Monetary Power.” In *International Monetary Power*, ed. David M. Andrews. Ithaca: Cornell University Press, 2006: 31-50.

³⁴ Toniolo 2005, 352.

adjustments is the nation's central bank.³⁵ The Democrats who crafted the Federal Reserve Act disdained central banks, however, and consequently sought to create a decentralized institutional alternative. The extent to which the Fed's fragmented institutions have congealed into a central bank-like structure has varied dramatically over time. In some periods, it has resembled a centralized "Fed" capable of implementing swift policy adjustments. In others, it has had fragmented processes which make rapid policy adjustments difficult. This dissertation argues that since WWI, transitions between centralized and fragmented Federal Reserve governance have contributed to deteriorations in dollar stability and U.S. currency leadership.

Research Design and Chapter Outline

This dissertation generalizes an institutional hypothesis advanced in Milton Friedman and Anna Schwartz's seminal *A Monetary History of the United States*.³⁶ Friedman and Schwartz famously blamed the Federal Reserve's monetary policies for the duration and severity of the Great Depression. They argue that a 1930 increase in the Federal Reserve's fragmentation contributed to its subsequent misguided policies. The next chapter develops an institutional theory of central bank structures which explains how institutional fragmentation promotes monetary policy rigidity and undermines currency stability. It also explores the tensions of sustaining a U.S. central bank. It argues

³⁵ Tsebelis, George. 1995. "Decision Making in Political Systems: Veto Players in Presidentialism, Parliamentarism, Multicameralism and Multipartyism." *British Journal of Political Science* 25 (3): 289-325.

³⁶ Friedman, Milton and Anna J. Schwartz. 1963. *A Monetary History of the United States, 1867-1960*. Princeton: Princeton University Press.

that wartime crises promote central bank development, but after crises pass internal governance struggles increase central bank fragmentation.

Unlike Friedman and Schwartz who evaluate Federal Reserve policies from a domestic lens, this project locates Federal Reserve policy debates within broader struggles in the international monetary realm. It weaves together segmented debates among international political economists and financial historians regarding the determinants of fixed exchange rate systems and the Federal Reserve System's historic policy triumphs and failures. Following Friedman and Schwartz, it adopts a narrative approach for evaluating monetary phenomena.³⁷ One consequence of the Federal Reserve's foundational fragmentation was that a wide array of the system's early officials claimed a right to weigh in on policy decisions. Due to the limited state of macroeconomic knowledge, however, these agents held wildly diverging understandings of the proper means and ends of monetary policy. From the system's origin, Federal Reserve Bank of New York (FRBNY) officials began developing an internationally-oriented policy framework based on their understandings of the European central banking experience which was more coherent than those held by many of their colleagues. In monetary policy debates drawn from across the system's first half century of operations, FRBNY representatives squared off against other system officials and pushed for policies to promote dollar stability. Their ability to win these debates was often shaped by the system's degree of institutional fragmentation.

³⁷ This approach is extended in Romer, Christina D., and David H. Romer. 1989. "Does Monetary Policy Matter? A New Test in the Spirit of Friedman and Schwartz." *NBER Macroeconomics Annual, Volume 4*. Cambridge: MIT Press, 121-184.

To evaluate these claims, I adopt a historical institutional approach to analyze both the sources and consequences of institutional change within the Federal Reserve System. Many historical institutionalist scholars argue that the passage of time leads to increasing institutional stability and consider exogenous shocks the primary drivers of institutional change.³⁸ Following in the tradition of American political development scholars, however, this dissertation focuses on unsettled governance debates as the sources of institutional change.³⁹ The project pays little analytic attention to the legislative development of the Federal Reserve Act after 1913. Instead, it traces how governance debates unfolded inside the Fed to reshape its policymaking regime. Although the shock of war repeatedly led to institutional centralizations, these consolidations of authority did not prove durable. After the system's operational independence was restored, the system's internal power struggle resurfaced and led to institutional fragmentation. Even central bankers with strong policy preferences couldn't resist the allure of participatory decision-making processes. Like Americans broadly, these central bankers revered institutions incapable of delivering their policy goals.

This dissertation's empirical core consists of three chapters. The first chapter enters into debates surrounding the Federal Reserve's origin. It offers a novel interpretation of the Federal Reserve Act's legislative enactment rooted in the demands of partisan coalition-building. Since Democrats desired to achieve the functional benefits of

³⁸ For an example of this approach applied to the Federal Reserve System, see Corder, Kevin. 1998. *Central Bank Autonomy: The Federal Reserve System in American Politics*. New York: Garland Publishing.

³⁹ It is undertaken in the spirit of Orren and Skowronek's (1994, 321) call to "investigate, head on, the contingent temporal alignments and simultaneous movement of relatively independent institutional orderings that riddle political action."

a central bank without the hierarchical form, they looked to the constitutional order around them to build a fragmented alternative. Unsurprisingly, would-be central bankers were not pleased with this design and continued trying to reshape the system long after it began operations in 1914.

The second and third empirical chapters explore the outbreak of power struggles inside the system after regaining operational independence following major wars which resulted in major transformations of the system's policymaking regime. The second chapter explores the Federal Reserve's role in the construction, stabilization, and demise of the interwar gold exchange standard. It argues that the creation of a compact monetary policymaking committee in the early 1920s enabled the system to help stabilize the dollar despite the U.S. state's commitment to mercantilism. This committee's subsequent fragmentation was a proximate cause of the Federal Reserve's lackluster policy responses during the Great Depression. Although New York's central bankers called for expansionary policies to halt the global deflationary slide, they were hamstrung by fragmented procedures which empowered voices urging caution.

The final empirical chapter explores the Federal Reserve's role in "patching up" Bretton Woods during the 1960s. In that decade, the system took on a resurgent diplomatic role and collaborated with European central bankers to build new financial architecture to stabilize the fixed exchange rate regime. The system's leaders of this international movement pushed for complementary restrictions of U.S. monetary policy in defense of the dollar. They were frustrated in their attempts to implement monetary austerity, however, by increasing ideological polarization and a fragmented decision-

making processes. Had the system retained its hierarchical institutions inherited from its wartime capture, it likely would have tightened policy earlier in the sixties and helped prolong Bretton Woods.

CHAPTER II

AN INSTITUTIONAL THEORY OF U.S. MONETARY GOVERNANCE

Central bank architecture matters. This chapter develops an institutional theory of American monetary policy which explains why and how changes in the structure of U.S. central banking institutions have impacted the U.S.'s ability to stabilize the dollar's exchange rate. Scholars have analyzed the political economy of a wide range of institutions but have thus far overlooked the impact of central bank decision-making structures on monetary outcomes.⁴⁰ I identify central bank structures as varying across a continuum from highly centralized to extremely fragmented. Fragmented central banks are less likely to change monetary policies than their centralized counterparts. To support currency stability, however, central banks require a degree of policy flexibility. Therefore, fragmented central banks are ill-equipped to support currency stability. Consequently, domestic reforms which reshape central bank architectures can significantly impact both the domestic and international political economies.

This theoretical chapter is divided into two sections. In the first section, I unpack the relationships among central bank structures, monetary policy outcomes, and fixed exchange rates. In the second section, I theorize an historical pattern of recurring centralizations and dispersions of US central banking authority and link it to episodic US attempts to stabilize the dollar. The prosecution of wars leads to consolidations of US

⁴⁰ e.g. democracies versus dictatorships, proportional representation versus single member plurality electoral systems, independent versus dependent central banks.

national financial authority, but war-induced central bank building fails to sustain itself after crises pass. Since 1914, this macro-historical pattern has unfolded within the institutional confines of the Federal Reserve System. After regaining operational independence following WWI and WWII, latent governance debates reemerged within the Fed which gradually increased its fragmentation. These institutional changes disempowered the Fed's internationally-oriented agents and decreased the institution's capacity to make decisive policy adjustments. Over time, rigid monetary policies came into conflict with fixed exchange rate objectives. Changes in US central bank architecture led to dollar instability, which destabilized the international monetary regime.

Central Bank Architecture and Monetary Governance

Monetary and exchange rate policy depends in large part on the structure of the central bank. One important way that this structure varies is in terms of centralization/fragmentation. To illustrate why, imagine a central bank controlled by a single central banker. In such an institution, the decision maker is free to adjust monetary policies however she sees fit. If the central banker holds a publicly-known preference for conservative monetary policies, her hawkish reputation will enhance the central bank's credibility, enabling it to sustain low inflation rates.⁴¹ By contrast, consider a hypothetical central bank where monetary policy decisions must be approved by 100 central bankers. In such an institution, policy preferences diverge and inflation hawks and doves will

⁴¹ This point is developed in Rogoff, Kenneth. 1985. "The Optimal Degree of Commitment to an Intermediate Monetary Target." *The Quarterly Journal of Economics* 100 (4): 1169-1189. If the central banker is a benevolent social planner rather than an inflation-hawk, monetary policy is likely to suffer from time inconsistency problems leading to higher than socially-optimal levels of inflation. See Kydland, Finn E. and Edward C. Prescott. 1977. "Rules Rather than Discretion: The Inconsistency of Optimal Plans." *The Journal of Political Economy* 85 (3): 473-491.

often disagree about the direction and extent of desired policy changes. In this highly fragmented central bank, policy changes are likely to be infrequent and incremental. Since the distribution of preferences within this body are more representative of society's than in a central bank controlled by a conservative central banker, individual agents' reputations are unlikely to enhance central bank credibility.⁴²

Central bank fragmentation forms institutional barriers which can slow or prevent policy changes. As monetary policymaking bodies grow less centralized, factions of inflation hawks and doves are more likely to form. Though these factions lack the formal organization of political parties, they similarly force policy bargains to be made, decreasing the likelihood and narrowing the scope of potential policy changes.⁴³

Hypothesis 1: Higher degrees of central bank fragmentation reduce the likelihood of monetary policy changes.

Rigid monetary policies can undermine exchange rate stability in three ways: 1) by fueling fundamental exchange rate misalignment, 2) by limiting monetary authorities' ability to react to sudden market developments, and 3) by limiting their ability to influence international capital flows. Each of these mechanisms undermines exchange

⁴² The credibility-enhancing advantages of a "conservative" central banker derive from the known divergence between his monetary policy preferences and those of society and any potential government. Clark, William R. and Vincent Arel-Bundock. 2013. "Independent but not Indifferent: Partisan Bias in Monetary Policy at the Fed." *Economics & Politics* 25 (1): 1-26.

⁴³ Tsebelis (1995, 302) refers to such actors as partisan veto players. If one of the factions holds a large majority within the chamber, and the preferences of that faction are fairly homogenous, then the influence of the minority faction over policy decisions is slight. However, as the strength of the minority faction and the heterogeneity of preferences inside factions increases, the minority faction has greater leverage to block or influence policy changes.

rate stability by shifting market participants' investment calculus and inviting currency speculation.

When states fix their exchange rate, they declare a parity stating the external value of their currency in terms of other currencies or a commodity such as gold. Such declarations aren't credible in the absence of supportive policies, however. If capital holders believe that a government doesn't have the will or capacity to defend a declared parity, they have incentives to speculate against the currency.⁴⁴ To make exchange rate commitments credible, governments and central banks adjust macroeconomic policies to prevent the currency's foreign exchange market value from diverging from its declared parity. If states maintain a more expansionary (restrictive) macroeconomic policy mix than other members of a fixed exchange rate system, their inflation rates will likely surpass (fall below) those prevailing elsewhere, causing progressive exchange rate overvaluation (undervaluation). States can adjust macroeconomic policies to increase or restrain aggregate demand, thereby influencing domestic inflation rates, to realign a currency's declared and market values.

Due to the political nature of the fiscal policymaking process and significant lags in budgetary cycles, however, the burden of macroeconomic adjustment often falls onto monetary authorities in the short-run. As argued above, however, certain types of central bank structures constrain central bankers' abilities to adjust monetary policies in defense

⁴⁴ Second-generation currency crisis models assume that speculators' decisions to attack a currency are driven by assessments of the future course of government policy. In these models, declining macroeconomic fundamental conditions (e.g. low stocks of foreign reserves, relatively high inflation rates, exchange rate overvaluation) increase the likelihood of a speculative attack. These attacks only occur, however, when market participants become convinced that governments and central banks won't take corrective measures to defend the currency. For example, see Obstfeld, Maurice. 1996. "Models of Currency Crises with Self-fulfilling Features." *European Economic Review* 40 (3): 1037-1047.

of a fixed exchange rate. When agents who prioritize currency stability control central banks, they are able to adjust interest rates to promote domestic macroeconomic adjustment, and by extension, exchange rate stability. By contrast, fragmented central banks are less likely to change monetary policies in response to growing exchange rate misalignment. Maintenance of unchanging interest rate policies in the face of mounting fiscal shocks or balance-of-payment disturbances can fuel inflationary (deflationary) pressures, which are underlying causes of exchange rate misalignment.⁴⁵ If market participants come to believe the authorities are unwilling or incapable of forming coherent policy responses to fundamental economic problems, they have incentives to speculate against the currency and shift their investments abroad.

In addition to supporting real exchange rate misalignment, rigid monetary policies also limit central bankers' abilities to respond to sudden financial disturbances such as banking panics or asset price bubbles (collapses). If monetary authorities fail to respond to these financial shocks in a manner market participants consider prudent, they are likely to cascade into larger problems such as banking crises or full-blown currency crises. Once again, central bankers' non-reactions to adverse financial developments erode investor confidence and invite currency speculation.

Finally, fragmented central bank structures limit central bankers' abilities to influence global capital flows. In a world of internationally-mobile capital and fixed exchange rates, central banks must formulate monetary policies with an eye toward

⁴⁵ In his assessment of the US political business cycle literature, Allan Drazen (2001) argues that many postwar inflationary monetary expansions in the US have resulted from monetary authorities keeping interest rates stable in the face of electorally-motivated fiscal expansions. See Drazen, Allan. 2001. "The Political Business Cycle after 25 Years." *NBER Macroeconomics Annual 2000, Volume 15*. Cambridge: MIT Press, 75-138.

global market conditions.⁴⁶ If interest rates rise or fall internationally while domestic rates remain constant, interest rate arbitrage opportunities arise. If domestic interest rates are lower (higher) than those prevailing elsewhere, investors have incentives to move mobile capital abroad (into the country).⁴⁷ Such capital movements can deplete the domestic or global stock of monetary reserves, which is a proximate cause of speculative currency attacks.⁴⁸ Central banks which retain flexibility can raise or lower domestic interest rates to influence the direction of international capital flows.

Hypothesis 2: Fragmented central banks undermine exchange rate stability.

This section has argued that the stakes are high in central bank design. Formative decisions regarding the number of agents influencing monetary policy decisions impact the likelihood of policy changes, which in turn affects currency stability. The next section theorizes recurring cycles of fragmentation and centralization of U.S. central banking institutions and links them to the US's episodic attempts to stabilize the dollar.

⁴⁶ This trade-off is recognized as the macroeconomic trilemma. States are only able to pursue two of three macroeconomic objectives simultaneously: fixed exchange rates, international capital mobility, and domestic monetary policy autonomy. In the modern world of high capital mobility, states' options are reduced to a choice between exchange rate stability and domestic monetary autonomy. For example, see Fleming, J. Marcus. 1962. "Domestic Financial Policies under Fixed and under Floating Exchange Rates." *Staff Papers-International Monetary Fund*: 369-380.

⁴⁷ Henning (1998) argues from an open economy macroeconomic perspective that when "large" states maintain expansionary monetary policies, it encourages domestic capital holders to move their mobile capital abroad. The inverse is also true and can be equally destabilizing for fixed exchange rate systems. If domestic interest rates are higher than those prevailing abroad, capital holders will move their mobile capital to the domestic market to attain higher rates of return. These capital flows can promote real exchange rate misalignment, deplete foreign monetary authorities' reserves, and invite speculation against their currencies.

⁴⁸ Frankel and Saravelos (2012) analyze the findings of 83 studies and find that foreign reserve levels and real exchange rate overvaluation are the two most important determinants of financial crises. Frankel, Jeffrey and George Saravelos. 2012. "Can Leading Indicators Assess Country Vulnerability? Evidence from the 2008–09 Global Financial Crisis." *Journal of International Economics* 87 (2): 216-231. Obstfeld (1996) agrees that large stocks of reserves dissuade speculative currency attacks.

Cycles of Central Bank Fragmentation in the United States

Americans have long been ambivalent regarding the role of central banking institutions in governing the U.S. political economy. This section theorizes an historical pattern of U.S. central banking institutions cycling through phases of relative centralization and fragmentation. It identifies war as a centripetal force which centralizes national financial authority. Once wartime crises pass, however, liberal political ideals are reasserted to decentralize financial authority. Inside the Federal Reserve System, postwar governance debates gradually reshape the system's decision-making structure by increasing its fragmentation.

War as a Universal Central Bank Builder

The prosecution of wars places extreme demands on state resources. The fiscal channel is one of the primary mechanisms through which war “makes” states.⁴⁹ American Political Development scholars have argued that wars have been a catalyst for increasing central state capabilities, developing new taxation instruments, and reshaping domestic politics.⁵⁰ Despite rapid fiscal innovations, however, the US has never financed a major war through current revenues alone.⁵¹ The U.S. supplements tax revenues by issuing

⁴⁹ Tilly, Charles. 1992. *Coercion, Capital, and European States, AD 990-1992*. Oxford: Blackwell.

⁵⁰ Bensel, Richard. 1990. *Yankee Leviathan: the Origins of Central State Authority in America, 1859-1877*. New York: Cambridge University Press; Katznelson, Ira and Martin Shefter, eds. 2002. *Shaped by War and Trade: International Influences on American Political Development*. Princeton: Princeton University Press; Mayhew, David. 2005. “Wars and American Politics.” *Perspectives on Politics* 3 (3): 473-493; Pollack, Sheldon D. 2009. *War, Revenue, and State Building: Financing the Development of the American State*. Ithaca: Cornell University Press; Saldin, Robert P. 2010. *War, the American State, and Politics since 1898*. New York: Cambridge University Press; Sparrow, Bartholomew H. 2014. *From the Outside in: World War II and the American State*. Princeton: Princeton University Press.

⁵¹ Johnson, Simon and James Kwak. 2012. *White House Burning: The Founding Fathers, Our National Debt, and Why It Matters to You*. New York: Pantheon Books.

bonds and printing money. Its ability to do both is enhanced by delegation of monetary authority to a central bank.

Wars catalyze central bank formation in three ways. First, growing fiscal demands lead state agents to delegate public monetary authorities to central banks to lower the state's nominal borrowing costs.⁵² Second, economic disruption and capital flight redistributes banking reserves across borders and within countries.⁵³ Third, war-inspired expansions of government securities markets increase the scope for discretionary postwar monetary policy actions. Since central banks can influence domestic interest rates by buying and selling securities, larger stocks of outstanding government debt increase central banks' opportunities to influence interest rates.

Hypothesis 3: War catalyzes centralizations of national financial authority.

Central Banks as Illiberal Institutions

Americans share a broad consensus on fundamental political values described as “the American Creed.” These values are antistatist and “delegitimate any hierarchical, coercive, authoritarian structures, including American ones.”⁵⁴ After crises pass, Americans invoke shared political values to dismantle war-inspired hierarchies. The polity shifts from an executive-centered crisis state to its fragmented constitutional

⁵² Central banks do this by improving the state's creditworthiness and by providing a source of seigniorage revenue. See, respectively, Broz, J. Lawrence. 1998. “The Origins of Central Banking: Solutions to the Free-Rider Problem.” *International Organization* 52 (2): 231-268; Toma, Mark. 1997. *Competition and Monopoly in the Federal Reserve System, 1914-1951: a Microeconomic Approach to Monetary History*. New York: Cambridge University Press.

⁵³ For example, during both WWI and WWII, wealthy Europeans sought to avoid capital losses by moving their liquid assets to the U.S. These wars also caused export-led booms which fueled persistent U.S. trade surpluses.

⁵⁴ Samuel P. Huntington, *American Politics: The Promise of Disharmony*. Harvard University Press, 1981: 4.

order.⁵⁵ Central banks are not immune from these broad political currents. Financial hierarchies erected in the march to war are vulnerable to subsequent normative attacks.

Traditional American central banking critics have argued that central banks are incompatible with a national political economy based on *laissez-faire*, checks and balances, and democratic self-government. American statesmen from Thomas Jefferson to Woodrow Wilson argued that central banks increase social inequality, undermine democratic institutions, and limit economic freedom. Since central banks rely on market power to govern, their actions influence the availability and cost of credit. This great “monopoly” disrupts the natural functioning of financial markets and invites central bankers to engage in politics. In his 1837 farewell address, Andrew Jackson warned Americans that if the second Bank of the United States had survived, “the Government would have passed from the hands of the many to the hands of the few... this organized money power... would have dictated the choice of your highest officers...”⁵⁶

The unlikely Democratic unified government which established the Federal Reserve System in 1913 was ideologically opposed to centralized financial authority. In the run up to the 1912 elections, the Democrat-chaired House Committee on Currency and Banking held a sensational public investigation of the “money trust.” The Democrats’ 1912 Baltimore Platform committed the party to enact positive financial reform legislation without establishing a central bank. To do so, Democrats followed a populist state-building strategy identified by James Morone as “the Democratic Wish.”

⁵⁵ Lowi 1967.

⁵⁶ Jackson, ‘Farewell Address,’ March 4, 1837, in Richardson, James D., ed. 1899. *Messages and Papers of the Presidents, Volume 3*. Washington D.C.: U.S. Government Printing Office, 303-304.

Morone argues that American reform movements often languish in the “political stalemate of American liberalism” where “ideology, institutions, and interests all block change.”⁵⁷ To overcome Americans’ collective “dread” of central state authority, reformers promise to strip arbitrary power away from a corrupted elite and restore it directly to “the people.” Democrats followed this reform strategy by creating a fragmented Federal Reserve System composed of twelve autonomous Federal Reserve Banks and a new government agency called the Federal Reserve Board. This institutional design held the promise of breaking the money trust’s stranglehold over the national economy and restoring autonomy to regional banking communities. Institutional reforms carried out in the name of “the people,” however, often fail to articulate institutional relations of authority.⁵⁸ In the rush to disperse power, reformers fail to account for inevitable conflicts of interest which arise once institutions are up and running. The Federal Reserve System is an illustrative example. The Federal Reserve Act splintered policymaking authority and systemic resources across thirteen separate organizations. As the system was being organized, a “struggle for power” emerged among officials who sought to assert and defend fragmented claims of governing authority.⁵⁹

This governance debate was unresolved when the U.S. entered WWI in April 1917. Through prosecution of the war, a partnership emerged between the Treasury and

⁵⁷ Morone, James A. 1991. *The Democratic Wish: Popular Participation and the Limits of American Government*. New Haven: Yale University Press: 9-10.

⁵⁸ Morone 1991, 11-12.

⁵⁹ Friedman and Schwartz 1963; West, Robert C. 1977. *Banking Reform and the Federal Reserve, 1863-1923*. Ithaca: Cornell University Press; Wheelock, David C. 1998. “National Monetary Policy by Regional Design: The Evolving Role of the Federal Reserve Banks in Federal Reserve System Policy.” *Federal Reserve Bank of St. Louis Working Paper Series* 1998-010.

the Federal Reserve Bank of New York which centralized financial authority in the nation's political and financial capitals.⁶⁰ After the system regained operational independence in 1920, the power struggle reemerged as systemic agents criticized the gap between the system's *de jure* decentralization and its *de facto* hierarchy. Over the course of a decade, this debate gradually increased the fragmentation of the Federal Reserve's policymaking regime. This pattern repeated itself following WWII. Wartime capture by the Treasury led to a consolidation of financial authority within the Fed. After the system regained operational independence in 1951, latent governance debates reemerged as agents questioned the legitimacy of inherited institutional hierarchies. Once again, arguments in favor of decentralization carried the day over impassioned defenses of the status quo. Central bank fragmentation increased.

Hypothesis 4: In peaceful times, American political culture promotes central bank fragmentation.

In 1967, Theodore Lowi argued that a significant gap existed between US state capacities to develop coherent foreign policies during periods of war and peace. During wartime crises, Lowi argued, executive branch officials are capable of making swift decisions to advance national interests. After crises pass, however, US national politics return to traditional distributive patterns which decrease the state's strategic capacity. Returns to normalcy pose a problem for other states which look to the U.S. for international leadership. Instead of engaging a coherent US state actor, other states confront "an extension of [US] domestic processes, practices, and values. As a result, we

⁶⁰ Chandler, Lester V. 1958. *Benjamin Strong, Central Banker*. Washington, D.C.: The Brookings Institution: 88-93.

have the reverse of Wilson's problem. We have not yet succeeded in making [US] democracy safe for the world.”⁶¹

This chapter has identified fragmented central bank architectures as an institutional source of U.S. dollar instability. Fragmented central bank structures increase monetary policy rigidity which undermines currency stability. Consequently, US transitions from centralized to fragmented central bank governance can have destructive consequences for fixed exchange rate regimes. When economic circumstances change and US monetary authorities fail to react, dollar stability is eroded and market participants gain incentives to engage in currency speculation. This dissertation's empirical chapters explore how evolutions of US central bank architectures following WWI and WWII help explain the episodic nature of US attempts to stabilize the dollar and the international currency regime.

⁶¹ Lowi 1967, 302.

CHAPTER III

ESCAPE FROM JEKYLL ISLAND: THE PARTISAN ROOTS OF FEDERAL RESERVE FRAGMENTATION (1913-1916)

This chapter tells the history of the origins of the Federal Reserve. It makes two points. First, unlike a number of society-centered accounts, it argues that a partisan elite compromise shaped the Federal Reserve System's fragmented design. Second, it demonstrates that ambiguities embedded within the law ensured that institutional design politics would continue after legislative enactment in December, 1913. By empowering the system's fiercest critics, internationally-oriented bankers and their populist opponents, the legislation created a new arena in which agents could struggle to reshape the institution. The chapter concludes by showing how this "struggle for power" resulted in few reforms prior to US entrance into WWI.⁶²

Explaining the Federal Reserve System's Origin and Design

At the dawn of the twentieth century, U.S. economic governing institutions were unable to address the persistent financial instabilities that accompanied growth in an industrial economy. Specifically, there was a mismatch between economic problems and institutional responses. Scholars generally agree that U.S. financial instability stemmed from its retrograde financial institutions.⁶³

⁶² The "struggle for power" language is used by financial historians to describe early politics within the Federal Reserve System. See Friedman and Schwartz 1963; West 1977; Wheelock 1998.

⁶³ According to Link (1956, 199), "the national banking structure was about as badly adapted to the financial needs of a great industrial and commercial nation as any system could be." See also, West 1977; White, Eugene Nelson. 1983. *The Regulation and Reform of the American Banking System, 1900-1929*.

By the early 1900s, other wealthy states had developed stability-enhancing financial institutions such as central- and branch- banking; two-name commercial paper; uniform national currencies; and regularized forms of state-financial system interaction. These institutions empowered central bankers to prevent costly banking panics and cultivated the development of deep and liquid financial markets. In Western Europe, a social network among central bankers promoted financial stability and improved the credibility of the classical gold standard.⁶⁴ In Canada, a small number of large, nationally-branched, commercial banks successfully avoided banking panics and financial crises well into the 1930s.⁶⁵

Whereas centralized institutions increased financial stability in other states, each aspect of the American financial system, including its banking and regulatory structure, financial markets, and currency system, worked to fragment financial authority. Branch-banking was illegal, so the banking system was populated by tens of thousands of

Princeton: Princeton University Press; Livingston, James. 1986. *Origins of the Federal Reserve System: Money, Class, and Corporate Capitalism, 1890-1913*. Ithaca: Cornell University Press; Broz 1997; Wood, John H. 2005. *A History of Central Banking in Great Britain and the United States*. New York: Cambridge University Press; Wicker, Elmus. 2005. *The Great Debate on Banking Reform: Nelson Aldrich and the Origins of the Fed*. Columbus: Ohio State University Press; Eichengreen 2011; Bordo, Michael D. and William Roberds, eds. 2013. *The Origins, History, and Future of the Federal Reserve: A Return to Jekyll Island*. New York: Cambridge University Press.

⁶⁴ Eichengreen (1996, 30-35) describes the classical gold standard as “a socially constructed institution whose viability hinged on the context in which it operated... international cooperation, while not an everyday event, was critical in times of crisis. It belies the notion that the gold standard was an atomistic system. Rather, its survival depended on collaboration among central banks and governments.” Eichengreen, Barry. 1996. *Globalizing Capital: a History of the International Monetary System*. Princeton: Princeton University Press.

⁶⁵ Despite Canada’s lack of a central bank prior to 1935, it was able to avoid financial crises through the Great Depression. Bordo, Michael, Hugh Rockoff, and Angela Redish. 1994. “The US Banking System from a Northern Exposure: Stability versus Efficiency.” *The Journal of Economic History* 54 (02): 325-341. The stabilizing effects of branching were recognized by U.S. economists prior to the passage of the Federal Reserve Act. See Sprague, Oliver M. 1903. “Branch Banking in the United States.” *The Quarterly Journal of Economics* 17 (2): 242-260.

autonomous unit banks whose fates were closely tied to the performance of local economies. Regulations allowed banks in lowly-populated areas to hold portions of their required reserves on deposit with urban banks where they could collect interest. This correspondent banking system caused banking reserves to pyramid in New York City, where banks lent reserves out to security brokers on the call loan market.⁶⁶ When country bankers seasonally drew down their balances to satisfy farmers' liquidity needs, New York banks demanded immediate repayment of call loans. Since call loans were invested in negotiable securities, the onset of the planting and harvest seasons often led to asset liquidations and sharp contractions on the New York Stock Exchange.⁶⁷

Agricultural liquidity demands led to interest rate spikes, currency shortages, and frequent banking panics. Reserves deposited with correspondent banks were effectively unusable.⁶⁸ For country banks to retrieve their deposited reserves, urban correspondents first had to redeem call loans and then physically dispatch funds across the country. This process was slow. Inevitably, some country bankers were overwhelmed by farmers' demands for currency and credit, forcing them out of business. Contagion spread regionally as other depositors began questioning their own bank's solvency. In an era before national deposit insurance, depositors had strong incentives to remove deposits

⁶⁶ The National Banking Act of 1863 divided nationally-chartered commercial banks into three categories: country banks, reserve city banks, and central reserve city banks. The weaknesses of the correspondent banking system are detailed in Sylla, Richard. 1969. "Federal Policy, Banking Market Structure, and Capital Mobilization in the United States, 1863–1913." *The Journal of Economic History* 29 (4): 657-686.

⁶⁷ West 1977, 29-30.

⁶⁸ Eichengreen 1996, 43; West 1977, 31.

before a bank shut down.⁶⁹ Occasionally, banking panics cascaded across the country engulfing national financial centers. Panics became financial crises when clearinghouse associations, city-level banking cartels, suspended payments.⁷⁰ Once suspension was declared, correspondent banks ceased dispatching bankers' balances. Adjustment costs were pushed onto country banks and their farming clients.

In other countries, distressed banks could raise funds quickly by selling assets on secondary markets or by rediscounting them at central banks. These options was foreclosed to American banks due to a paucity of secondary commercial debt markets and the lack of a national central bank.⁷¹ In Europe, deep and liquid secondary markets existed in two-name commercial paper, commercial debt assets whose payment was guaranteed by two signatories.⁷² Banks which loaned out funds using two-name paper could be confident that they would receive payment upon maturity. This high level of security promoted the growth of secondary markets. In the U.S., two-name paper usage peaked during the 1830s.⁷³ By the twentieth century, American bank portfolios were

⁶⁹ The logic of contagious bank runs is elaborated in Diamond, Douglas W. and Philip H. Dybvig. 1983. "Bank Runs, Deposit Insurance, and Liquidity." *The Journal of Political Economy* 91 (3): 401-419.

⁷⁰ Scholars have pointed out that clearinghouse associations performed quasi-central banking functions. See Timberlake, Richard H. 1984. "The Central Banking Role of Clearinghouse Associations." *Journal of Money, Credit and Banking* 16 (1): 1-15; Gorton, Gary. 1985. "Clearinghouses and the Origin of Central Banking in the United States." *The Journal of Economic History* 45 (2): 277-283.

⁷¹ For an alternative view, see Davis, Lance E. 1965. "The Investment Market, 1870-1914: The Evolution of a National Market." *The Journal of Economic History* 25 (3): 355-399.

⁷² For a discussion of the advantages of two-name paper, see Broz 1997, 36-41.

⁷³ The Second Bank of the United States cultivated a market in two-name commercial paper, but this market collapsed with the bank. Myers, Margaret Good. 1931. *The New York Money Market: Volume I: Origins and Development*. New York: Columbia University Press: 48; Bodenhorn, Howard. 2000. *A History of Banking in Antebellum America: Financial Markets and Economic Development in an Era of Nation-Building*. New York: Cambridge University Press: 169-171.

dominated by single-name promissory notes. These loans were issued to individuals rendering them less secure and liquid than two-name paper. Secondary markets were virtually non-existent. No central bank stood to rediscount them. Whereas European banks could easily raise funds by offloading assets, this option didn't exist for most American banks.

The U.S.'s patchwork financial regime exacerbated the banking system's deficiencies. Three aspects of the financial regime undermined stability: the Federal-state regulatory structure; the fractured currency system; and segmented fiscal institutions. At this time, American bankers were free to incorporate with state governments or the federal government, inspiring a "competition in laxity" among state and federal regulators.⁷⁴ This race-to-the-bottom increased systemic risk by inspiring greater risk-taking. The country's fractured currency regime made financial stabilization difficult.⁷⁵ Specie, bank-issued national banknotes, and Treasury-issued greenbacks, gold- and silver-certificates circulated widely. In the short-run, these currencies' supplies were fixed, making this "inelastic" currency regime unresponsive to shifts in societal demand.⁷⁶ When agricultural liquidity demands spiked, currency shortages destabilized already-strained financial markets. Finally, segmented fiscal institutions eroded financial stability. The Independent Treasury System had been established to create a firewall

⁷⁴ White 1983.

⁷⁵ Link 1956, 200; West 1977, 32-34.

⁷⁶ They were fixed exogenously (gold and silver) or by statute (national banknotes, greenbacks, and silver certificates).

between government finances and the banking system.⁷⁷ Instead of depositing government revenues in the banking system, government funds were hived off in subtreasury vaults. During booms, tax revenues were removed from circulation, creating an automatic brake on economic expansion.⁷⁸ In the early twentieth century, treasury secretaries began seasonally depositing funds in New York banks to mitigate panics. This practice was widely considered illegitimate, however, as New York banks still charged emergency rates to lend out low-cost government-supplied funds.⁷⁹

In sum, the early twentieth century U.S. banking system suffered from extreme fragmentation. Whereas other developed states had largely escaped costly banking panics and financial crises by centralizing financial authority, each aspect of the American financial system worked to fragment financial control. Under the unit banking structure, each bank stood seemingly sovereign. In reality, however, the correspondent banking system and contagion created a deeply-interdependent banking system. At the city-level, clearinghouse associations created islands of stability enabling urban banks to weather financial storms. On the macro-level, however, when clearinghouses suspended payments, adjustment costs were effectively pushed into the countryside where funds were unavailable at any cost.

⁷⁷ Hoffmann, Susan. 2001. *Politics and Banking: Ideas, Public Policy, and the Creation of Financial Institutions*. Baltimore: John Hopkins University Press; Konings, Martijn. 2011. *The Development of American Finance*. New York: Cambridge University Press.

⁷⁸ During booms, government revenues would rapidly accumulate. Since these funds were removed from the banking system, surpluses would automatically restrict credit expansion. West 1977, 25-27; Wood 2005, 140-141.

⁷⁹ Timberlake, Richard H. 1963. "Mr. Shaw and his Critics: Monetary Policy in the Golden Era Reviewed." *The Quarterly Journal of Economics* 77 (1): 40-54.

Reforming American Financial Institutions

Mounting financial disturbances led to calls for major U.S. financial reforms in the 1890s, when the U.S. experienced two major financial crises (1890, 1893) and nearly suffered a currency crisis. One source of agitation came from farmers. Since the 1870s, the U.S. had experienced persistent deflation. Farmers were hit especially hard by falling prices. By the 1890s, many were calling for the free coinage of silver and other populist financial reforms.⁸⁰ Another source of reform agitation came from international investors. Uncertainty over the U.S. gold commitment triggered a run on the Treasury's gold reserve in 1895.⁸¹ In Europe, privately-controlled central banks administered the gold standard. When their gold reserves came under pressure, they were able to cheaply borrow funds from their foreign counterparts. Lacking a central bank, the U.S. was excluded from this cooperative arrangement. In 1895, the U.S. Treasury was forced to turn to a J.P. Morgan-led syndicate to arrange a private gold loan from European creditors.⁸² This arrangement was both embarrassing and costly for U.S. officials.

Despite the obvious pressures for a central bank, especially when seen from a comparative perspective, the opening of the U.S. debate for financial reform in the 1890s saw no proposals for central banking.⁸³ Instead, Americans focused on how to improve

⁸⁰ For an analysis of populist financial reform proposals, see Ritter, Gretchen. 1999. *Goldbugs and Greenbacks: The Antimonopoly Tradition and the Politics of Finance in America, 1865-1896*. New York: Cambridge University Press.

⁸¹ Friedman and Schwartz 1963, 111; McCulley, Richard T. 1992. *Banks and Politics During the Progressive Era*. New York: Garland Publishing: 26; Eichengreen 1996, 40-41.

⁸² Garber, Peter M. and Vittorio U. Grilli. 1986. "The Belmont-Morgan Syndicate as an Optimal Investment Banking Contract." *European Economic Review* 30 (3): 649-677; Broz 1997, 136.

⁸³ For overviews of these debates, see Livingston 1986; Wicker 2005.

the credibility of U.S. currency policies while increasing the flexibility of the currency supply. After sweeping the 1896 national elections, Republicans sought to arrange an international conference aimed at establishing a bimetallic currency standard.⁸⁴ When this initiative failed, Republicans shifted tactics. In 1900, the Gold Standard Act was passed making all U.S. currency redeemable in gold.⁸⁵

American bankers held a series of conventions debating alternative currency reforms.⁸⁶ Bankers broadly agreed that the currency elasticity problem should be resolved by allowing banks to issue currency collateralized by assets other than US government bonds.⁸⁷ They were split, however, over what types of assets should be eligible collateral. A faction of northeastern bankers called for allowing banks to issue currency against corporate bonds. These bankers held large stocks of sagging railroad bonds. Chicago-based bankers, by contrast, called for allowing banks to issue currency against commercial assets.⁸⁸ This latter approach was appealing to the majority of bankers, who

⁸⁴ McCulley 1992, 52.

⁸⁵ This commitment's credibility was enhanced by post-1896 increases in the global monetary gold stock which eased deflationary pressures and replenished the Treasury's gold reserves. As deflationary pressures gave way to rising prices, populist agitation eased. Eichengreen 1996, 41.

⁸⁶ The first of these occurred in Indianapolis beginning January 12th, 1897. See Livingston 1986; McCulley 1992; Wicker 2005.

⁸⁷ The existing bank-issued currency, national banknotes, was backed by government bonds. In this era, budget surpluses were frequent and bonds were scarce. Surpluses led to the retirement of government bonds which drove up their market value and made national bank note issuance unprofitable.

⁸⁸ In 1903, the Fowler and Aldrich Bills were entered into Congress. The former called for a commercial assets-backed currency and the legalization of branch banking and the latter called for a commercial-bond backed currency. Neither plan was passed by Congress. See McCulley 1992, 103-105.

owned few corporate bonds. Lingering questions about the quality of American commercial debt instruments (promissory notes), however, rendered it vulnerable.⁸⁹

The financial reform debate took on increased urgency and changed course following the 1907 financial crisis, which varied from typical crises both in its origin and intensity.⁹⁰ U.S. banking panics normally originated in the countryside and migrated toward national financial centers. The 1907 crisis, by contrast, originated as a run on New York City trust companies.⁹¹ When pressure mounted on trust companies in 1907, they turned to the New York City Clearinghouse Association for assistance. Their overtures were rebuffed, however, and a run on the trust companies ensued. The run spread to the city's commercial banks and the clearinghouse suspended payments, nationalizing the crisis. The economy contracted sharply. The 1907 crisis transformed the financial reform debate in two ways. First, it led New York bankers to begin championing the creation of a central bank.⁹² Second, it spurred congress to pursue financial reform. In 1908, congress passed the Aldrich-Vreeland Act granting temporary emergency powers to the

⁸⁹ As the editors of Bankers Magazine pointed out, "The possibility of the use of credit by promissory notes, on a basis of general assets, might prove a temptation to risk in starting banks that would much imperil the reputation of such a bank-note system." *Bankers Magazine* 63 (October 1901). Quoted in Livingston 1986, 154.

⁹⁰ For an analyses of the 1907 crisis, see Tallman, Ellis W. and Jon R. Moen. 1990. "Lessons from the Panic of 1907." *Economic Review* 75: 2-13; Moen, Jon and Ellis W. Tallman. 1992. "The Bank Panic of 1907: The Role of Trust Companies." *The Journal of Economic History* 52 (3): 611-630; Bruner, Robert F. and Sean D. Carr. 2008. *The Panic of 1907: Lessons Learned from the Market's Perfect Storm*. Hoboken: John Wiley & Sons.

⁹¹ These state-chartered institutions competed with commercial banks for deposits and investments, but were subject to less stringent regulation. See White 1983; Moen and Tallman 1992.

⁹² New York financiers previously opposed the creation of a central bank. Moen, Jon R. and Ellis W. Tallman. 2003. "New York and the Politics of Central Banks, 1781 to the Federal Reserve Act." Working Paper 2003-42. Atlanta: Federal Reserve Bank of Atlanta.

Secretary of the Treasury and establishing a National Monetary Commission (NMC) to develop comprehensive financial reform legislation.⁹³

The Financial Elite-led Explanation of the Federal Reserve Act

The leading explanation of the Federal Reserve Act traces its origin to the ideas of financier Paul M. Warburg and the NMC's chairman, Sen. Nelson Aldrich (R-RI).⁹⁴ Although the NMC was a bipartisan commission, Aldrich unilaterally controlled its activities.⁹⁵ This section explains Warburg's role in originating the central bank idea; his influence on Aldrich; the excludable benefits internationally-oriented bankers stood to gain from establishment of a central bank; and the collective action they undertook to advance this goal.

Paul M. Warburg was born into a family of European financiers. In 1902, he emigrated from Germany to New York City to work at the investment bank Kuhn, Loeb, & Company. Upon arriving in the U.S., Warburg was shocked at the state of American financial markets, which he considered "as backward as Europe at the time of the Medicis, and Asia... at the time of Hammurabi."⁹⁶ Warburg believed a central bank could overcome the disadvantages of the unit banking system by cultivating the development of

⁹³ The Aldrich-Vreeland Act also gave the Secretary of the Treasury temporary authority to issue emergency currency.

⁹⁴ Broz 1997; Wicker 2005; Eichengreen 2011; Bordo and Roberds 2013.

⁹⁵ The NMC was composed of 17 Senators and Congressman and also included Harvard economist A. Piatt Andrew and two *ex officio* members of the New York and Chicago banking communities. McCulley 1992, 225; Broz 1997, 173-4.

⁹⁶ Warburg, Paul M. [1907] 1914. "Defects and Needs of Our Banking System." *Proceedings of the Academy of Political Science in the City of New York* 4 (4): 7-22.

secondary commercial debt markets.⁹⁷ Warburg first promoted his central bank reform ideas informally through conversations. After the 1907 crisis, however, he began delivering public speeches and publishing proposals.⁹⁸

Sen. Aldrich was a late convert to the cause of central banking. In early 1908, he considered the establishment of a US central bank premature.⁹⁹ Over the summer of 1908, however, Aldrich led a NMC European tour to examine the inner workings of European financial systems. The commission interviewed central bankers and financiers. Aldrich was impressed by the resiliency of European financial systems and was converted to the central banking cause.¹⁰⁰

Warburg's plan was developed into actionable legislation, what became known as the Aldrich Plan, at a clandestine retreat held at Jekyll Island, Georgia, in November, 1910. Sen. Aldrich arranged for Warburg, Frank Vanderlip, A. Piatt Andrew, and Henry Davidson to travel separately by private railcar to the meeting to prevent word from spreading that the NMC's chairman was meeting privately with Wall Street elites.¹⁰¹ Aldrich decided to name Warburg's proposed institution a National Reserve Association

⁹⁷ Warburg was attuned to US political realities and recognized that branch banking was a political non-starter. Country bankers opposed branching because they feared large urban banks would put them out of business.

⁹⁸ Warburg, Paul M. 1911. "A United Reserve Bank of the United States." *Proceedings of the Academy of Political Science in the City of New York* 1 (2): 302-342.

⁹⁹ Wicker 2005, x.

¹⁰⁰ Broz 1997, 175; Wicker 2005; Eichengreen 2011, 23.

¹⁰¹ Some accounts claim that Benjamin Strong, head of the Bankers Trust and future Governor of the Federal Reserve Bank of New York, was also at the retreat but his presence remains debated. For a discussion, see Eichengreen 2011, 24, fn 25.

(NRA) to overcome entrenched public opposition to central banking.¹⁰² The NRA was to be administered by a banker-dominated board located in Washington, D.C., with fifteen regional branches dispersed across the country. It would centralize banking reserves; provide commercial bank rediscounting services; serve as the government's fiscal agent; and issue a new commercial assets-backed currency.¹⁰³

International financiers stood to profit from central banking reforms, which supported the U.S. dollar's internationalization.¹⁰⁴ American banks were previously forbidden from establishing branches overseas and were shut out of the lucrative international trade- and bankers- acceptance markets. Many financial elites hoped New York City would become a leading global financial center and challenge London for international finance business.¹⁰⁵

Financial elites recognized, however, the path to enacting the Aldrich Plan in Congress would be difficult. First, they needed to convince politically-powerful Chicago bankers to support the proposal.¹⁰⁶ So they added a commercial assets-backed currency to gain Chicago support.¹⁰⁷ Second, they needed to win the approval of the American

¹⁰² Laughlin, James L. 1933. *The Federal Reserve Act: Its Origin and Problems*. New York: The Macmillan Company: 32; Broz 1997, 180.

¹⁰³ The details of the Aldrich Plan are overviewed in McCulley 1992, Chapter 8; Broz 1997, 178-181.

¹⁰⁴ These bankers would capture denomination rents. Broz (1997, 81) argues that these elites led a broad coalition which would benefit from dollar internationalization including money center banks, exporters of specialized and standardized manufactured products, importers of foreign inputs and finished products, and commodity exporters.

¹⁰⁵ Chandler 1958; Broz 1997, 38-41; Eichengreen 2011, 26.

¹⁰⁶ McCulley (1992) divides U.S. bankers into three factions: Wall Street (New York), LaSalle Street (Chicago), and Main Street. Contrastingly, Broz (1997) collapses Chicago and New York bankers into the common category of "money center" bankers.

¹⁰⁷ Broz 1997, 178.

Bankers Association, which was dominated by small town bankers. Many small town bankers feared that the NRA would be controlled by Wall Street.¹⁰⁸ To overcome these fears, Aldrich described the NRA as “not a central bank, but a cooperative union of all banks of the country.”¹⁰⁹ The plan also included voting provisions intended to limit larger banks’ influence over the selection of NRA officials.¹¹⁰ Finally, Aldrich Plan supporters recognized the need to enlist the support of everyday Americans. They organized a nationwide public education campaign called the National Citizens League for the Promotion of Sound Banking which aimed at convincing Americans to support the Aldrich Plan.

The Agrarian-led Explanation of the Federal Reserve Act

The leading explanations of the origins of the Federal Reserve claim the Aldrich Plan became a “blueprint” for the Federal Reserve Act.¹¹¹ The National Citizens League’s organizers successfully enlisted financial support from bankers across the country.¹¹² In 1930, Warburg published the Aldrich Plan and Federal Reserve Act side-by-side, demonstrating that much of the latter’s language was copied directly from the Aldrich Plan.¹¹³ This elite-led interpretation has been challenged by political scientists

¹⁰⁸ McCulley 1992, 255; Broz 1997, 178. This fear was reinforced by the public perception that Aldrich, whose daughter was married to a Rockefeller, was an agent of Wall Street.

¹⁰⁹ American Bankers’ Association, Proceedings, 1911, p. 71. Quoted in McCulley 1992, 237; Broz 1997, 180.

¹¹⁰ Broz 1997, 180-181.

¹¹¹ Kolko, Gabriel. 1963. *The Triumph of Conservatism: a Reinterpretation of American History, 1900-1918*. New York: Free Press of Glencoe; Wicker 2005; Eichengreen 2011; Bordo and Roberds 2013.

¹¹² Broz 1997, 185-190.

¹¹³ Warburg, Paul M. 1930. *Federal Reserve System, its Origin and Growth*. New York: Macmillan.

and historians on empirical grounds, however. By the time the Aldrich Plan was introduced into Congress on January 8th, 1912, Nelson Aldrich was no longer a Senator and Congress had passed legislation disbanding the NMC.¹¹⁴ Although President Taft originally signaled support for the plan, he later claimed to have been misquoted. By the summer, even the National Citizens League's Chicago-based leadership was distancing itself from the Aldrich Plan.¹¹⁵ What explains the Aldrich Plan's tepid support?

Elizabeth Sanders argues that the Aldrich Plan's crafters misunderstood "the power of agrarian and small-business interests in the legislature and the hatred of monopoly that infused the Progressive Era."¹¹⁶ Sanders divides the early twentieth century U.S. political economy into two sections, a northeastern metropolitan core and an agricultural periphery.¹¹⁷ Sanders argues that the Aldrich Plan was designed to advance the northeastern core's interest. Once the plan entered the full congress, however, it was destined to be transformed by the numerically-dominant periphery.¹¹⁸ She contrasts the Federal Reserve System and the proposed NRA:¹¹⁹

¹¹⁴ It also required a bill to be introduced by January 1912 and ended NMC salaries. McCulley 1992, 257.

¹¹⁵ McCulley 1992, 241. Though initially funded by New York financiers, the League was based out of Chicago and headed by J. Laurence Laughlin, an economist from the University of Chicago. Laughlin signaled he would work with the Democratic majority in Congress on alternative financial reforms. In response, New York bankers temporarily withdrew financial support and eventually ousted Laughlin.

¹¹⁶ Sanders, Elizabeth. 1999. *Roots of Reform: Farmers, Workers, and the American State, 1877-1917*. Chicago: University of Chicago Press: 242.

¹¹⁷ In this view, interests are constituted by differential levels of development across US regions rather than the position of individuals and sectors in the international economy. This argument applies a World Systems Theory framework to the U.S. domestic political economy. See Bense, Richard. 1984. *Sectionalism and American Political Development, 1880-1980*. Madison: University of Wisconsin Press; Sanders 1999.

¹¹⁸ Sanders (1999, 237-238) argues "agrarians were [not] cowed or duped into backing a central bank."

¹¹⁹ Sanders also argues (1999, 245) the Federal Reserve Act rejected the Aldrich Plan's "central premise... the centralization of reserves under a single stockholder-owned reserve association.

...the Federal Reserve System differed from the latter in areas that both agrarians and core capitalists considered fundamental: public versus private control; degree of centralization; capitalization of local reserve banks; treatment of agriculture in the banking and credit system; and potential for inflation.

How can these opposing societal explanations of the Federal Reserve System's design be squared? Was it the central bank demanded by northeastern financiers? Or was it a decentralized, publicly-controlled, reserve system crafted to advance peripheral interests? The next section argues that a partisan elite compromise among Democrats does a superior job explaining the Federal Reserve's defining institutional feature, its high degree of fragmentation.

The Partisan Roots of Federal Reserve Fragmentation

Societal interest-based models do a good job of explaining "normal" periods of American politics characterized by weak parties and divided government. Under such circumstances, institutional reforms often reflect broad societal interests refracted through the legislature. Societal models are less effective at explaining reforms enacted in periods of unified government controlled by a strong party, however. When a highly-cohesive or well-disciplined party controls national political institutions, reforms are often shaped by partisan goals.¹²⁰ American political development scholars have referred to such one-party alignments as partisan regimes.¹²¹

¹²⁰ George Tsebelis (1995, 310) argues that in these instances, the U.S.'s normal constellation of constitutional veto players are reduced to one, enabling dramatic policy changes.

¹²¹ Polsky (2012) defines a partisan regime "as a political coalition organized under a common party label that challenges core tenets of the established political order, secures effective national governing power, defines broadly the terms of political debate, and maintains sufficient power to thwart opposition efforts to undo its principal policy, institutional, and ideological achievements." Polsky, Andrew J. 2012. "Partisan Regimes in American Politics." *Polity* 44 (1): 53. The quintessential example of an effective partisan regime is the 1930s Democratic Party. See Plotke, David. 2006. *Building a Democratic Political Order: Reshaping American Liberalism in the 1930s and 1940s*. New York: Cambridge University Press.

In March, 1913, Democrats gained control of the presidency and both houses of congress for the first time in decades. They owed their temporary grasp on national power to the division of the Republican Party vote in the 1912 national elections, however. Had Theodore Roosevelt not bolted the Republican National Convention and started his own Progressive Party in June, 1912, a national Democratic landslide would have been unlikely. A second historical accident which had major implications for financial reform occurred a week earlier at the Democratic National Convention. After many rounds of balloting, the New York delegation belatedly backed frontrunner James “Champ” Clark of Missouri for the presidential nomination.¹²² The Tammany Hall delegation’s endorsement backfired, however, when longtime party leader William Jennings Bryan denounced Clark as the candidate of Wall Street. Bryan subsequently endorsed New Jersey Governor Woodrow Wilson and urged his followers to pledge Wilson their votes. Wilson won the nomination on the 46th ballot.

Although Wilson campaigned as a progressive, he was no radical.¹²³ His “New Freedom” agenda called for legislation which would erode the market power of financial and industrial conglomerates including tariff reductions, a progressive income tax, currency reform, and antitrust legislation. This agenda sought to restore competition in the private economy, not redistribute wealth. Consequently, its legislative enactment was

¹²² Clark was the frontrunner heading into the convention. In initial ballots, Clark consistently won pluralities of the vote. Convention rules demanded that balloting continue until a candidate received 2/3 of the votes, however.

¹²³ Link (1956, 241-242) notes, “Democrats, [Wilson] thought, should wipe out the vestiges of special privilege in tariff legislation, liberate credit from Wall Street control, and rewrite antitrust legislation in order to restore the reign of competition in the business world. This, not the uplift of depressed groups by ambitious projects of federal intervention, was the mission of the New Freedom as he perceived it.”

a tough sell to populists who hoped to use Democratic control of the state to enact redistributive reforms. When Bryan endorsed Wilson for the presidential nomination, it is unlikely he realized Wilson's conservative sympathies. Bryan shared Wilson's partisan goal of broadening the Democratic coalition by attracting insurgent western progressives, however.¹²⁴ As Wilson's Secretary of State, he would intervene repeatedly on the president's behalf urging his followers to support right-leaning "New Freedom" reforms. These personal interventions were reinforced by a surprisingly effective partisan enforcement rule, the binding caucus vote, which bound Democrats to vote in favor of legislation after 2/3 of the party caucus voted to make it a party resolution.¹²⁵

In order to understand the unique pressures and opportunities which confronted Democrats in 1913, I will trace the development of an elite partisan compromise from the collapse of the previously-dominant Republican Party to the passage of the Federal Reserve Act. We shall see how cross-pressures facing the Democratic Party's leadership of appeasing the party's populist base while attracting western progressives into a broadened partisan coalition shaped the Federal Reserve Act and led to the creation of a highly-fragmented institution. Intriguingly, Sen. Nelson Aldrich was implicated in the Republican implosion. After considering the Republican Party rupture, I analyze the 1913

¹²⁴ Ware (2006, 130) argues "Elements of the radical West had to be incorporated now into virtually any winning Democratic coalition, so that a truly conservative Democracy was no longer as viable as it had been. Given that dilemma, the only other direction in which the party could move was into those parts of the West in which it was relatively weak electorally. That is, it could try to increase its vote in those parts of the West that had supported insurgent Republicanism in Congress after 1910 and had given strong backing to Theodore Roosevelt's presidential campaign in 1912." Ware, Alan. 2006. *The Democratic Party Heads North, 1877-1962*. New York: Cambridge University Press. See also James, Scott C. 2000. *Presidents, Parties, and the State: A Party System Perspective on Democratic Regulatory Choice, 1884-1936*. New York: Cambridge University Press.

¹²⁵ See West 1977, 114-5; Ware 2006, 132.

legislative construction of the Federal Reserve Act. I show that an elite partisan compromise on the system's organizational structure was completed by June, 1913. The Federal Reserve Act signed into law on December 23rd reflected the June compromise.

The Fall of the Old Guard Republicans

The Republican Party dominated national political institutions in the decades following the Civil War. While congressional control vacillated between the two parties, Republicans retained a firm grip on the presidency.¹²⁶ Republicans used presidential control to sustain a protectionist, financially-orthodox, economic program which benefitted northeastern business interests.¹²⁷ After the pivotal 1896 election, Republican domination extended to the legislature where power further concentrated. House Speaker "Czar" Joseph Cannon (R-IL) used control over the Rules Committee to centralize authority within the speakership at an unprecedented level.¹²⁸ Sen. Aldrich wielded similar power in the Senate. Known in the press as the "general manager of the nation," Aldrich used his chairmanship of both the Senate Finance Committee and the Rules Committee to sustain the party's protectionist economic program.¹²⁹

¹²⁶ Between 1860 and 1912, only one conservative Democrat was able to win the presidency, Grover Cleveland.

¹²⁷ This package included the gold standard, high tariffs, and unregulated labor and production markets. See Bensel, Richard. 2000. *The Political Economy of American Industrialization, 1877-1900*. New York: Cambridge University Press.

¹²⁸ Schickler, Eric. 2001. *Disjointed Pluralism: Institutional Innovation and the Development of the US Congress*. Princeton: Princeton University Press: Chapter Two.

¹²⁹ McCulley (1992, 224) maintains, "As the recognized political spokesman for northeastern business and the voice of eastern finance in the Republican party, Aldrich enjoyed the confidence of these important economic interests."

Following Theodore Roosevelt's decision not to run for presidential reelection in 1908, a rift emerged between the Republican Party's conservative northeastern base and its progressive western wing. Roosevelt had broken with Republican orthodoxy by championing greater federal regulation of corporations. In the west, progressive insurgents called for freer trade.¹³⁰ In 1909, the House of Representatives passed tariff legislation calling for broad tariff reductions. When the Senate took up the bill, Aldrich unilaterally raised a number of tariffs. With President Taft's blessing, the conference version of the Payne-Aldrich Tariff reflected northeastern protectionist preferences.¹³¹ The rift between progressive and old guard Republicans deepened.

Aldrich spent 1909 preoccupied with the tariff, neglecting the work of the NMC. This diversion proved costly both for his ambition to shape financial reform and, more generally, for the old guard Republican leadership. In March 1910, progressive Republicans allied with Democrats to strip speaker Joseph Cannon (R-IL) of his control over the rules committee. A month later, Aldrich announced that he would not seek reelection that fall. In the 1910 midterm elections, Democrats gained control of the House of Representatives for the first time since 1894. Aldrich, already a lame duck, huddled with his band of conspirators at Jekyll Island a week after the elections.¹³² Shortly after the Aldrich Plan was introduced into Congress in January, 1912, pressure began

¹³⁰ Wisconsin progressives championed lower tariffs to improve consumer welfare. Sandel, Michael J. 1996. *Democracy's Discontent: America in Search of a Public Philosophy*. Cambridge: Belknap Press: 221.

¹³¹ This section draws heavily off of McCulley 1992, 226-229.

¹³² McCulley (1992, 229) points out, "A careful examination of the political context of the Jekyll Island meeting... indicates that the opportunities for political action on the reform plan they generated had already vanished and that the relation between the Aldrich Plan and the Federal Reserve Act of 1913 was far more tenuous than they asserted."

mounting for a congressional investigation of the “Money Trust.” The previous two decades had witnessed waves of consolidation in both the manufacturing and financial sectors.¹³³ Progressive Republican Charles A. Lindbergh, Sr., (R-MN) attacked the Aldrich Plan as a “wonderfully clever” plan that invited “capture by Wall Street as soon as it should get into operation.” Lindbergh called for an investigation of the “combinations of financiers and financial institutions... who control the money and credit and, through that control, operate in restraint of trade and in violation of the law.”¹³⁴

The Money Trust Investigation and the 1912 Election

The House’s Democratic leadership was reluctant to take up Lindbergh’s call for an investigation. Majority Leader Oscar Underwood (D-AL) harbored presidential ambitions and relied on the backing of New York “sound money” Democrats. Underwood also feared renewing Republican charges of “Bryanism” and “radicalism” in the run up to the 1912 national elections.¹³⁵ The populist wing of the Democratic Party, however, was eager for a highly visible public investigation. With William Jennings Bryan’s support, Rep. Robert Henry (D-TX) introduced a bill calling for an investigation of banking concentration. Henry’s bill was voted down in the Democratic caucus 115 to 66. As a compromise, the House passed legislation calling for the House Banking and Currency Committee “to obtain full and complete information of the banking and currency condition of the United States for the purpose of determining what legislation is

¹³³ For an excellent analysis of the manufacturing merger wave, see Lamoreaux, Naomi R. 1988. *The Great Merger Movement in American Business, 1895-1904*. New York: Cambridge University Press. McCulley (1992, Chapter Six) analyzes financial sector consolidation.

¹³⁴ Quoted in McCulley 1992, 257-258.

¹³⁵ McCulley 1992, 262.

needed.”¹³⁶ The committee divided the tasks of investigating financial conditions and drafting reform legislation. Chairman Arsene Pujo (D-LA), who had already announced his pending retirement, agreed to lead a “sane” investigation of banking conditions.¹³⁷ A separate subcommittee tasked with drafting reform legislation was headed by second-ranking Democrat Carter Glass (D-VA). Since Glass was a conservative, financiers thought they had little to fear in this division of labor.

After two months of Pujo Committee inactivity, populist Democrats convinced Pujo to undertake a more intensive investigation. He introduced a resolution broadening the subcommittee’s mandate to investigate “concentration of money and credit” and compelling bankers to testify.¹³⁸ The House passed this resolution on April 12th, 1912. Pujo appointed Samuel Untermyer, a populist New York trial lawyer, as special counsel. In May, Untermyer paraded a number of leading New York bankers before the subcommittee and accused the New York Clearinghouse Association of forcing the unnecessary closure of country banks during the 1907 panic. The investigation quickly became a national sensation. It was suspended in June, however, for the Democratic National Convention in Baltimore. Thanks to Bryan’s late endorsement and the fragmentation of the Republican vote, Woodrow Wilson would win the presidency and Democrats would gain wide majorities in both houses of congress.

¹³⁶ McCulley 1992, 263.

¹³⁷ West 1977, 92-3; McCulley 1992, 263; Sanders 1999, 244-5.

¹³⁸ McCulley 1992, 264-266.

The Partisan Construction of the Federal Reserve Act

Woodrow Wilson's election altered the course of financial reform. While Wilson knew little about the banking industry, no other candidate "grasped the political potential of the banking issue or more effectively exploited it for personal and partisan advantage."¹³⁹ Wilson campaigned against the "money monopoly." In a March, 1911, speech he argued, "Our system of credit is concentrated. The growth of the nation, therefore, and all our activities are in the hands of a few men who... destroy genuine economic freedom."¹⁴⁰ Although Wilson's rhetoric appealed to populists, he would repeatedly intervene in the legislative process to ensure that conservative Carter Glass (D-VA) retained jurisdiction over financial reform.¹⁴¹ The Democratic Party was deeply divided among radical agrarians who desired redistributive reforms, left-leaning progressives who desired increased state intervention in the economy, and conservatives who desired freer trade but otherwise supported laissez-faire. Left-leaning Democrats would repeatedly push for the creation of a state-controlled central bank and the inclusion of a national deposit insurance scheme. Wilson's authoritative interventions into the legislative process denied populists these institutional goals.

Over the fall of 1912, Carter Glass began working with economist H. Parker Willis to draft financial reform legislation. Glass considered the Aldrich Plan's basic flaw

¹³⁹ McCulley 1992, 269.

¹⁴⁰ Quoted in McCulley 1992, 270.

¹⁴¹ Samuel Untermyer, the lead counsel of the money trust investigations, sought to convince President Wilson to support his bid for gaining jurisdiction over the financial reform issue in November and December 1912. Wilson supported Glass, instead. McCulley 1992, 275.

its “monopolistic tendencies.”¹⁴² Otherwise, Glass supported the Aldrich Plan’s banker-control provisions and functional goals of issuing an elastic currency and providing banks rediscounting facilities. Glass and Willis’s original proposal called for a decentralized system of 20 privately-organized reserve banks regulated by the Comptroller of the Currency. Glass believed the system would undermine Wall Street’s control by building “rival aggregations of financial power.”¹⁴³

Glass and Willis pitched their proposal to Wilson on December 26th, 1912. To Glass’s surprise, Wilson demanded that a presidentially-appointed board be included as a “capstone... placed atop the structure.”¹⁴⁴ After the meeting, Glass wondered if the president-elect had been influenced “by those who are seeking to mask the Aldrich plan and give us dangerous centralization.”¹⁴⁵ Despite his misgivings, Glass had little choice but to comply with Wilson’s demands. During the spring of 1913, Glass and Willis covertly drafted new legislation which paired his regional reserve concept with Wilson’s “capstone.” The proposal was circulated among Wilson’s cabinet in early May, 1913.

The creditor-friendly Glass-Willis-Wilson plan was unacceptable to populist Democrats. On May 19th, 1913, William Jennings Bryan met with Wilson and declared his opposition to the legislation. Wilson had little chance of securing the votes of rank-

¹⁴² Quoted in Broz 1997, 195.

¹⁴³ Link 1956, 203.

¹⁴⁴ Carter Glass, *An Adventure in Constructive Finance* (Garden City, NY: Doubleday, Page & Company, 1927), 82.

¹⁴⁵ Letter from Glass to Willis, 12/29/1912. Quoted in Shull, Bernard. 2005. *The Fourth Branch: The Federal Reserve's Unlikely Rise to Power and Influence*. Westport: Praeger Publishers: 44.

and-file Democrats without Bryan's active support.¹⁴⁶ Bryan voiced two specific objections: 1) he wanted the elimination of banker representation on the Federal Reserve Board, and 2) provisions making the system's currency issues governmental rather than private liabilities. Bryan argued Democrats "had been committed by Jefferson and Jackson and by recent platforms to the doctrine that the issue of money is a function of government and should not be surrendered to banks."¹⁴⁷ Populists began pressing alternative reforms. Sen. Robert Owen (D-OK), chairman of the Senate Finance Committee, informed H. Parker Willis that he and Samuel Untermyer had crafted an alternative reform. Treasury Secretary William McAdoo proposed a Treasury-controlled central bank.¹⁴⁸

To reach a resolution among warring factions, Wilson held a number of conferences at the White House between June 7th and 18th. On June 17th, Wilson, Glass, McAdoo, and Owen held a grueling conference at the White House where Glass argued against Bryan's demands. Owen responded that the board "must be exclusively a political agency." McAdoo agreed "the right measure is the one which puts the Government in the saddle."¹⁴⁹ Louis Brandeis, Wilson's progressive advisor, counseled the president:¹⁵⁰

The power to issue currency should be vested exclusively in Government officials, even when the currency is issued against commercial paper... The

¹⁴⁶ Link (1956, 206) argues "Without [Bryan's] active support the currency measure might never pass; and with his open opposition... would mean the disruption of the party and the almost certain defeat of the bill."

¹⁴⁷ Quoted in McCulley 1992, 295; Link 1956, 206.

¹⁴⁸ Link 1956, 208; Sanders 1999, 247.

¹⁴⁹ W.G. McAdoo letter to E.M. House. 6/18/1913. Cited in Link 1956, 211.

¹⁵⁰ L.D. Brandeis to W.W., June 14, 1913. Quoted in Link 1956, 212.

conflict between the policies of the Administration and the desires of the financiers and of big business, is an irreconcilable one. Concessions to the big business interests must... prove futile.”

On June 18th, the President reconvened Glass, Owen, and McAdoo at the White House and announced his decision. He sided with the populists by agreeing that currency issued by the Federal Reserve Banks would be government liabilities and he agreed to remove banker representation from the board.¹⁵¹ Bryan’s demands being satisfied, he endorsed the legislation. Wilson’s cabinet “united in a solid phalanx that never broke during all the ensuing controversies.”¹⁵² Wilson announced the bill to a joint session of Congress on June 23rd.

A few days after the compromise was announced, Wilson agreed to make three minor functional concessions to prominent Midwestern bankers: the new system would gradually retire outstanding 2% government bonds which were used as collateral for national banknotes; regional reserve banks would be given the right to initiate discount rate (policy) changes; and a Federal Advisory Council composed of private banking representatives would be established to serve as a liaison between the Board and the Federal Reserve Banks.¹⁵³ Wilson sternly rebuffed bankers’ requests to reassert banker representation on the Federal Reserve Board, however.¹⁵⁴

¹⁵¹ Link, 1956, 213; McCulley 1992, 297.

¹⁵² Link 1956, 213.

¹⁵³ Under the original compromise, the Federal Reserve Board was given power to initiate discount rate changes.

¹⁵⁴ Wilson exhorted them, “Will one of you gentlemen tell me in what civilized country on the earth there are important government boards of control on which private interests are represented? Which of you gentlemen thinks the railroads should select members of the Interstate Commerce Commission?” Wilson’s admonition was followed by “painful silence.” Link 1956, 217; Sanders 1999, 250.

In July, congressional agrarians attacked the legislation and demanded radical changes. They voiced three complaints: that the privately-organized Federal Reserve Banks would exercise control over expansion of the money supply; that special agricultural credit provisions weren't included; and that the legislation didn't ban interlocking directorates.¹⁵⁵ Rep. Henry (D-TX) voiced the populist critique, "The bill as now written is wholly in the interest of the creditor classes, the banking fraternity, and the commercial world, without proper provision for the debtor classes and those who toil, produce, and sustain the country."¹⁵⁶ The radicals were pacified by a few minor concessions and William Jennings Bryan's intervention. In late July, President Wilson promised that subsequent antitrust legislation would include a ban on interlocking directorates. Populist discontent still threatened to derail the bill when the Democratic house caucus took it up on August 11th, however. Three days later, a compromise was reached providing preferential treatment for agricultural credit.¹⁵⁷ Populists continued arguing that the bill's currency provisions fell short of Bryan's demand for a government-controlled currency system, however. On August 22nd, Bryan sent a letter to Carter Glass which he requested to be read aloud to the caucus. The letter called on agrarians to "stand by the President and assist in securing the passage of this measure at the earliest possible moment."¹⁵⁸ Bryan's endorsement broke the opposition. On August 28th, the caucus

¹⁵⁵ Link 1956, 220; Sanders 1999, 250.

¹⁵⁶ Link 1956, 220. Henry demanded agricultural representation on the Federal Reserve Board and the immediate issuance of \$700,000,000 in currency to debtors, farmers, and the states to engage in public works projects.

¹⁵⁷ These provisions increased the maturity of eligible agricultural paper from 45 to 90 days and made bills of exchange based on warehouse receipts eligible for rediscount. Link 1956, 221; Sanders 1999, 250.

¹⁵⁸ Bryan to Glass, 8/22/1913. Reprinted in the *Boston Journal* August 23, 1913.

voted 116-9 to make the bill a party measure, binding all congressional Democrats to vote for it on the house floor.¹⁵⁹

Debate began in the House of Representatives on September 9th. Nine days later, Republicans tried to sow discord among Democrats by adding an amendment reaffirming the national gold standard commitment. Bryan urged his followers to support the amendment. It was approved by a vote of 299-68. Hours later, the House passed the Federal Reserve Act by a vote of 287-85. Only three Democrats (of 257) broke party ranks to vote against the measure.

The legislation faced a much tougher path through the Senate. The Senate Finance Committee was a bastion of populism. Three of the committee's seven Democrats were hostile toward the president.¹⁶⁰ They joined the Republican minority in obstructing the bill's passage. Committee hearings ground on for months.¹⁶¹ On October 23rd, Frank Vanderlip, president of the National City Bank, unveiled an alternative proposal calling for the establishment of a Treasury-controlled central bank.¹⁶² Opposition to the Glass-Owen bill quickly mounted as Republicans and radical Democrats rallied to the Vanderlip plan. The day after his testimony, eight of the Finance Committee's twelve members voiced their support for the alternative plan.

¹⁵⁹ Link (1956, 227) argues the caucus endorsement put Glass in "undisputed control of the Democratic steamroller."

¹⁶⁰ These Senators were Gilbert Hitchcock (D-NE), James O'Gorman (D-NY), and James Reed (D-MO).

¹⁶¹ West 1977, 125-129. Wilson was quoted as saying, "The Democrat who will not support me is not a Democrat. He is a rebel." *Washington Post*, 10/8/1913; *New York World*, 10/8/1913. Wilson later claimed to have been misquoted.

¹⁶² Link 1956, 232; Sanders 1999, 253.

Glass and Wilson interpreted Vanderlip's proposal as an attempt to fracture the fragile Democratic partisan coalition and prevent financial reform from being passed.¹⁶³ When Vanderlip requested to discuss the proposal with Wilson, the president informed him doing so would be "quite useless... I could in no circumstances accept or recommend it." On October 24th, Wilson invited Senate Democratic leaders to the White House where he angrily informed them that he did not intend to have reform legislation dictated by bankers.¹⁶⁴ Afterward, the Senate Democratic Caucus pressured Finance Committee Democrats to advance the Glass-Owen bill. Two of the three dissenting senators, O'Gorman (D-NY) and Reed (D-MO), withdrew their opposition. Even with their support, however, the committee remained evenly divided. The impasse was finally resolved when the committee agreed to submit both the Federal Reserve Act and the Vanderlip plan to the full Senate.

On November 30th, the Senate Democratic Caucus passed a resolution making the Glass-Owen bill a party bill. The caucus approved minor amendments to the bill, most notably adding a national deposit insurance scheme. The full Senate began debating the bill on December 2nd. Progressive senators joined with Democrats to pass a resolution requiring the Senate meet 13 hours per day until a final vote was taken. According to former President Taft, Republicans shifted tactics from delay to arguing, "everything that

¹⁶³ Link 1956, 233-234.

¹⁶⁴ *New York World*, 10/25/1913.

is good in the currency legislation came from the Aldrich Bill, and that which is wrong is due to a mixture of Bryanism.”¹⁶⁵

On December 19th, the Senate passed the Federal Reserve Act by a vote of 54 to 34 (see Table 1). Every Democrat supported the bill. Since the House and Senate versions differed, the bill went to conference. The conference version of the bill was announced on December 22nd. It dispensed with the deposit insurance scheme and largely reflected the House’s version.¹⁶⁶ The conference bill was quickly passed and Wilson signed it into law on December 23rd, 1913.

Table 1: Roll Call Votes on the Federal Reserve Act (1913)

	House Votes		Senate Votes	
	Final	Conference	Final	Conference
Total	287 -- 85	298 -- 60	54 -- 34	43 -- 25
Democrats	248 -- 3	248 -- 2	48 -- 0	39 -- 0
Republicans	30 -- 80	38 -- 58	6 -- 34	4 -- 25
Progressives	9 -- 2	12 -- 0		

Subversive Agents: Formative Politics in the Federal Reserve (1914-1916)

The Federal Reserve Act called for the incorporation of 8-12 Federal Reserve Banks and a new government agency, the Federal Reserve Board, to regulate them. Beyond inaugurating this open-ended institution-building process, the act left ambiguous how these institutional components would function as a coherent system. It left three interrelated governance questions unresolved. First, where was the ultimate locus of

¹⁶⁵ Taft letter to Hilles, 2/25/1914. Taft Papers. Cited in Link 1956, 235.

¹⁶⁶ It did incorporate some important amendments from the Senate bill including limiting the number of Federal Reserve Banks to 8-12 from at least 12; increasing the mandatory gold backing of Federal Reserve notes to 40% from 33.3%; removing the Secretary of Agriculture from the Board; and increasing the maturity of eligible agricultural paper for rediscount to six months. Link 1956, 237; West 1977, 131-136; Sanders 1999, 256-257.

authority within the system? Did it lie with the reserve banks, the Board, or the Treasury? Second, was the Board's purpose oversight or control? Was it an independent agency or a bureau of the Treasury? Third, how was the system supposed to fulfill its vague mandate to "furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States, and for other purposes?" These questions animated early governance debates inside the Federal Reserve System and provided openings for reform-minded agents.

Institutional agents' preferred resolutions to these governance questions were shaped by their position inside the system and the reform ideas they carried with them when they entered Federal Reserve service. The Federal Reserve Act's officer selection procedures ensured that some of the system's fiercest critics, populist Democrats and New York financial elites, would have a hand in administering the new system. These agents carried alternative reform visions and sought to reshape the Federal Reserve. This section analyzes the transformative efforts of three early reformers, William McAdoo, Paul M. Warburg, and Benjamin Strong. These agents were all losers in the passage of the Federal Reserve Act. McAdoo had tried and failed to establish a Treasury-controlled central bank. As treasury secretary, however, he was made the *ex officio* chairman of the Board. Warburg and Strong were leading Aldrich Plan advocates. Wilson appointed Warburg to serve on the inaugural Federal Reserve Board and Strong was selected by the FRBNY's directors to serve as its executive officer, or Governor. From these positions, they sought to enact reforms which would recast the Federal Reserve System in their preferred image.

Of the three, McAdoo most explicitly sought to dominate the institution for personal gain. He systematically attempted to assert dominance over the system and used his discretion over fiscal resources as a lever for asserting power within the Federal Reserve. Harboring presidential ambitions, McAdoo believed his surest path to the White House lied in wielding the Federal Reserve's powers as a populist weapon to attack and dismantle Wall Street. As will be demonstrated below, however, McAdoo's power peaked within the system in 1914.

Warburg and Strong shared overlapping reform visions. Warburg hoped to increase the system's centralization by eliminating marginal reserve banks and establishing the Board as a prestigious and independent agency. He believed these steps would promote private-sector confidence in the system, purge the system of inequality-based conflict, and cultivate the growth of secondary commercial debt markets. Strong shared Warburg's financial developmental goals, but also held hegemonic ambitions.¹⁶⁷ He wanted to elevate New York's profile as a global financial center and internationalize the dollar. For Strong, the system's fragmented structure of 12 autonomous reserve banks and a presidentially-appointed board posed formidable barriers to the advancement of his international goals.¹⁶⁸ Warburg and Strong also considered the system's delegated authorities insufficient for establishing the system as a permanent and effective fixture

¹⁶⁷ As Meltzer (2003, 75) points out, Strong "saw the Federal Reserve Act as an opportunity to expand the international operations of United States banks, particularly New York banks, and like Warburg, he believed that the development of the market for bills of exchange and acceptances was the means to accomplish this end in a manner consistent with the act." Meltzer, Allan H. 2003. *A History of the Federal Reserve, Volume I*. Chicago: University of Chicago Press.

¹⁶⁸ So long as the New York governor held a formal rank equal to central bankers in Dallas and Richmond, Strong doubted European central bankers would take him seriously. Strong also feared the 'politicized' nature of the board. He considered the existence of *ex officio* cabinet members on the board an unprecedented intrusion by government into the private banking system.

within the American political economy. Together, they pressed for reforms which would promote the use of Federal Reserve notes domestically (dollarization); concentrate gold in the reserve banks; compel state banks to join the system; and establish a fiscal agency monopoly.

McAdoo's Populist Bid for Supremacy

Treasury Secretary William McAdoo's institutional power peaked in 1914. In that year he served on the three-member Reserve Bank Organization Committee (RBOC) which determined the number and location of Federal Reserve Banks. He also retained expiring emergency currency-issuing authority granted by the 1908 Aldrich-Vreeland Act. Beyond these formal powers, McAdoo also inherited an office which had accrued expansive discretionary powers over the previous decade.¹⁶⁹ During the spring and summer of 1914, McAdoo wielded his formidable powers to shape the Federal Reserve System and stave off financial crisis.

The Federal Reserve Act delegated the task of determining the number and location of Federal Reserve Banks to the Reserve Bank Organization Committee (RBOC), a three-member body composed of the secretaries of treasury and agriculture and the Comptroller of the Currency. Congress appropriated \$100,000 dollars for RBOC operations. These funds were used to survey the country's seven thousand nationally-chartered banks regarding their reserve bank preferences and to fund a 10,000 mile "listening tour" where RBOC members visited 18 cities vying for a Federal Reserve

¹⁶⁹ Treasury Secretary Leslie Shaw (1902-1907) had pioneered and regularized the practice of depositing government funds in the banking systems during periods of financial stringency. Timberlake 1963.

Bank.¹⁷⁰ McAdoo portrayed the RBOC's mission as technocratic, calling its decisions "an economic and not a political problem."¹⁷¹ This view supported the statutory mandate that "districts shall be apportioned with due regard to the convenience and customary course of business." Others were skeptical. One Republican senator commented that the RBOC would "leave on the new system a deep partisan mark."¹⁷²

The RBOC announced its decision on April 2nd, 1914. It authorized incorporation of twelve Federal Reserve Banks, the maximum allowable by law. Federal Reserve Banks were to be established in Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, Dallas, St. Louis, Kansas City, Minneapolis, and San Francisco. For McAdoo, an ambitious populist Democrat, the placement of three reserve banks in the capital-poor but solidly Democratic South was good politics.¹⁷³ For his mapmaking endeavor to pay political dividends, however, McAdoo believed he needed to establish control over the system (see figure 2).

As the RBOC prepared to announce its final decisions, a different political battle was being waged inside the White House over the president's pending appointments to the inaugural Federal Reserve Board. McAdoo and Colonel E.M. House, Wilson's confidant, competed to shape the president's appointments. McAdoo urged the President

¹⁷⁰ Binder, Sarah and Mark Spindel. 2013. "Monetary Politics: Origins of the Federal Reserve." *Studies in American Political Development* 27 (1): 1-13.

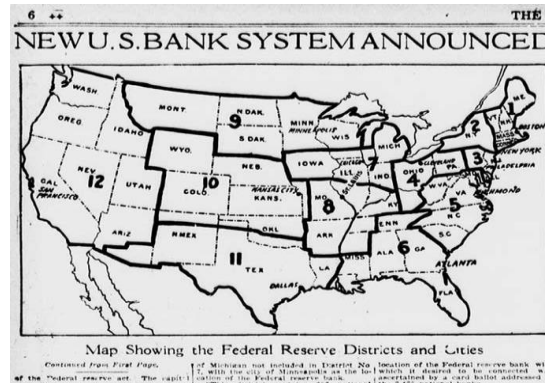
¹⁷¹ Quoted in Binder and Spindel, 2013, 6.

¹⁷² "Affixes His Signature at 6:02 pm, Using Four Gold Pens," New York Times, December 24, 1913, p. 1.

¹⁷³ Binder and Spindel (2013, 7) argue "placing reserve banks in southern cities would have provided an economic shot in the arm for Democratic constituencies in the region... Party and region are co-terminus in this period."

to appoint populists who would support his bid to dismantle the money trust.¹⁷⁴ House accused McAdoo of trying to subordinate the new system. He urged the president to make conservative appointments which would win the confidence of the nation's business and financial communities.¹⁷⁵

Figure 2: Map of the Federal Reserve System



On May 4th, 1914, Wilson submitted his initial nominations to the Senate. The appointments were shockingly conservative, composed of prominent industrialists and bankers.¹⁷⁶ A fresh battle with the Senate Finance Committee broke out, as it had to approve Wilson's nominations. Populists on the committee were especially incensed by Wilson's nomination of Thomas D. Jones, an International Harvester Company director,

¹⁷⁴ Primm, James N. 1989. *A Foregone Conclusion: The Founding of the Federal Reserve Bank of St. Louis*. St. Louis: Federal Reserve Bank of St. Louis: 50; Johnson, Roger T. and Marilyn Rutland. 1977. *Historical Beginnings, the Federal Reserve*. Boston: Federal Reserve Bank of Boston.

¹⁷⁵ Primm 1989, 50-51.

¹⁷⁶ Wilson nominated Richard Olney, a Boston railroad attorney who, as Grover Cleveland's attorney-general, had broken the 1894 Pullman strike. He also nominated Henry A. Wheeler, vice president of Union Trust Co.; Thomas D. Jones, a director of International Harvester Company; and WPG Harding, the president of Alabama's largest bank. Olney and Wheeler quickly rejected their appointments. Wilson replaced them with Charles Hamlin, a Boston attorney, and Adolph Miller, an economist from the University of California at Berkeley. A progressive Midwestern Senator commented, "A more reactionary crowd could not have been found with a fine-tooth comb." Link 1956, 452.

and Paul M. Warburg, a known central banking advocate. Senators Reed (D-MO) and Hitchcock (D-NB) demanded that Jones and Warburg testify before the committee. Under hostile questioning, Jones admitted that he had approved of all of Harvester International's policies since joining the company in 1909.¹⁷⁷ At the time, the company was under Federal investigation. Reed and Hitchcock demanded Wilson withdraw his nomination. Once again, Wilson asked William Jennings Bryan to intervene on Jones' behalf. Bryan reluctantly did so.¹⁷⁸ This time, he was unable sway the irate senators. Wilson angrily withdrew the nomination.

Although Warburg's role in crafting the Aldrich Plan remained unknown, his position as a prominent central banking advocate made him an easy target for populists. Warburg refused to appear before the Senate Finance Committee and asked Wilson to withdraw his nomination. Wilson refused. Sen. Hitchcock (D-NB), satisfied with having forced the withdrawal of Jones' nomination, reached out to Warburg and promised his testimony would be a friendly "conference" rather than an interrogation. Warburg met with the committee on August 1st and 3rd, 1914. His nomination was confirmed on August 7th. On August 10th, the inaugural Federal Reserve Board was sworn in.

McAdoo's political influence peaked in the summer of 1914, months before the Federal Reserve Banks opened their doors. The outbreak of WWI in Europe presented a major shock to the American economy. European belligerents canceled their orders for

¹⁷⁷ Primm 1989, 51. Jones' "Harvester Trust" was hated by Midwestern progressives and was under indictment as an illegal combination. Even former President Taft chimed in that if he had appointed such a reactionary to a high-profile post, "the condemnation that would have followed... staggers my imagination." Quoted in Link 1956, 453.

¹⁷⁸ Primm 1989, 51.

American exports and requisitioned their citizens' American securities, which they began liquidating. At the same time, large volumes of short-term American loans were maturing in Europe. Without export-generated foreign exchange, Americans needed to make large gold shipments across the Atlantic to satisfy creditors. WWI complicated this task as German warships made transatlantic journeys unsafe. The U.S. dollar began falling on foreign exchange markets.

On July 31st, McAdoo ordered the closure of the New York Stock Exchange. He also authorized commercial banks to issue Aldrich-Vreeland emergency currency and worked with bankers to organize a \$108 million dollar gold fund for settling international payments. The establishment of this fund was sufficient to quell speculation against the dollar, which rose to par against sterling by November 11th.¹⁷⁹ McAdoo's intervention averted a U.S. currency crisis and sowed the seeds for the US's dramatic emergence as a creditor nation. The crisis had largely passed when the Federal Reserve Banks opened for business on November 16th, 1914.

As Col. House had warned, McAdoo intended to dominate the Federal Reserve System. To do so, he asserted authoritative claims over the Board and the reserve banks. McAdoo drew upon a selective reading of the Federal Reserve Act which seemed to leave open the possibility of Treasury control. Section 10 stated:

Nothing in this Act contained shall be construed as taking away any powers heretofore vested by law in the Secretary of the Treasury which relate to the

¹⁷⁹ Once the New York stock exchange was closed, European belligerents offloaded securities at fire sale prices, representing a *de facto* capital transfer from Europeans to Americans. McAdoo also attempted to open the Federal Reserve Banks early, but Benjamin Strong and Paul Warburg forcefully opposed this initiative. Silber, William L. 2007. *When Washington Shut Down Wall Street: The Great Financial Crisis of 1914 and the Origins of America's Monetary Supremacy*. Princeton: Princeton University Press: 2-17.

supervision, management, and control of the Treasury Department and bureaus under such department, and wherever any power vested by this Act in the Federal Reserve Board or the Federal reserve agent appears to conflict with the powers of the Secretary of the Treasury, such powers shall be exercised subject to the supervision and control of the Secretary.

As the Board's *ex officio* chairman, McAdoo considered himself its ranking officer. As Board members began arriving in Washington, D.C., they made inquiries regarding the status associated with their positions. McAdoo lampooned their efforts in a conversation with Wilson, "They must swim in the luminous ether close to the sun!" McAdoo suggested that Board members be given an inferior rank equivalent to assistant secretaries. Perhaps not recognizing McAdoo's subversive goals, Wilson joked that Board members should be given a position in D.C.'s social orbit "just below the fire department."¹⁸⁰

The Federal Reserve Act was ambiguous regarding the Treasury Secretary's actual delegated authority as *ex officio* chairman of the Board. The act also called for one presidential appointee be given the title of Governor and serve as the Board's administrative officer. This dueling executive problem extended to the reserve banks. The Federal Reserve Act instructed the Board to appoint three Class C directors to each reserve bank and designate one the Federal Reserve Agent, who was also given the title of Chairman. The Preliminary Committee on Organization had deemed that each reserve bank should select its own executive officers, however.¹⁸¹ So each bank's nine-member Board of Directors, six of whom were selected by member banks, also selected an executive officer titled Governor.

¹⁸⁰ Kettl, Donald. 1986. *Leadership at the Fed*. New Haven: Yale University Press: 25.

¹⁸¹ Chandler 1958, 67.

McAdoo intervened in the reserve bank officer selection processes to ensure that the Federal Reserve Agent, whom he considered his subordinate, would dominate each reserve bank. In the St. Louis case, he wrote Rolla Wells, a prominent local businessman, urging him to accept the governorship. In his telegram, McAdoo presented the position as ceremonial and suggested the bank's day-to-day operations would be handled by the Federal Reserve Agent.¹⁸² This controversy was resolved in the Federal Reserve Board's 1914 *Annual Report* which declared that the Federal Reserve Act had intended for each bank to be self-administering, making the governor the top officer.¹⁸³

To establish dominance over the Board, McAdoo demanded it meet in the Treasury Building.¹⁸⁴ H. Parker Willis, the Board's inaugural secretary, considered this a brazen attempt to subordinate the Board. He suggested the Board would have been better off if it had met outside of Washington, D.C., in locations where the Treasury Secretary and Comptroller were less likely to attend. When the Board began its work, it was immediately divided into two factions: one supporting McAdoo's attempt to subordinate the Board and another seeking to establish the agency's autonomy from the Treasury. In December, 1914, the Attorney General

¹⁸² The telegram stated, "You will render great public service by so doing. I do not think it will burden you heavily, and it will not be necessary for you to give up your business interests or investments." Quoted in Primm 1989, 55. In St. Louis, the Federal Reserve Agent did temporarily establish himself as the bank's leading officer, but disputes continued in other reserve banks. Governor Benjamin Strong quickly established himself as the top officer at the Federal Reserve Bank of New York. Chandler 1958, 67.

¹⁸³ See discussion in Harding, William. 1925. *The Formative Period of the Federal Reserve System*. London: Constable: 27.

¹⁸⁴ Kettl 1986, 25.

ruled that the Board was independent of the Treasury.¹⁸⁵ Undeterred, McAdoo continued his quest for domination. His further attempts are explored from the perspective of his two leading critics within the system, Paul Warburg and Benjamin Strong.

Warburg's Progressive Vision

Paul Warburg entered the Federal Reserve System with an established transformative agenda. He believed the system could develop into an effective institution by eliminating marginal reserve banks and establishing the Board as a prestigious, non-partisan organization. Writing from Europe in the fall of 1913, while the Federal Reserve Act wound through Congress, Warburg warned that the proposed twelve bank structure was too decentralized to accomplish its organizational goals of developing U.S. financial markets and improving gold standard management.¹⁸⁶ Warburg believed that the core defect of the crisis-prone U.S. financial system lied in its reliance upon the call-loan market as the ultimate reservoir for banking capital. To overcome this defect, Warburg desired an institution capable of developing deep and liquid secondary commercial debt markets.¹⁸⁷ While he first championed the creation of a corporate central bank as the surest means of cultivating these markets, over time Warburg warmed to the regionalized reserve system idea. He considered a 12 bank structure too decentralized to be effective,

¹⁸⁵ Beckhart, Benjamin Haggott. 1972. *Federal Reserve System*. New York: American Institute of Banking: 31.

¹⁸⁶ Warburg 1913.

¹⁸⁷ Warburg specifically wanted to develop US bankers' acceptances markets. He explained the Federal Reserve's role in developing such markets in a speech, "The Federal Reserve System and the Banks." Address before the New York State Bankers' Association Convention, Atlantic City, New Jersey, June 9, 1916.

however. Such a system would inevitably create inequalities among the reserve banks which would politicize intra-system credit transfers. Warburg preferred a four bank system, but believed up to six reserve banks would be workable.¹⁸⁸ Coordination among a smaller number of more equal reserve banks would depoliticize policy decisions and promote financial market development. Under the 12 bank structure, Warburg feared that the Board would ultimately determine intra-system interest rates based on political calculations:¹⁸⁹

...the result of the division of the country into twelve Federal Reserve Banks, under the Owen-Glass plan, would be the destruction of a reliable and strong discount market, the weakening of the reserve power of the country, the undoing of the hope of developing on a broad basis the American bank acceptance, and the sacrificing of a strong and efficient foreign exchange and gold policy. On the other hand, while all these advantages of a frank centralization have been lost, the Owen-Glass plan cannot avoid the same degree of centralization which, however, it brings about by conferring autocratic powers upon a small group of men.

Warburg undertook two broad entrepreneurial initiatives to transform the Federal Reserve. First, he sought to establish the Federal Reserve System as an effective and prestigious institution by enlisting high-caliber bankers to serve within the system. He also sought to establish the Federal Reserve Board as a non-partisan, technocratic body which would advise Congress on desirable banking reforms.¹⁹⁰ Warburg's attempt to

¹⁸⁸ Since U.S. banking capital was heavily concentrated in the northeast, Warburg argued the creation of more than six reserve banks was destined to generate inequalities across reserve banks. Reserve banks located in capital-abundant, diversified, northeastern economies would be net credit suppliers whereas those located in agricultural backwaters would remain indebted to the system. These inequalities would make the interest rate charged on intra-system credit transfers a political issue which would stunt secondary market development.

¹⁸⁹ Warburg 1913, 541.

¹⁹⁰ Warburg told an audience of bankers in 1916, "The natural development will be that Congress will call upon the Federal Reserve Board more and more to act as an expert body in questions of banking—though, unfortunately, this does not mean that our advice will always be heeded." Kettl 1986, 26.

establish Board independence brought him into direct conflict with McAdoo, as did Warburg's second major initiative. He led a subcommittee which sought to redraw Federal Reserve districts and eliminate marginal reserve banks. In 1914, Governor Hamlin (Board) appointed a subcommittee composed of Warburg, Frederic Delano, and WPG Harding to consider redistricting. Adolph Miller joined this subcommittee's three members in recommending a reduction in the number of reserve banks, giving them a four to three Board majority.¹⁹¹ Lacking sufficient support on the Board, McAdoo asked the Attorney General to weigh in on the matter. In November, 1915, the Attorney General ruled that established reserve banks couldn't be eliminated.¹⁹²

Strong's Hegemonic Ambition

When the FRBNY's directors asked Benjamin Strong to serve as the bank's Governor, he wrote Paul Warburg telling him he wished to decline.¹⁹³ Strong believed the system faced long odds of successfully establishing itself as a permanent fixture in the American political economy. Strong considered the Board "politicized" due to its *ex officio* cabinet members and considered a twelve bank system too decentralized.¹⁹⁴ He thought such a fragmented institution was poorly suited for advancing his international goals and invited inflation. After receiving Strong's letter, Warburg spent a weekend in the country convincing Strong the system needed his expertise.¹⁹⁵ Once at work inside,

¹⁹¹ McAdoo was joined in opposing the reserve bank reduction plan by fellow RBOC member John Skelton Williams and Governor Hamlin. Harding 1925, 36.

¹⁹² Harding 1925, 36; Weyforth, William O. 1933. *Federal Reserve Board: A Study of Federal Reserve Structure and Credit Control*. Baltimore: John Hopkins University Press: 20.

¹⁹³ Chandler 1958, 39; Meltzer 2003, 76 fn 23.

¹⁹⁴ Meltzer 2003, 77.

¹⁹⁵ Kettl 1986, 30.

Strong devoted his life to overcoming the Federal Reserve Act's deficiencies and establishing the Federal Reserve as a powerful and effective institution. Strong undertook two broad entrepreneurial initiatives to reshape the system. First, he sought to organize the reserve bank governors to promote shared practices and coordinate policies. Second, he worked with Warburg to lobby Congress to reform the Federal Reserve Act to enhance and clarify the system's delegated authorities.

In October, 1914, the Board invited the reserve bank governors to Washington, D.C., for a conference devoted to organizing the reserve banks. Out of this meeting grew the governors conference, an ongoing forum of the twelve reserve bank governors.¹⁹⁶ Strong organized the conference and used it to build trust, shared practices, and to coordinate policies. This extralegal organization quickly came into conflict with the Board, however, which considered it a rival.¹⁹⁷ The Board and the governors conference feuded over policymaking jurisdiction and the governors' authority to organize themselves independently. Section 14 of the Federal Reserve Act granted the reserve banks the right to "establish from time to time, subject to review and determination of the Federal Reserve Board, rates of discount to be charged by the Federal Reserve Bank for each class of paper, which shall be fixed with a view of accommodating commerce and business." This vague language could be interpreted as meaning either the reserve banks

¹⁹⁶ West 1977, 215; Meltzer 2003, 78-81.

¹⁹⁷ Harding 1925, 63; Meltzer 2003, 80.

or the Board ultimately retained control over policy changes.¹⁹⁸ On November 18th, 1914, the Board's secretary sent a letter to the reserve banks informing them that they could not announce or change discount rates before receiving Board approval.¹⁹⁹ It also subsequently pressured individual reserve banks to lower their discount rates.

In early 1915, the governors conference approved a resolution stating the reserve banks would initiate rate changes “without pressure from the Federal Reserve Board.”²⁰⁰ It also established a standing executive committee headed by Strong and hired a permanent secretary. In January 1916, the Board's second governor, WPG Harding, moved to abolish this executive committee. He denied funds for its secretary's salary and as well as for governors' travel expenses which weren't initiated by the Board.²⁰¹ Some Board members believed the governors conference was attempting to subvert the Federal Reserve Act by functioning as a *de facto* central bank. The governors similarly complained the Board was overreaching its legal authority. Despite the Board's attempts to curtail its activities, the governors conference continued meeting quarterly until the U.S. entered WWI in April, 1917, when it suspended its meetings for the duration of the war. In 1916, Strong pushed his fellow governors to establish a centralized committee to

¹⁹⁸ As West (1977, 220) points out, “The interpretation placed on this passage depended on two factors: first, belief about the intent of the law; and second, one's location in the organizational structure of the system.”

¹⁹⁹ Meltzer 2003, 77; cites letter from Parker Willis to all reserve banks 11/18/1914.

²⁰⁰ Chandler 1958, 71; Meltzer 2003, 78.

²⁰¹ He also insisted that the conference meet only in Washington at times decided by the Board. The Board resented that the governors' conference met at the reserve banks instead of in Washington, D.C., where Board members could attend. Chandler 1958, 72-73. Some Board members believed that the conference was attempting to subvert the intentions of the Federal Reserve Act by establishing a central bank. See West 1977, 216; Chandler 1958, 73-74.

coordinate the reserve banks' purchases and sales of government securities.²⁰² Although this effort initially failed, the next chapter explores how establishment of such a committee in the 1920s made the system more central bank-like.

Collaborating to Reform the Federal Reserve Act

Strong and Warburg worked together to convince Congress to make several amendments to the Federal Reserve Act. First, they considered the system's currency and reserve provisions inadequate. They considered replacing other currencies in circulation with Federal Reserve notes an essential step in centralizing national gold reserves and promoting financial stability.²⁰³ Their ability to do so was limited, however, by provisions which authorized reserve banks to issue currency only against discounted commercial paper, not directly against gold. Strong developed an extra-legal device for issuing Federal Reserve notes against gold.²⁰⁴ The Board's 1916 and 1917 annual reports recommended legalizing gold-backed Federal Reserve notes.²⁰⁵

Strong and Warburg considered a second major deficiency the Federal Reserve's lack of authority to induce or compel banks to join the system. Federally-chartered commercial banks were obligated to join, but they retained the right to re-charter as state banks and thereby exit the system. State-chartered banks and trust companies had the option of joining, but most considered the costs of joining too high relative to the

²⁰² The Federal Reserve Act required the system to be self-funding. Consequently, the Federal Reserve Banks were given the authority to buy and sell government securities and trade acceptances on the open market to earn revenue.

²⁰³ Chandler 1958, 83-86.

²⁰⁴ Strong rediscounted the same asset 34 times to increase the volume of Federal Reserve notes. Harding 1925, 77.

²⁰⁵ Annual Reports of the Federal Reserve Board, 1917-1917.

potential benefits.²⁰⁶ Strong believed the system would remain vulnerable as long as state-chartered banks and trust companies, which housed half of the nation's deposits, weren't forced to join.²⁰⁷ In a 1917 speech, Warburg argued that it was unfair to expect the 7,500 members of the Federal Reserve System to provide the emergency reserve base for the country's 27,000 commercial banks and trust companies.²⁰⁸

The last major weakness Strong identified was the system's lack of defined fiscal agency functions.²⁰⁹ Section 15 of the Federal Reserve Act authorized the Secretary of the Treasury to name the reserve banks as fiscal agents, but it did not compel him to do so. Strong wanted the reserve banks to gain a fiscal agency monopoly by replacing the Independent Treasury System, which the Federal Reserve Act left in place. This agency provided the treasury secretary patronage opportunities, however, and allowed the Treasury to earn interest on government funds deposited in national banks.²¹⁰ McAdoo waited until January, 1916, to name the reserve banks fiscal agents. He didn't place large

²⁰⁶ By joining, they would be forced to purchase stock in their regional Federal Reserve Bank and would face more stringent regulation. If their correspondent banks were members, state banks could ask them to rediscount assets on their behalf. Tippetts, Charles. 1929. *State Banks and the Federal Reserve System*. New York: D. Van Nostrand Co.; Chandler 1958, 80-1.

²⁰⁷ Chandler 1958, 80-82.

²⁰⁸ Paul M. Warburg, speech before the Commercial Club of Chicago on April 7th, 1917.

²⁰⁹ On 3/22/1917, Strong wrote Pierre Jay arguing if the "Reserve Banks... become the real, active, and effective fiscal agents for the Government... our place in the country's banking system will be established for all time." Cited in Chandler 1958, 105.

²¹⁰ Meltzer 2003, 8.

government deposits into the system until March, 1917, however, as President Wilson prepared to lead the country into WWI.²¹¹

Conclusion: Assessing Federal Reserve System Development (1913-1916)

Scholars have expended considerable energy theorizing the exact moment of the Federal Reserve's design. The now conventional view dates it to the 1910 Jekyll Island meeting and the resulting Aldrich Plan.²¹² Dissenting political scientists have pointed to other moments to explain salient aspects of the system's design. One suggests that after the Aldrich Plan was submitted into Congress, numerically-dominant agrarians "Bryanized" the plan and established a decentralized, government-controlled, central banking system.²¹³ A different view focuses on the bill's difficult journey through the Senate and analyzes roll call votes on proposed amendments to argue that geographically-dispersed interests supported the Board's independence.²¹⁴ A third view focuses on post-enactment politics and argues that partisan control of the RBOC presented an irresistible patronage opportunity which led to the construction of an excessively decentralized reserve bank structure aimed at delivering benefits to southern Democrats.²¹⁵

²¹¹ The 1916-1917 Annual Reports of the Federal Reserve Board showed government deposits of \$23,841,000 on 1/7/1916, \$28, 837,000 on 12/29/1916, \$10,851,000 on 2/16/1917, and \$46,461,000 on April 6th.

²¹² Broz 1997; Eichengreen 2011; Bordo and Roberds 2013.

²¹³ Sanders 1999.

²¹⁴ Jeong, Gyung-Ho, Gary Miller, and Andrew Sobel. 2009. "Political Compromise and Bureaucratic Structure: the Political Origins of the Federal Reserve System." *Journal of Law, Economics, and Organization* 25 (2): 472-498.

²¹⁵ Binder and Spindel 2013.

Each of these views does a good job of explaining discrete aspects of the Federal Reserve's design, but fail in explaining the system's overall fragmentation. This chapter has argued the Federal Reserve System's fragmented structure is best understood as the result of an elite partisan compromise which crystallized in June, 1913. Its design reflected the cross-pressures facing the Democratic Party's leadership of appeasing the party's populist base while attracting western progressives into a durable, Democratic partisan coalition. The Progressives who followed Theodore Roosevelt were more conservative than the Progressives who followed William Jennings Bryan. Bryan repeatedly abandoned his own publicly-stated reform principles by urging his followers to support Wilson's right-leaning reforms.

The design concessions made to populists were significant, but hardly represented the "Bryanization" portrayed by contemporary Republicans and financiers.²¹⁶ The system's decentralized structure appealed to conservative and populist Democrats and Progressive Party members alike.²¹⁷ The government currency liability concession to Bryan had little real effect as Federal Reserve Banks were required to hold assets and gold as backing for currency issues. The spirit of Wilson's other concession to Bryan, removing banker representation from the Board, was annulled by Wilson's appointments

²¹⁶ While the legislation was being debated in the Senate in October 1913, former Sen. Aldrich gave a speech at the Academy of Political Science criticizing the bill. He argued that the act's currency provisions were "radical and revolutionary in their character." He continued, "The ascription by Mr. Bryan of transcendent importance to the issue of government notes by a government board... is but the first step in a revolutionary program... if carried to its conclusion, would result in unbounded inflation." Aldrich warned the Federal Reserve Act "will be the first and most important step toward changing our form of government from a democracy to an autocracy."

²¹⁷ James Morone (1991, 9) argues that decentralized reforms are "a legitimate, populist counter to the liberal status quo." Some Progressive Party members called for a reserve bank in every state.

of Warburg and Harding. Although both were required to relinquish their personal banking interests, few would argue they were no longer bankers. It is remarkable that Bryan intervened in support of the president's conservative Board appointments since they undermined his personal agreement with Wilson. Sanders is correct in arguing that agrarian populists weren't "duped" into establishing a central bank, but the institution they created was far more creditor-friendly than they desired.²¹⁸

Even before the Federal Reserve System was up and running, a "struggle for power" was underway to control it. Critics-cum-agents entered the system with transformative agendas. Populists and financial elites alike preferred a centralized institution they could control to reshape the U.S. financial system. Over the system's first two and a half years of operations, the power struggle went nowhere. Warburg's push for bureaucratic autonomy was undermined by, and thwarted, McAdoo's attempt to capture the Board. Strong's attempt to organize the reserve banks was curtailed by the Board's attempt to reign in the governors conference. Until April, 1917, the system's constitutional restraints prevailed.²¹⁹

U.S. entrance into WWI in April 1917 reshaped the Federal Reserve System. Treasury Secretary McAdoo entered into a Hamiltonian alliance with the FRBNY,

²¹⁸ Sanders admits (1999, 246) "The agrarian Democrats in Congress lauded the projected decentralization of financial resources but strongly opposed other features of the Glass bill, in particular the reliance on private control, the note issue by the reserve banks, and the inadequate attention to rural credit needs."

²¹⁹ The monetary policymaking process in the early Federal Reserve System was extremely fragmented. The system's primary policy instrument was the discount rate, the fee charged to member banks for rediscounting their assets. To change the discount rate, each reserve bank's board of directors had to vote to initiate a rate change which had to be subsequently approved by the Board. A minimum of nine officials had to agree to change a reserve bank's discount rate. Enactment of a uniform national rate would have required the consent of at least 64 agents.

bypassing other claimants to monetary policymaking authority.²²⁰ McAdoo granted the reserve banks enhanced fiscal agency duties. Congress also amended the Federal Reserve Act in ways Strong and Warburg suggested. President Wilson made patriotic appeals to state banks and trust companies to join the system.²²¹

WWI had both passing and permanent effects on the Federal Reserve System (see Table 2). The war caused a temporary centralization of authority within the system as the Board and the governors conference were effectively shut out of the monetary policymaking process. After the war ended, however, the system's latent power struggle would reemerge as excluded agents sought to reassert claims to governing authority, resulting in increased fragmentation. This renewed struggle was exacerbated by Warburg's 1918 departure from the Board and a subsequent decline in the quality of Board appointments.²²² The next chapter analyzes how this struggle unfolded in the 1920s and its implications for both the domestic and international political economies.

Table 2: Wartime Reforms of the Federal Reserve Act

Reform Goal	Agent Supporters	Demand Voiced	Enactment
Currency Liberalization	Warburg, Strong	Warburg - 10/22/15 Strong - 6/24/1915	6/21/1917
Modify Member Reserve Requirements	Warburg, Strong	Warburg - 10/22/15 Strong - 6/24/1915	6/21/1917
Inducements for State-chartered Banks to Join	Warburg, Strong	Warburg - 6/9/1916 Strong - 5/14/1915	6/21/1917
Fiscal Agency Monopoly	Strong	Strong - 4/22/1917	Disestablishment of the Independent Treasury System - 5/29/1920

²²⁰ These include the Board and the eleven other reserve banks.

²²¹ Chandler 1958, 102.

²²² Warburg asked not to be reappointed because he feared a political backlash due to his German heritage.

CHAPTER IV

THE FED'S STRUGGLE FOR POWER AND THE INTERWAR GOLD EXCHANGE STANDARD

This chapter develops a new interpretation of the US's role in the rise and fall of the interwar gold exchange standard. Extant scholarship focuses on the rise of social democracy in Europe and great power politics to explain the failure of the interwar fixed exchange rate regime.²²³ This chapter instead focuses on how the restoration of *earlier* modes of American governance, Republican rule and Federal Reserve fragmentation, undermined international currency instability. I argue these two domestic variables shaped the extent to which US policies stabilized the international currency regime from 1922 to 1931. The 1920s return of Republican rule led to official head-in-the-sand positions toward the vexing international questions of the day. Submerged within an inward-looking state, a struggle for power unfolded within the Federal Reserve. In 1922, a new policy instrument was discovered, open market operations, which enabled the system to shape market interest rates. Once this instrument's power became known, however, a fight broke out over who should control it. One outcome of this struggle was the creation of the Open Market Investment Committee, a compact body representing the regional economies most integrated into the transatlantic economy, which stood to gain the most from European currency stabilization. By 1928, however, excluded agents began

²²³ Polanyi, Karl. *The Great Transformation: The Political and Economic Origins of our Time*. Boston: Beacon Press, 1944; Eichengreen, Barry. 1992. *Golden Fetters: the Gold Standard and the Great Depression*. New York: Oxford University Press.

lobbying for a more inclusive policymaking process, resulting in the 1930 transfer of authority to the 12-governor Open Market Policy Conference. This structure disempowered the central bankers who pushed for expansionary policies to fight deflation and preserve the gold exchange standard. Combined with a Republican regime whose “household remedy” for crisis was increased protectionism, the Fed’s fragmented structure doomed the interwar gold exchange standard.²²⁴

The Friedman and Schwartz Hypothesis Revisited

I myself believe very strongly that this depression was almost wholly preventable, and that it would have been prevented if Governor Strong had lived... He discovered... that open-market operations would stabilize – he discovered for himself what was necessary to cure the deflation that started in May 1920 and to prevent an inflation... only a few of us knew what he was doing. His colleagues did not understand it.²²⁵

Irving Fisher, Congressional Testimony, 1935

Few central bankers have proved as legendary as Benjamin Strong, the inaugural FRBNY Governor who served until his death in October, 1928. Scholars ranging from Milton Friedman to Charles Kindleberger have lamented Strong’s passing as contributing to the onset and depth of the Great Depression. Scholars’ reasons for mourning Strong vary dramatically, however. For quantity theorists like Irving Fisher or Milton Friedman, Strong was a visionary pioneer who developed open market operations as a tool for stabilizing the U.S. domestic economy.²²⁶ For Kindleberger, Strong was one of the only U.S. policymakers willing to recognize the U.S.’s hegemonic responsibility to stabilize

²²⁴ Joseph Schumpeter coined the term “household remedy” for Republican protectionism. Cited in Kindleberger 1973, 133.

²²⁵ U.S. Congress. Committee on Banking and Currency. 1935. Hearings on H.R. 5357. 74th Cong., 1st sess.

²²⁶ The seminal statement of this argument is Friedman and Schwartz 1963.

the international economy.²²⁷ This chapter demonstrates that in the minds of the FRBNY's leading officers, domestic and international prosperity were intimately linked, and enlightened Federal Reserve policies could promote both. This institutionally-embedded belief survived Strong's death and the Great Depression.

Although they didn't think explicitly in these terms, I argue FRBNY officials preferred open market policies which promoted dollar exchange rate stability. Given the U.S.'s ascendant position in the international economy, a steady dollar was a necessary anchor for maintenance of a fixed exchange rate regime. Throughout the 1920s, U.S. protectionism and persistent budget surpluses promoted a strong (undervalued) dollar and exported deflationary pressures abroad. Central bankers recognized that expansionary credit policies provided a second-best means of countering these deflationary pressures. In 1924, 1927, and for much of 1929-1932, FRBNY officials proposed expansionary policies to stabilize foreign currencies, funnel American capital abroad, and increase European purchasing power for American exports. When implemented in 1924 and 1927, system wide expansionary policies achieved these objectives. After the 1929 stock market crash, the FRBNY enacted its own expansionary policy which achieved similarly beneficial international effects. After a January 1930 regime change which increased the open market committee's fragmentation, however, FRBNY officials continued pushing for expansionary policies, but their proposals were continually delayed, scaled down, and vetoed by other system officials urging caution. The Fed alone could not have saved the gold exchange standard, but a vigorous expansionary program could have preserved the

²²⁷ Kindleberger (1973, 296) argues "[Strong's] death in 1928 was a loss for the stability of the system."

kept the fixed exchange rate system afloat while politicians addressed the underlying adjustment problems which plagued the international economy.

This chapter follows recent scholars in arguing Strong's influence has been exaggerated.²²⁸ It advances a refined version of Friedman and Schwartz's seminal argument which focuses on institutional fragmentation as a source of policy rigidity. Friedman and Schwartz make two overlapping claims regarding why a Strong-led Federal Reserve would have prevented a deflationary spiral. Their first hypothesis focuses on Strong's advanced understanding of central banking, which they argue maps onto their own (monetarist).²²⁹ They argue a Strong-led Fed would have implemented an expansionary open market operations policy which would have countered domestic deflation. Their second claim has to do with Strong's "leadership," operationalized as a unique ability to centralize power and prevent institutional changes. Strong's death allegedly caused power to disperse throughout the system, manifested as the transfer of open market authority to the Open Market Policy Conference (OMPC):²³⁰

Open market operations now depended upon a majority of twelve rather than five governors and the twelve 'came instructed by their directors' rather than ready to follow the leadership of New York as the five had been when Strong was

²²⁸ See, for example, David C. Wheelock, *The Strategy and Consistency of Federal Reserve Monetary Policy, 1924-1933*. Cambridge University Press, 1991; Wood 2005; Mark Toma, *Monetary Policy and the Onset of the Great Depression: The Myth of Benjamin Strong as Decisive Leader*. Palgrave Macmillan, 2013.

²²⁹ This view has already been discredited in the literature. See, Wicker, Elmus. 1966. *Federal Reserve Monetary Policy, 1917-1933*. New York: Random House; Brunner, Karl, and Allan H. Meltzer. 1968. "What did we Learn from the Monetary Experience of the United States in the Great Depression?" *The Canadian Journal of Economics* 1 (2): 334-348; Wheelock 1991; Meltzer 2003; Wood 2005.

²³⁰ Friedman and Schwartz 1963, 414. Friedman and Schwartz admit that Strong's successor, George L. Harrison, pushed for two years for the kinds of expansionary open market policies they believe would have staved off crisis, but subsequently "reverted to his natural character, that of an extremely competent lawyer and excellent administrator, who... placed great value in conciliating opposing points of view and achieving harmony." Brunner and Meltzer (1968, 337) claim "[Harrison] lacked the ability to lead and was unable to persuade the majority to accept his views, as Strong would have done had he lived."

governor... the shift in the locus of power... surely would not have occurred *when it did* if Strong had lived...

This chapter casts doubt on Strong's ability to prevent institutional changes. When Strong passed in October 1928, he had been suffering from tuberculosis for over a decade, often taking extended leaves for recovery and travel. In Strong's absence, other Federal Reserve agents often tried to change the rules governing monetary policy decisions, and they sometimes succeeded. Friedman and Schwartz err by arguing that a single man could sustain a particular institutional order. Institutions are inherently collaborative projects which remain open to contestation and change over time.²³¹ The last chapter demonstrated that the Federal Reserve Act left crucial governance questions unresolved, inviting a struggle for power. This chapter charts the continuation of that struggle after the system regained operational independence in 1920. One outcome in this struggle was the creation of Open Market Investment Committee (OMIC), which was well-suited for promoting currency stability. Its successor, the OMPC, was not.

My analytical approach to the interwar gold standard varies from scholars who prioritize domestic or international factors in explaining exchange rate policy decisions.²³² Instead, I focus on central bankers as uniquely-positioned agents who navigate international and domestic political constraints in real time. To support the restoration of the international gold standard, central bankers needed to find collaborative

²³¹ Orren and Skowronek 1994; Mahoney, James and Kathleen Thelen, eds. 2009. *Explaining Institutional Change: Ambiguity, Agency, and Power*. New York: Cambridge University Press; Berk, Gerald, Dennis C. Galvan, and Victoria Hattam, eds. 2013. *Political Creativity: Reconfiguring Institutional Order and Change*. Philadelphia: University of Pennsylvania Press.

²³² For a representative example of the former, see Simmons, Beth A. 1997. *Who Adjusts? Domestic Sources of Foreign Economic Policy during the Interwar Years*. Princeton: Princeton University Press. For the latter, see Kindleberger 1973.

solutions for distributing international adjustment costs. Because the U.S. was the first state to restore gold convertibility after WWI, the gold-dollar link exposed Europeans to U.S. macroeconomic disturbances at an unprecedented level.²³³ Due to its dominant economic position, the U.S. was the state most capable of absorbing international adjustment costs. The Republican-controlled state, however, implemented mercantilist policies which pushed adjustment costs onto others. The FRBNY's central bankers understood that U.S. protectionism undermined long-run prosperity. In the 1920s, they were able to strike international bargains and change policies to absorb adjustment costs despite a hostile political order. The 1930 erection of new institutional barriers inside the Fed, however, decreased the system's capacity to absorb adjustment costs and thereby promote currency stability abroad.

The argument is developed as follows. First, I examine how mercantilist U.S. policies undermined post-WWI liberal international order-building initiatives. Second, I theorize how the geographic dispersion of U.S. sectoral interests shaped the distribution of exchange rate and monetary policy preferences across the Federal Reserve Banks. The OMIC empowered a subset of reserve bank governors who represented regions which stood to benefit disproportionately from European currency stabilization. The OMPC disempowered these agents. Third, I analyze the impacts of system's internal struggle and the FRBNY's international diplomacy in shaping Federal Reserve policies from 1922 through the 1931 flotation of the British pound.

²³³ WWI had transformed the US from a net debtor country, with net liabilities of over \$3.7 billion in 1914, to the world's foremost creditor, with net assets of \$3.5 billion in 1919. Eichengreen (1992) focuses on how the interwar gold exchange standard transmitted the effects of domestic macroeconomic policies abroad.

U.S. Mercantilism and the Post-WWI International Political Economy

President Wilson led the United States into WWI to shape the postwar peace.²³⁴ He wanted to craft a liberal international order centered on a new collective security organization called a League of Nations. Wilson hoped to gain European support for the League while negotiating a “peace without victory” which would limit postwar reparations. At the Versailles peace conference, however, Wilson conceded to allied demands for a large German indemnity in exchange for support for the League. British representative John Maynard Keynes angrily left the negotiations early to pen *The Economic Consequences of the Peace*, where Keynes predicted that reparations would handicap the restoration of European prosperity and a lasting peace.²³⁵

When Wilson returned to the US, he encountered an American dilemma. American presidents can negotiate international agreements, but a 2/3 Senate supermajority is required for ratification. Wilson returned home to fierce Senate opposition to the treaty and U.S. membership in the League. The Senate refused to ratify the Treaty of Versailles. Consequently, U.S. participation in the international regime Wilson designed died on the shoals of domestic politics and a constitutional order resistant to change.

Non-ratification of the Treaty of Versailles was part of a broader mercantilist turn in US postwar foreign policy. In May, 1920, Republican presidential candidate Warren G. Harding famously declared in his “Return to Normalcy” speech that Americans desired “...not submergence in internationality, but sustainment in triumphant nationality...”

²³⁴ Link, Arthur S. 1954. *Woodrow Wilson and the Progressive Era*. New York: Harper & Row: Chapter 10.

²³⁵ Keynes, John Maynard. 1920. *The Economic Consequences of the Peace*. New York: Harcourt, Brace and Howe.

tranquility at home is more precious than peace abroad...”²³⁶ Harding’s message resonated across an American society which widely believed the U.S. had already sacrificed enough for Europeans and shouldn’t bind itself to intervene in Europe’s ancient conflicts. In the same speech, Harding charged the Wilson administration with fiscal recklessness, arguing “If we put an end to false economics which lure humanity to utter chaos, ours will be the commanding example of world leadership today...” WWI’s prosecution had caused the nation’s price level to double and the national debt to explode from \$1 billion to \$25 billion.²³⁷ 40% of this national debt had been lent to US allies abroad. Republicans dominated the 1920 elections, gaining unified control of government. A new era of Republican partisan rule had begun.

By the time Republicans took office in April, 1921, the postwar boom had turned to bust. The economy was contracting sharply and the wholesale price level had fallen by 39 percent.²³⁸ Newfound fiscal surpluses and high Federal Reserve discount rates formed a restrictive macroeconomic policy mix, exporting deflationary pressures abroad through the gold-dollar link. Floating European currencies quickly depreciated on foreign exchange markets.²³⁹ Domestically, American farmers bore the brunt of falling prices due to flooded agricultural markets and diminished European purchasing power.

Congressmen representing distressed rural districts introduced legislation calling for

²³⁶ Warren G. Harding, Return to Normalcy Speech. Boston, MA. 5/14/1920.

²³⁷ The doubling of the price-level occurred between 1915 and 1920. Bureau of the Census, 1975, Series Y 335-338.

²³⁸ Calculated from NBER Macrohstory database.

²³⁹ Hetzel, Robert. 2008. *The Monetary Policy of the Federal Reserve: A History*. New York: Cambridge University Press: 14.

mandated reductions in Federal Reserve discount rates; adoption of a new Federal Reserve price stability mandate; and “emergency” tariff legislation. The latter was passed and signed into law within three months of Republicans taking office.

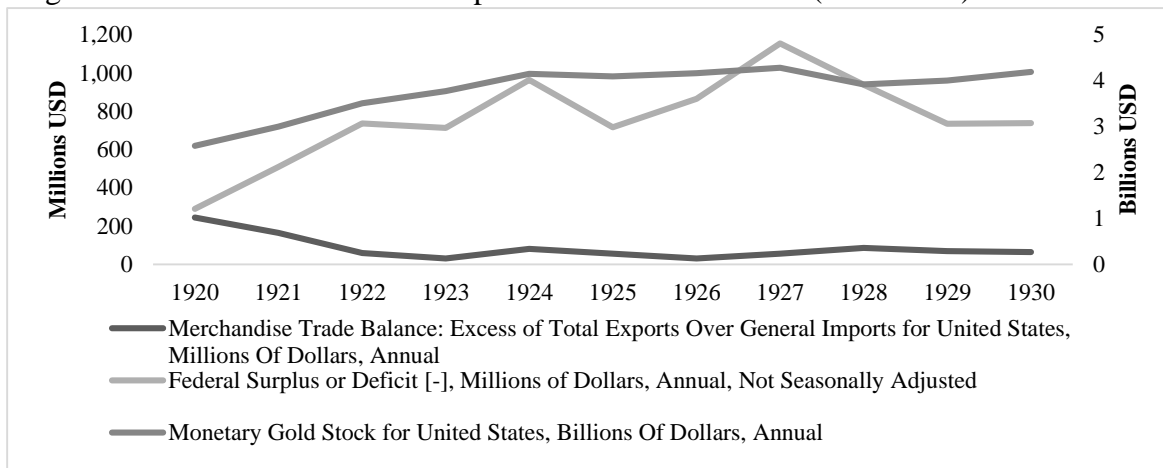
The Republican administrations of the 1920s chose not to participate in international economic conferences. They feared US participation would inevitably result in calls for allied war debt forgiveness and tariff reductions. Many Europeans and American financiers viewed cancellation of allied war debts as the only path toward reducing Germany’s reparation burden, which was widely understood as a major obstacle for restoring international prosperity. Since the allies relied upon German reparation payments to service their US war debts, and the US occupied a position of unrivaled economic strength, a haircut of official American debts was widely considered desirable from a global standpoint. War debt cancellation was extremely unpopular among U.S. society, however.²⁴⁰ Republican administrations throughout the twenties consistently denied the link between war debts and reparations, insisting its former allies repay the U.S. in full. They similarly resisted external calls to lower trade barriers. Instead, unified Republican governments raised tariffs in 1921, 1922, and disastrously, in 1930.

The tale of interwar US mercantilism is well known, but less attention has been paid to the refraction of deflationary US macroeconomic policies through the dollar’s link to gold. Republicans were committed to paying down the unprecedentedly-large national debt, requiring budget surpluses. Treasury Secretary Andrew Mellon, a hyper-wealthy industrialist, also desired income tax reductions. As income taxes fell, tariffs were raised,

²⁴⁰ To Republicans’ credit, insistence on full war debt repayment was popular across the US. See Kindleberger 1973, 295.

and war debts were collected, the burden of paying down the U.S. national debt shifted from wealthy to poorer Americans and distressed Europeans. Restrictive fiscal and trade policies exported deflationary pressures abroad, helping the US become “a great sinkhole for gold.”²⁴¹ Between April 1920 and mid-1924, US gold reserves increased 70% to \$4.2 billion, nearly half of the world’s monetary gold stock. Persistent trade and budget surpluses throughout the decade supported gold inflows (see Figure 3).

Figure 3: U.S. Fiscal and Trade Surpluses and Gold Reserves (1920-1930)



Source: Fred Database (<http://research.stlouisfed.org/fred2/>)

Despite remaining wedded to protectionism, many Republican leaders desired the restoration of a more liberal international economic order.²⁴² Lacking support for official initiatives, they turned to the “diplomacy of the dollar,” relying on private American capital to aid European reconstruction.²⁴³ One aspect of this strategy included tacit

²⁴¹ See Chandler, Lester V. 1971. *American Monetary Policy, 1928-1941*. New York: Harper & Row: 149; Eichengreen 1992, 194.

²⁴² Trubowitz, Peter. 1998. *Defining the National Interest: Conflict and Change in American Foreign Policy*. Chicago: University of Chicago Press: 99.

²⁴³ Feis, Herbert. 1950. *The Diplomacy of the Dollar: First Era, 1919-1932*. Baltimore: John Hopkins University Press.

administration support for the Federal Reserve's collaboration with European central banks to restore the international gold standard. At an October 1921 meeting of the Federal Reserve Board, Benjamin Strong informed his colleagues "whether we want to or not we are going to have to take some part in this situation abroad. We probably won't do it politically, but we have to do it financially and economically."²⁴⁴ Gov. Norris (Philadelphia) agreed:

I think the three great opportunities that we have had to accomplish the stabilization of foreign exchange were, first, to go into the League of Nations; second, to make a readjustment of our tariff... and the third was to empower the Secretary of the Treasury to deal in an intelligent way with refunding of foreign obligations... But because we have lost those three it does not follow... that we ought to throw aside and discard all others... It seems to me that the proposition [Strong] has suggested is one that undoubtedly has merit and may be reasonably be expected to accomplish some results.

As will be demonstrated below, Benjamin Strong eventually convinced his OMIC colleagues, a majority of Board members, and Treasury Secretary Mellon, to support system wide policies aimed at restoring currency convertibility abroad. First, however, I theorize how the geographic dispersion of U.S. sectoral interests shaped this era's national political economy and the monetary and exchange rate policy preferences of the Federal Reserve Bank Governors.

Economic Geography and the Limits of Federal Reserve Internationalism

Many analysts of interwar US economic policy focus on a domestic struggle between opposing "internationalist" and "isolationist" coalitions.²⁴⁵ The former was

²⁴⁴ Cited in Frieden, Jeffrey. 1988. "Sectoral Conflict and Foreign Economic Policy, 1914–1940." *International Organization* 42 (1): 76.

²⁴⁵ See Ferguson, Thomas. 1984. "From Normalcy to New Deal: Industrial Structure, Party Competition, and American Public Policy in the Great Depression." *International Organization* 38 (1): 41-94; Gourevitch, Peter. 1986. *Politics in Hard Times: Comparative Responses to International Economic Crises*. Ithaca: Cornell University Press; Frieden 1988; Trubowitz 1998.

composed of international financiers, export-oriented producers, and foreign direct investors.²⁴⁶ It favored policies which would help restore and stabilize a liberal international economy, including foreign currency stabilization. The isolationist coalition, by contrast, was composed of import-competing sectors and producers of nontradeable goods and services. This coalition preferred trade protectionism and was critical of US interventions in foreign affairs.

The geographic dispersion of these opposing interests gave isolationists the upper hand in crafting state policies. Virtually the entire constellation of internationalist interests was located in northeastern U.S. cities, which had come to occupy a hegemonic position in the global economy.²⁴⁷ The cotton-dominated southern economy, whose markets lied primarily in Europe, also favored liberalization. Outside of these pockets of internationalism, however, “most of the economy remained as inward looking as ever.”²⁴⁸ The 1920s agricultural crisis gave western farmers “little incentive to support government efforts to liberalize and stabilize the international system.”²⁴⁹ Furthermore, southern and western manufacturers looked to domestic markets. Isolationists asserted their dominance over Congress and the Presidency through electoral mechanisms which systematically favor dispersed over concentrated geographic interests.²⁵⁰

²⁴⁶ There was considerable overlap among these groups. See Frieden 1988, 59-60; Trubowitz 1998, 111.

²⁴⁷ According to Trubowitz (1998, 101), “No group of elected officials was more internationalist in outlook by the 1930s than those who hailed from the nation’s largest and oldest industrialized cities: Baltimore, Boston, Chicago, Cleveland, Detroit, Philadelphia, Pittsburgh, and New York.”

²⁴⁸ Frieden 1988, 63.

²⁴⁹ Trubowitz 1998, 101.

²⁵⁰ Frieden 1988; Sanders 1999; James 2000.

Preferences over monetary and exchange rate policy also mapped onto this broad geographic divide. In an open economy characterized by high levels of cross-border trade and investment, as was the case in the 1920s, “internationally oriented economic actors should be especially concerned to ensure currency stability, [whereas] domestically oriented actors [should be] indifferent or opposed.”²⁵¹ Support for international currency stabilization initiatives was strongest among internationally-oriented interests, which were concentrated in the northeast.

This geographic dispersion of interests was consequential for Federal Reserve officials’ institutional and policy preferences. Building off of the macroeconomic trilemma, Jeff Frieden theorizes a preference trade-off between international currency stability and domestic monetary policy autonomy.²⁵² The Federal Reserve’s fragmented structure partially devolved policymaking authority to the regional level, allowing for regional variation in discount rates.²⁵³ In 1922, the reserve bank governors discovered a new policy instrument, open market operations, which threatened to overwhelm the system’s decentralized structure. When open market operations were wielded centrally for policy purposes, the system influenced market interest rates directly, and acted as a

²⁵¹ Frieden, Jeffry. 1996. “Economic Integration and the Politics of Monetary Policy in the United States.” In *Internationalization and Domestic Politics*, eds. Keohane and Milner. Cambridge University Press, New York: 116. See also, Jeffry A. Frieden, 1991.

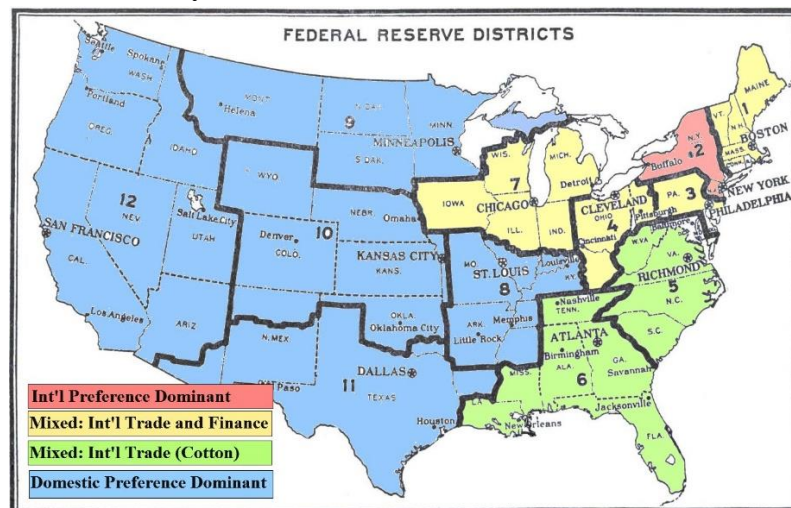
²⁵² This builds off the well-known macroeconomic trilemma which suggests states can only achieve two of three financial goals simultaneously: exchange rate stability; capital mobility; and domestic monetary policy autonomy. In a high-capital mobility world, states must choose between fixed exchange rates and monetary policy autonomy. See Frieden 1991.

²⁵³ Wheelock 1998.

unified central bank.²⁵⁴ For reserve bank governors who hoped to retain policymaking autonomy, open market operations threatened their institutional sovereignty.

Although they didn't realize it at the time, reserve bank governors' institutional preferences often reflected their preference for "domestic" monetary policy autonomy over international currency stability (see Figure 4). By fighting to keep credit policy decisions decentralized, they expressed their preference for domestic (regional) autonomy over international currency stability. Governors from inwardly-focused regional economies were more concerned with local conditions than monetary stability abroad. They feared domination by the FRBNY or the Board more than currency instability. Not all agents held coherent institutional and policy preferences, however. Benjamin Strong and his successor, for example, championed systemic policies to support European currency stabilization while simultaneously defending reserve bank autonomy.

Figure 4: Institutional and Policy Preferences across the Federal Reserve Banks



²⁵⁴ Board Member Adolph Miller testified before the Senate in 1931, "...whenever the Federal Reserve System operates through the open-market committee, it operates, in effect, as a central bank... You strip your regional banks of their separate control of credit in their several districts when you operate with their resources in the central money market of the country." Cited in Wheelock 1991, 70.

In the next section, I analyze the struggle for power over open market operations and Federal Reserve policies from 1922-1931. One outcome of the system's struggle was the creation of the OMIC, which was composed of reserve bank governors from New York, Boston, Chicago, Philadelphia, and Cleveland. These governors represented regional economies housing the majority of U.S. sectoral interests with a strong preference for currency stability.²⁵⁵ The addition of the seven remaining governors to the OMPC in 1930, however, drastically altered the distribution of monetary and exchange rate policy preferences on the open market committee. The new members were skeptical of bold open market policies designed to stabilize the international currency regime. Beyond changing the committee's preference structure, the new regime was more fragmented than its predecessor. When FRBNY officials proposed bold expansionary policies to combat global deflation, they were inevitably met with obstruction.

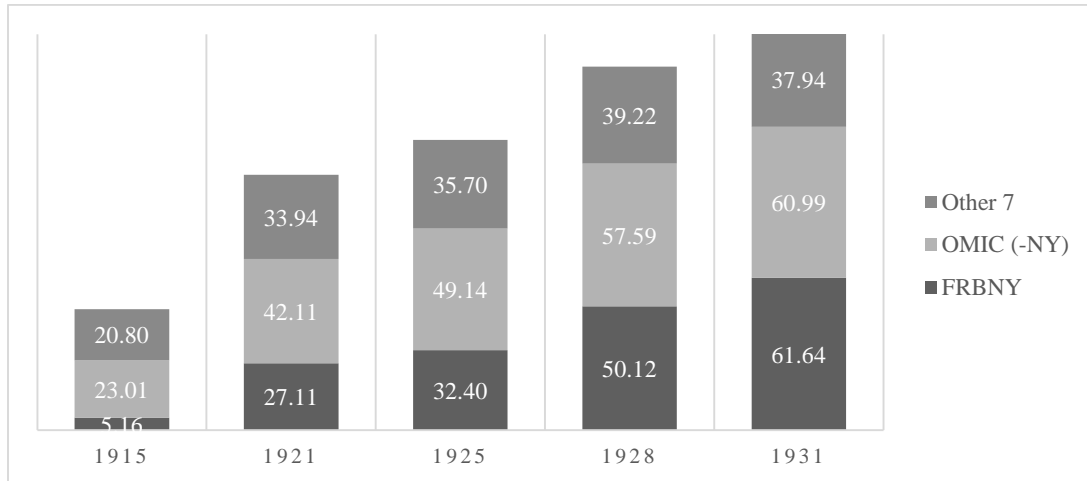
In addition to disagreeing with the merits of the FRBNY's policy proposals on the OMPC, some governors also resented the secular growth of the FRBNY's power within the system. Paul Warburg had warned at the system's origin that a twelve bank structure would lead to wide inequalities across reserve banks.²⁵⁶ Despite the reserve banks' *de jure* equality, variations in the resources each wielded inevitably led to a skewed distribution of institutional power (see Figure 5). While extant scholarship has focused on excluded reserve bank governors' resentment of the authority New York wielded on the

²⁵⁵ Agricultural producers which relied on foreign markets exclusively, like cotton growers, also stood to benefit from currency stability abroad.

²⁵⁶ Paul Warburg served on the Federal Reserve Board until 1918 when he asked not to be reappointed by President Wilson due to his fear that his German heritage would make him a political target. Warburg's departure from the Board undermined his bid to establish that agency as an autonomous and expert body. In the 1920s, the quality of Board appointments declined.

OMIC, excluded governors also begrudged the FRBNY's growing market power, which made it a hegemonic presence inside the system and in the international economy.

Figure 5: Paid-In Capital of the Federal Reserve Banks (millions)



Source: Annual Reports of the Federal Reserve Board

The Fed's Struggle and the Interwar Gold Exchange Standard

Resurrecting the international gold standard was an urgent postwar priority for many central bankers. Shortly after the 1918 armistice, Bank of England (BOE) Governor Montagu Norman suggested Britain restore gold convertibility immediately. The British government still had a large floating debt, however, and was unwilling to return to gold because it feared increased borrowing costs. This condition was ubiquitous across Europe. After the U.S. ended its gold embargo in June 1919, Europeans were slow to follow suit.

Although Benjamin Strong (FRBNY) and Montagu Norman (BOE) were close friends and shared a broad central banking philosophy, they held differing visions of the best means of restoring the international gold standard.²⁵⁷ Strong preferred a pragmatic

²⁵⁷ Chandler 1958; Clarke, Stephen V. 1967. *Central Bank Cooperation: 1924-31*. Federal Reserve Bank of New York, 1967.

approach focused on restoring convertibility among the great powers. In 1919, Strong wrote Norman suggesting that if Britain, France, and Germany quickly returned to gold, “anything further would [not] be required or desirable for many years to come.”²⁵⁸ Three years later when Europeans still hadn’t returned to gold, Strong wrote Norman suggesting the Federal Reserve could help by establishing an international stabilization fund which would use the Federal Reserve’s abundant capital to help European central bankers stabilize their currencies and return to gold.²⁵⁹

Norman responded “artificial means” wouldn’t be “practicable until the [war] debts have been settled, the Reparations adjusted, and free Gold Markets [restored]...” at which point things could be handled the “...old-fashioned way” of central bankers responding to market signals.²⁶⁰ Although Norman’s response struck an orthodox tone, he actually championed establishment of a novel monetary order, a League of Nations-centered gold exchange standard. Under this system, leading countries would hold their reserves strictly in gold, but secondary states would hold both gold and foreign currencies as reserves.²⁶¹ Under this plan central banks would agree to adjust credit policies to stabilize domestic prices in terms of gold. Strong worried about the implications of Norman’s proposal for Federal Reserve policies:²⁶²

...the United States, with its currency at a premium he world over, should... regulate credit policies as to expand credit and currency to a point where the

²⁵⁸ Strong letter to Norman, 2/5/1919. Cited in Clarke 1967, 41.

²⁵⁹ Clarke 1967, 34.

²⁶⁰ Norman letter to Strong, 2/27/1922. Cited in Clarke 1967, 34.

²⁶¹ This plan was based on proposals presented by the British delegation to the 1922 Genoa Conference.

²⁶² Strong letter to Norman, 7/14/1922. Cited in Clarke 1967, 36-37.

value of our currency would decline and consequently other currencies would approach the value of ours... From the standpoint of this country, we must be assured that we are not suggesting... handing a blank check to some impoverished nations of the world... and especially to those whose government finances are in complete disorder... the domestic functions of the bank of issue are paramount to everything... anything in the nature of a league or alliance, with world conditions as they are, is necessarily filled with peril.

Without active US support, Norman's League-centered monetary order stood little chance of gaining traction. Norman hoped to hold a large conference of central bankers to negotiate a coordinated return to gold, but Strong resisted.²⁶³ As the representative of the world's leading creditor, Strong feared he would be overwhelmed with requests for extraordinary assistance.²⁶⁴ With Strong and Norman at an impasse, the interwar monetary regime developed along parallel tracks. As Norman desired, central banks began holding sterling and US dollars as reserves, leading to the *de facto* emergence of a gold exchange standard. As Strong desired, European gold convertibility was restored pragmatically on a case-by-case basis.

In 1921, Strong suggested to Norman they "adopt a policy of complete understanding, and exchange of information and views, and to cooperate where our respective interests made it possible."²⁶⁵ Strong was willing to push his colleagues to adopt internationally-oriented policies if he believed they would promote the U.S.'s long-term interests. When Norman suggested an increase in U.S. prices might ease Britain's return to gold, Strong replied tersely, "You may be sure that inflation has no charms

²⁶³ Clarke 1967, 36.

²⁶⁴ Clarke 1967, 39-40.

²⁶⁵ Strong letter to Norman, 3/21/1921. Cited in Chandler 1958, 247.

which have not been analyzed by Reserve Bank men and rejected as spurious.”²⁶⁶

Strong’s fear of stoking domestic inflation was rooted in the political backlash against the Federal Reserve which followed the postwar boom and bust. Members of Congress introduced bills which threatened the reserve banks’ autonomy and suggested imposing a price stability mandate on the system. Although Strong believed price stability was a worthy goal, he considered such a mandate incompatible with American institutions:²⁶⁷

What I can’t understand is the willingness of thoughtful, studious men who... have been brought up in the spirit of American institutions... proposing a scheme to Congress which in effect delegates avowedly and consciously this vast power of responsibility for price fixing to a small group of men who, in an economic sense, might come to be regarded as nothing short of a super-government. It is undemocratic, absolutely contrary to the spirit of American institutions, and so dangerous in its possible ultimate developments that I cannot see the slightest merit in the proposal.

Strong was not dogmatic. He was an astute actor navigating dangerous political terrain. Strong firmly believed the key to long-run price stability lied in the restoration of the international gold standard. He recognized that credit policy could not effectively control all prices and therefore considered a price stability mandate “criminal suicide.”²⁶⁸ Strong explained his situation to Norman, “In the face of a powerfully organized antagonism in Congress, the Federal Reserve must... rely for its protection against

²⁶⁶ Strong letter to Norman on 2/22/1923. Cited in Clarke 1967, 31. See also, Eichengreen 1992, 165.

²⁶⁷ Strong Letter to Professor Bullock on May 16, 1924. Cited in Chandler 1958, 204.

²⁶⁸ This is why he resisted committing the system to stabilizing domestic prices in either dollars or gold. In a letter to FRBNY director Carl Snyder, Strong wrote, “Now I don’t like to talk about stabilizing gold, the purchasing power of money, or prices being stabilized by the Federal Reserve System, at all. It is bound to lead to confusion, heartburn, and heartache... Our job is credit... Other price influences may then be dealt with by Hoover, et al. They are not our job. Of course we should watch prices – and production and consumption and speculation, and lots of things – to insure that our ‘play’ is correct in regulating volume. To come boldly forward, and volunteer to take the price problem onto our backs, and then fail, as we would surely do – is just criminal suicide.” Quoted in Chandler 1958, 202-203; Wood 2005, 187.

political attack and interference upon the present administration...”²⁶⁹ He recognized the administration had incentives to push for “cheap money, abundant credit, and good business...” but recognized the “The effect of unlocking the door which this particular key fits is rising prices...”²⁷⁰ Strong would eventually gain Treasury Secretary Andrew Mellon’s institutional support. First, however, he would battle Mellon over the reserve banks’ right to buy and sell government securities.

The Discovery and Politicization of Open Market Operations

Section 14 of the 1913 Federal Reserve Act states: “Any Federal reserve bank may, under rules and regulations prescribed by the Federal Reserve Board, purchase and sell in the open market... cable transfers and bankers acceptances and bills of exchange... [and] bonds and notes of the United States.” Congress required the system to be self-funding and granted the reserve banks the right to buy securities to cover their operating expenses.²⁷¹ During the 1920-21 recession high discount rates led member banks to repay their discount loans, reducing reserve banks’ earning assets. In late 1921, they began individually buying government bonds to bolster their earnings. By June, these purchases exceeded \$350 million dollars.²⁷² FRBNY officials quickly discovered security purchases added reserves to the banking system which indirectly lowered market interest rates.²⁷³

²⁶⁹ Strong letter to Norman 2/18/1922. Cited in Clarke 1967, 30.

²⁷⁰ Strong memorandum to Carl Snyder. 2/28/1922. Quoted in Shull 2005, 88.

²⁷¹ Toma 1997.

²⁷² Chandler 1958, 208; Wicker 1966, 59-60, 64.

²⁷³ The classic explanation of the “discovery” of open market operations is Chandler 1958, 205-208.

In March, 1922, Mellon complained to Strong that the reserve banks' government security purchases were making Treasury financing operations difficult.²⁷⁴ Mellon demanded the reserve banks sell all of their government securities. At the May 2nd Governors Conference, Strong voiced Mellon's concerns and called his colleagues to action, warning "if we do not do something they will. The... Board has power to regulate this matter."²⁷⁵ The governors conference established a "Committee of Governors on Centralized Execution of Purchases and Sales of Government Securities by Federal Reserve Banks." This body consisted of the New York, Boston, Chicago, and Philadelphia reserve bank governors. Its purpose was to centralize and coordinate the reserve banks' open market operations. Centralization enabled the committee to coordinate with the Treasury and minimize the disruptive effects of systemic operations.

In the face of relentless gold inflows from Europe, which fueled domestic credit growth, Strong proposed to the governors conference on October 10th, 1922, that the governors committee become an active policymaking body which would sterilize gold flows. Over the summer, the FRBNY began its own sterilization program by selling its own securities to offset the expansionary influence of gold inflows.²⁷⁶ Strong urged his colleagues to empower the governors committee to develop open market operations into a policy instrument and adopt a system wide sterilization policy, to prevent gold inflows

²⁷⁴ Chandler 1958, 210; Kettl 1986, 31.

²⁷⁵ Chandler 1958, 212.

²⁷⁶ Strong explained New York's strategy of selling securities "at a rate which would at least offset the effects of these further gold imports, the idea being that we had no power to arrest an expansion of bank loans and deposits caused by gold imports, except by offsetting that gold by liquidation of our own investments." Quoted in Chandler 1958, 190.

from stoking inflation. The governors agreed to make the governors committee a policymaking body, but didn't endorse gold sterilization.²⁷⁷ The conference also approved a Federal Advisory Council proposal to broaden the Governors Committee's membership by adding the Cleveland reserve bank governor.²⁷⁸

Some participants were uneasy about this delegation of policymaking authority. Gov. McDougal (Chicago) argued that a systemic open market policy would be a radical departure from the tradition of autonomous portfolio management.²⁷⁹ Seay (Richmond) likewise voiced "...reservation toward the control of the Federal Reserve System as a whole by the judgment of any committee... whose suggestions may... override the independent judgment of any particular Federal Reserve Bank."²⁸⁰ Board Member Adolph Miller was visibly angered by the prospect of establishing a policymaking committee which excluded the Board.

In February, 1923, Strong was forced to take six months leave to recover from a bout of tuberculosis in Colorado. In Strong's absence, the Board moved to assert control over open market operations.²⁸¹ At the March 26th governors conference, Adolph Miller proposed a regulation reconstituting the governors committee as the Open Market Investment Committee (OMIC). This new body would retain the old committee's

²⁷⁷ Chandler 1958, 221; Wicker 1966, 71.

²⁷⁸ Federal Reserve System. Board of Governors. File 333.-a. Record Group 82. National Archives.

²⁷⁹ Meltzer 2003, 147.

²⁸⁰ Chandler 1958, 219-222.

²⁸¹ On January 8th, the Board empowered Miller to draft a proposal asserting the Board's authority over open market operations for debate at the March 26 Governors Conference. Chandler 1958, 222-223; Meltzer 2003, 149-150.

membership, but its policy decisions would be subject to Board approval. Miller argued sections 13 and 14 of the Federal Reserve Act granted the Board “authority to limit and otherwise determine the securities and investments purchased by Federal Reserve Banks...” Henceforth, he declared, open market operations would be limited “primarily [to] commercial investments,” not government securities.²⁸² Gov. Harding (Boston), who until recently served as the Board’s Governor, voiced the governors’ opposition:²⁸³

It is very doubtful... whether the Federal Reserve Board has specific power to fix a definite limit as to the amount of the legitimate open-market operations that a Federal Reserve Bank may engage in... nowhere is the Federal Reserve Board given specific power to limit the amount of bonds and notes of the United States that the Board of Directors of the Federal Reserve Bank may wish to buy.

Gov. Norris (Philadelphia) accused Miller of subverting the Federal Reserve Act, “General authority would mean that the law created a central bank, in Washington, with the reserve banks as operating branches.”²⁸⁴ Miller admitted that the Board’s jurisdiction was unclear, but asserted that the Board was the proper locus of authority because it had a national, rather than a regional, perspective. Miller ultimately found himself without allies, however. He lamented, “I think we have got the power; to me it is almost as clear as though it were there.” The governors accepted the Board’s right to reconstitute the committee and supervise its operations. Charles Hamlin (Board) agreed to remove the offending paragraphs from Miller’s regulation. Upon hearing of Miller’s power grab, Strong wrote the FRBNY’s acting governor, “The Federal Reserve Board had no right to discharge the committee and wouldn’t have done so had I had a crack at them... Every

²⁸² Board Minutes, 3/22/1923, 177-178. See discussion in Meltzer 2003, 150.

²⁸³ Governors Conference Minutes 3/22/1923. Cited in Chandler 1958, 224-226; Meltzer 2003, 150.

²⁸⁴ Meltzer 2003, 151.

time the Board assumes some power like this, we approach nearer to actual management (instead of supervision) by a political body.”²⁸⁵

Orchestrating Great Britain’s Return to Gold

Strong returned from his Colorado rehabilitation in November 1923. In his absence, Mellon and the Board continued demanding the OMIC sell government securities, which coincided with the committee’s goal of sterilizing gold inflows. Between April and July, the system sold over \$138 million in government securities. When Strong returned, he gained approval for creating a “special investment account” at the FRBNY for OMIC securities.²⁸⁶ At the end of November, FRBNY officer WR Burgess explained the case for using open market operations as a countercyclical economic stabilization instrument:²⁸⁷

There would be very general agreement to the principle that the Reserve Banks should purchase securities at periods when liquidation in business seems to be going faster than fundamental conditions warrant, and that obversely we should sell securities when business is moving forward so rapidly that the tendency has become unduly speculative in nature.

FRBNY Deputy Governor J.H. Case informed Strong that a 1924 business recession was likely, but argued continued gold inflows and Mellon’s proposed income tax reduction would provide sufficient stimulus to combat it.²⁸⁸ Strong worried about the system’s depleted stock of securities, however. At the December 3 OMIC meeting, Strong gained approval to buy “a suitable volume of Government securities of short maturities... so as

²⁸⁵ Strong letter to J.H. Case. 4/21/1923. Cited in Chandler 1958, 228.

²⁸⁶ Henceforth, the OMIC would no longer distribute individual securities among the reserve banks. Instead, aggregate security earnings would be distributed among the banks. Chandler 1958, 233.

²⁸⁷ Burgess memorandum to J.H. Case 11/30/1923. Cited in Wood 2005, 187.

²⁸⁸ Wicker 1966, 81.

to be in a position to exert an influence from time to time by the purchase and sale of such securities in the open market.”²⁸⁹ By February, the FRBNY had purchased \$51 million of Treasury bonds for the system account.

What began as a security stockpiling initiative quickly developed into a deliberate expansionary program. Strong had grown frustrated by persistent gold inflows and believed capital would continue pouring into the US until Europeans restored gold convertibility. The U.S. recession provided a useful pretext for launching an expansionary program which promoted Strong’s international objectives. Strong realized, however, that for the system’s policies to effectively repel capital inflows and encourage Americans to invest abroad, open market purchases would need to be complemented by discount rate reductions, which were publicly announced and highly visible. In March, Strong explained the logic of a coordinated easing program to Norman, “The effect of changes in the discount rate is more like a sledgehammer blow to sentiment, while the effect of our transactions in the open market is much gentler.”²⁹⁰

On February 25, the OMIC authorized the FRBNY to purchase \$100 million more in government securities for the system account.²⁹¹ On April 22nd, it authorized another \$50 million in purchases, noting “We have a situation where easier money is likely to

²⁸⁹ The Board authorized purchases up to \$100 million, while “reserving to itself the right to discontinue purchases and to require the sale of any of the securities purchased at any time it might deem such action to be expedient.” OMIC minutes 12/3/1923. Cited in Winfield W. Riefler and United States. Federal Open Market Committee. “1923 - 1928” and “1929 - mid-1931” in *Federal Reserve Open Market Investment Committee (Open Market Policy Conference)* (February 1956). Accessed at <https://fraser.stlouisfed.org/title/?id=156#!5335>. Hereafter, referred to as Riefler’s compilation.

²⁹⁰ Strong letter to Norman. 3/3/1924. Cited in Chandler 1958, 241.

²⁹¹ This decision was submitted to the Board for approval, but the Board didn’t respond. OMIC Secretary Riefler interpreted the board’s non-decision as informal approval. OMIC minutes 1/24/1924. Riefler’s compilation, 12.

help rather than hinder a normal rate of business activity... a gradual program of purchases will tend to ease rates somewhat further. It also seems probable that... the credit situation may lead to lower discount rates at some of the Federal Reserve Banks.”²⁹²

Shortly thereafter, Strong departed for London. While Strong was away, Gov. Harding (Boston) told Charles Hamlin (Board) he was “certain that the movement for lower rates at New York was inspired by Governor Strong, now sick in Governor Norman’s house in London; that Norman wanted inflation in United States to put us more nearly on a parity with Great Britain.”²⁹³ Harding’s intuition proved correct. When Strong returned in late May, he embarked on a broad campaign to convince Federal Reserve officials and Treasury Secretary Mellon that an aggressive easing policy would hasten sterling’s return to gold. Strong wrote Mellon:²⁹⁴

Our own interests demand that no effort be spared to secure a return to the gold standard, and so arrest the flood of gold which threatens in time to plunge us into inflation. We now hold one-half of the world’s monetary gold, and our holdings increase steadily... Nor [should] our own trade advantage resulting from monetary stability [abroad] be minimized... Stable exchange rates will facilitate foreign trade just as greatly as stable credit facilitates domestic trade.

Strong argued that floating European currencies reduced European purchasing power and caused gold to flow into the US. Since weak European currencies bought fewer goods, floating rates had a “withering influence” on trade, harming American exporters.²⁹⁵

²⁹² The Board failed to approve or reject the OMIC’s directive. OMIC minutes 1/24/1924. Riefler’s compilation, 13.

²⁹³ Hamlin’s Diary 5/5/1924. Cited in Clarke 1967, 76.

²⁹⁴ Strong letter to Mellon 5/27/1924. Cited in Chandler 1958, 266-267; Clarke 1967, 75-76.

²⁹⁵ U.S. Congress. House Committee on Banking and Currency. 1926. *Stabilization Hearings*. 69th Cong., 1st Sess., 12 April.

Strong's argument was easily absorbed by Mellon, one of the U.S.'s wealthiest industrialists.²⁹⁶ By Strong's calculations, the U.S. price level remained 10% below Great Britain's. To restore sterling to its prewar parity of \$4.86, Strong argued this gap would have to be eliminated. Strong suggested the US would need to bear the adjustment burden, arguing it would "be difficult politically and socially for the British government and the Bank of England to force a price liquidation in England beyond what they have already experienced..." so the adjustment burden "must fall more largely on us than upon them."²⁹⁷ Strong stressed the extraordinary nature of this international collaboration and promised that once the international gold standard was restored, further central bank cooperation would be unnecessary.²⁹⁸ Strong persuaded Mellon, who thereafter supported Strong's initiatives on the Board and in successive Republican administrations.

On May 22nd, Strong told the Board "he rather inclined to lower New York rates to 3 ½%; that while this might have little or no effect upon domestic conditions, it might bring about much borrowing from abroad; that it was a great opportunity for the U.S. to become the money market of the world."²⁹⁹ On May 29, Strong presented the OMIC with a report from FRBNY officer W.R. Burgess which argued the recession was deepening and called for more aggressive purchases, despite heavy gold inflows.³⁰⁰ The OMIC

²⁹⁶ Mellon's northeastern industrial and banking enterprises stood to benefit from a buoyant international economy.

²⁹⁷ Strong letter to Mellon 5/27/1924. Cited in Chandler 1958, 266-267; Clarke 75-76.

²⁹⁸ Eichengreen (1992, 161) points out "With little experience in central banking under the gold standard, Strong and his fellow countrymen both in and out of the Fed clung to an exaggerated view of the institution's automaticity."

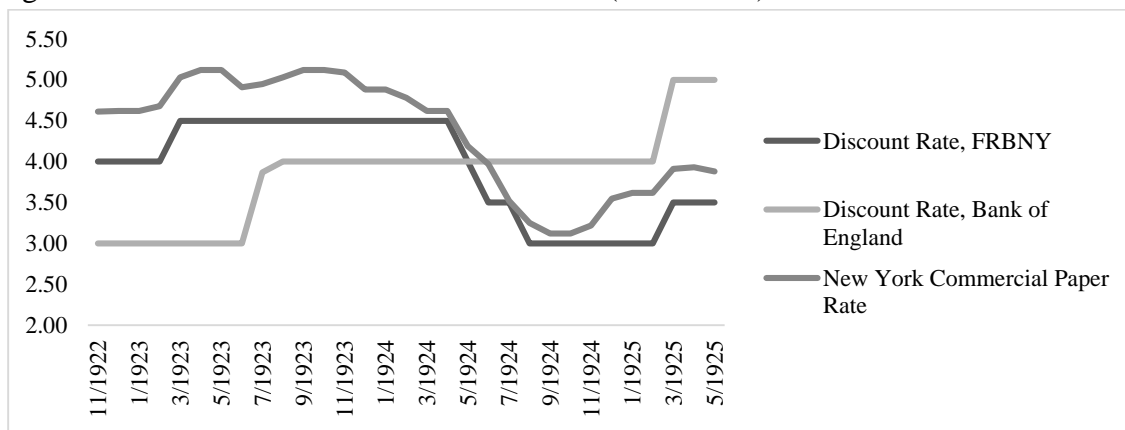
²⁹⁹ Hamlin's Diary 5/22/1924. Quoted in Wicker 1966, 85.

³⁰⁰ OMIC minutes 5/29/1924. Riefler's compilation, 15.

authorized an additional \$150 million in security purchases for the system account and \$100 million for the FRBNY's own account. On June 4th, the Board endorsed the OMIC's directive. Between June and August, the FRBNY purchased \$215 million in government bonds for the system's account.

Strong hoped to establish an interest rate differential between New York and London.³⁰¹ He believed that wealthy Americans would be persuaded to invest abroad if New York rates were lower than London's. Over the summer, open market purchases pushed down U.S. market interest rates. The FRBNY also received Board approval for three ½ point discount rate reductions. By September, its rate was a full percentage point lower than the BOE's (see Figure 6).

Figure 6: New York and London Interest Rates (1923-1925)



Source: Fred Database

The international effects of the system's expansionary program were dramatic. In the second half of 1924, transatlantic capital flows reversed their direction. The US balance-of-payments shifted into deficit for the first time in five years. Americans

³⁰¹Chandler 1958, 241; Wicker 1966, 77. Friedman and Schwartz (1963, 369) deny an international policy motivation.

purchased large quantities foreign bond issues, including Dawes Plan bonds to assist Germany's currency stabilization. Europeans repatriated funds deposited in American banks.³⁰² The FRBNY's 10th Annual Report credited U.S. capital outflows with increasing European purchasing power, leading to buoyant US agricultural exports, and rising farm incomes.³⁰³

Capital flowed from the U.S. to London, strengthening the Bank of England's gold position.³⁰⁴ Early in 1924, Norman recommended that Parliament not extend the wartime authorization of sterling's non-convertibility beyond 1925.³⁰⁵ By July, however, Strong suspected that Norman was dragging his feet. A number of smaller European states had already returned to gold. On July 9th, Strong wrote Norman suggesting, "...sterling is... now rather far behind in the procession."³⁰⁶ Norman replied that a transition from a Labour to a Conservative government was slowing sterling's restoration. A public proclamation "would have been difficult and perhaps dangerous... we have been wise so far to hurry slowly..."³⁰⁷ By December, U.S. inflationary pressures were mounting and Strong was tired of waiting. He cabled Norman on December 4th informing him that the FRBNY might need to increase its discount rate by ½ percent to restrain credit growth.³⁰⁸ He asked if Norman wanted to raise the BOE's discount rate

³⁰² Clarke 1967, 93.

³⁰³ Tenth Annual Report of the Federal Reserve Bank of New York, 3.

³⁰⁴ Eichengreen 1992, 191-192.

³⁰⁵ Clarke 1967, 78.

³⁰⁶ Strong letter to Norman. 7/9/1924. Cited in Clarke 1967, 79.

³⁰⁷ Norman letter to Strong. 10/16/1924. Cited in Clarke 1967, 79.

³⁰⁸ Clarke 1967, 80.

simultaneously, to prevent capital from moving from London to New York. Norman replied that the BOE would increase its rate by 1% if the FRBNY changed its rate, but preferred to wait to “appear to have our hands forced by you.”³⁰⁹

The FRBNY and BOE’s coordinated policy adjustments helped realize Strong and Norman’s shared objective of restoring sterling to its prewar parity. Sterling had traded in the \$4.30 range in March, 1924, and was trading around \$4.50 by October.³¹⁰ In early 1925, Norman made a covert trip to New York which was made public, increasing speculation that sterling’s restoration was imminent. Speculators bought sterling in anticipation of an exchange rate appreciation. By April, sterling was trading at its prewar parity and British prices had fallen 3% below the US’s.³¹¹ That month Winston Churchill, Chancellor of the Exchequer, announced sterling’s return to gold at the prewar parity. Churchill’s announcement was lauded by London’s financiers. It was not universally endorsed, however. John Maynard Keynes forcefully argued against restoring sterling to its prewar parity, suggesting it would require prolonged austerity to force down domestic wages and bring about industrial restructuring.³¹² Keynes subsequently published a critique of the decision titled *The Economic Consequences of Mr. Churchill*.³¹³

³⁰⁹ Norman cable to Strong. 12/8/1924. Cited in Clarke 1967, 88. Discount rates were raised at both banks in March.

³¹⁰ Clarke 1967, 89.

³¹¹ Clarke 1967, 89-90.

³¹² Moggridge, Donald E. 1969. *Return to Gold, 1925: The Formation of Economic Policy and Its Critics*. London: Cambridge University Press.

³¹³ Keynes accused advocates of restoring sterling’s prewar parity of using the wrong price indexes for measuring British prices. He pointed out that the wholesale price indexes used by financiers measured commodities whose prices were determined internationally, whereas the more relevant prices which would need to fall were the wages of domestically-oriented producers of goods and services. Keynes calculated

Managing the Interwar Gold Exchange Standard (1925-1927)

Once sterling was restored, Strong quickly discovered that sustaining the international gold exchange standard would require more active management than he had anticipated. Britain's vulnerable external position was quickly exposed. Norman wanted to maintain a restrictive credit policy to promote domestic price adjustments and industrial restructuring. Norman creatively used the gold standard's "rules of the game" to appease domestic demands for cheaper credit by temporarily lowering the BOE's discount rate from 5% to 4% between July and October.³¹⁴ As Norman expected, rate reductions triggered large gold outflows from London. Responding to these highly visible outflows, Norman used gold standard orthodoxy as rhetorical cover for justifying restoration of the 5% bank rate the following month.

In August, Strong pondered the implications of BOE rate reductions for Federal Reserve policy in a letter to FRBNY Deputy Governor JH Case:³¹⁵

...up to a certain point we should make every effort to accommodate our policy to theirs. If they feel it necessary in meeting domestic conditions to reduce their rate... they must do so, but should not necessarily expect us to go down with them if our domestic situation would render it perilous to do so... an increase in our rate, in the face of rate reductions among the gold standard countries of Europe, will be some transfers of funds to the United States... we cannot then escape further shipments of gold...

In the second half of 1925, the OMIC sterilized resurgent gold inflows with offsetting bond sales. Between January and November 1925, the system account was

that sterling remained overvalued by 10%. See Keynes, John Maynard. 1925. *The Economic Consequences of Mr. Churchill*. London: L. and V. Woolf.

³¹⁴ Clarke 1967, 100.

³¹⁵ Strong letter to Case. 8/25/1925. Cited in Clarke 1967, 97-98.

reduced from \$500 million to \$210 million. On November 2nd, Strong reported to the governors conference what he considered alarming economic trends: unsustainable construction industry growth; stock market speculation; and growing use of installment credit for consumer purchases.³¹⁶ Strong suggested discount rate hikes were possibly in order, but cautioned against further security sales so the system would retain a large enough security portfolio “to deal with any emergency situation.”

The Board considered the OMIC’s report on November 23rd. Adolph Miller objected to suspending security sales. He proposed that the Board compel the OMIC to sell at least \$100 million of government securities, and work toward reducing the aggregate size of the system account to \$50 million. Miller’s motion was struck down by a 4-3 vote.³¹⁷ Instead, the Board passed a resolution urging the OMIC to meet again as soon as possible. On December, 1st, Strong told the OMIC that Miller wanted to bring about deflation “pure and simple.” He cautioned a tightening policy would trigger gold inflows and undermine the BOE’s position.³¹⁸ The OMIC unanimously reaffirmed their decision to keep the system account stable. The next day, Miller proposed that the Board compel the reserve banks to raise their discount rates. All but one Board member rejected Miller’s proposal because it ran counter to the system’s established practice of reserve banks’ initiating discount rate changes.

During 1926, system policies remained fairly stable. On January 8th, the FRBNY received permission from the Board to increase its discount rate to 4%. At the March 20

³¹⁶ OMIC Minutes 11/2/1925. Riefler’s compilation, 58.

³¹⁷ Federal Reserve Board Minutes. 11/23/1925.

³¹⁸ Wicker 1966, 102.

OMIC meeting, Strong suggested that the US was entering a recession and open market purchases would be helpful up to the point that member banks in the principal money markets, New York and Chicago, paid off their discount window borrowings.³¹⁹ The OMIC voted to increase the system account to \$300 million, which the Board narrowly approved.³²⁰ In the fall, the OMIC sold \$60 million of securities. The system “applied its credit brakes gently... and the economy slowed.”³²¹

By the end of 1926, international gold standard restoration seemed to be making rapid progress. Sterling was strong on foreign exchange markets and 18 countries had returned to gold.³²² France was the only major country still off of gold, but it was making rapid strides in that direction. Testifying before Congress in early April, Strong restated his belief that gold standard restoration would reduce the need for central bank discretion and cooperation.³²³

...when the time comes to conduct these things as they were in former years, a lot of the need for the type of management which has to be applied in the present situation will be eliminated. It will be more automatic. We won't have to depend so much on judgment, and we can rely more upon the play of natural forces and their reaction on price...

³¹⁹ This strategy has been critiqued as the “Riefler-Burgess Doctrine.” It is discussed below. See, Brunner and Meltzer 1968; Wheelock 1991; Eichengreen 1992; Wood 2005.

³²⁰ OMIC Minutes 3/20/1926. Riefler’s compilation, 70. At the Board meeting, Secretary Mellon, Governor Crissinger, James, and Hamlin voted to approve the OMIC’s motion; Miller, Platt, and Cunningham against.

³²¹ Degen, Robert A. 1987. *The American Monetary System: a Concise Survey of its Evolution since 1896*. Lexington: Lexington Books: 47.

³²² Clarke 1967, 106.

³²³ U.S. Congress. House Committee on Banking and Currency. *Stabilization Hearings*. 69th Cong., 1st Sess., 9 April.

Adjustment problems lurked beneath the veneer of international tranquility. Sterling's late 1926 strength was due to French capital flight, not its competitive economic position.³²⁴ When France *de facto* stabilized the franc in December 1926, gold flows reversed. French authorities set the franc's exchange rate at 25 francs per dollar, far below the prewar parity. Frenchmen repatriated their foreign balances, leading to a drain on London banks. This drain was fueled by speculation that the franc would be appreciated to its prewar parity when the gold standard was legally restored. Inside France, a struggle raged between factions who wanted to restore the franc to its prewar parity and those who hoped to legalize the depreciated rate. Prime Minister Raymond Poincaré led the faction calling for revaluation. Émile Moreau, Governor of the Banque de France, believed France needed to learn from Britain's "mistake" and formally peg the franc at the lower rate to maintain France's competitive international position.³²⁵

Large capital inflows into Germany and France created new problems for those countries' central banks. Hjalmar Schacht, President of the German Reichsbank, complained that foreign capital was being funneled into unproductive municipal investments, creating a "fools paradise."³²⁶ He believed that only investments which increased Germany's export capacity were beneficial. Both Germany and France responded to surging capital inflows by purchasing gold.³²⁷ London remained the center

³²⁴ Clarke 1967, 106.

³²⁵ Clarke 1967, 111-112.

³²⁶ Clarke 1967, 110.

³²⁷ Lacking the open market policy tools of the Federal Reserve and the BOE, they relied on the crude instrument of gold purchases to mop up excessive domestic liquidity. Clarke 1967, 113-115.

of the international gold market, as its colonies produced much of the world's monetary gold. Large purchases by the Banque de France and the Reichsbank overwhelmed this market by early 1927, however, and the BOE was forced to cover residual demands. In late 1926, Norman complained to Strong, "Schacht... already sucked 6 ½ million pounds in gold out of London."³²⁸

Pressures mounted on the BOE in 1927. Holding large sterling balances, the Banque de France found itself in an unprecedented position of strength. The French government wanted the Banque de France to convert its sterling balances into gold. Norman warned Moreau that heavy gold withdrawals might force Britain off of the gold standard. In May, Moreau suggested that Norman stem the gold outflow by raising the BOE's bank rate. Norman replied he could not "without causing a riot."³²⁹ The stalemate was broken when Strong intervened by brokering a deal which included the Federal Reserve supplying £12 million pounds worth of gold to the Banque de France. Strong also agreed that "a quiet meeting of some of the heads of the central banks might be useful."³³⁰

That meeting famously came to pass at the home of U.S. Treasury Undersecretary Ogden Mills on Long Island from July 1st-6th in July, 1927.³³¹ Strong, Norman, Schacht, and Rist, the Banque de France's Deputy Governor, were in attendance, as were the OMIC governors and Gov. Crissinger (Board). At this covert conference, the central

³²⁸ Norman letter to Strong. 10/29/1926. Quoted in Clarke 1967, 114.

³²⁹ Clarke 1967, 30.

³³⁰ Strong letter to Norman 11/20/1925. Cited in Clarke 1967, 107.

³³¹ Chandler 1958, 375; Wicker 1966a, 110-11; Clarke 1967, 123; Kindleberger 1973, 69; Eichengreen 1992, 213.

bankers discussed four major questions: (1) whether an easing of Federal Reserve credit policies would decrease pressure on the BOE and the Reichsbank, (2) whether gold standard countries' credit policies were supporting commodity price deflation, (3) how to unwind the Banque de France's large outstanding New York and London balances, and (4) whether Paris's gold demands could be met in New York rather than London. According to Clarke, "The principal outcome of these discussions was Strong's second great effort in support of sterling."³³²

Strong took on the major adjustment burden by agreeing to ease the Federal Reserve's credit policies.³³³ To enact his expansionary program, however, Strong needed to build a supportive coalition throughout the Federal Reserve. He had already been in the process of building such a coalition for months. In February, 1927, the FRBNY directors requested a discount rate reduction, but was denied by the Board.³³⁴ At the March 21st OMIC meeting, Strong developed a three-pronged argument in favor of terminating open market sales and beginning a purchasing campaign: "1. A portfolio of securities is a protection against inflation, and its size should not be reduced without good cause. 2. Higher rates here would tend to attract foreign balances and gold from countries which need them to us who do not want them. 3. Higher rates here would force higher rates abroad and continue the pressure on world commodity prices."³³⁵ The OMIC

³³² Clarke 1967, 124.

³³³ Great Britain agreed to slightly raise its discount rate, France agreed to slow its currency conversions, and Germany agreed to forego gold arbitrage opportunities. See Eichengreen 1992, 213.

³³⁴ The Federal Advisory Council formally expressed its opposition to discount rate reductions to the Board in February. See Riefler's compilation, 89; Wicker 1966, 108.

³³⁵ OMIC minutes 3/21/1927. Riefler's compilation, 96.

directive cautiously called for replacement of \$25 million of maturing government securities and authorizing an additional \$50 million in purchases “if and when a situation develops that would seem to justify such action.” The Board approved replacement of maturing securities, but insisted on being consulted prior to new security purchases.

On May 9th, the OMIC issued a report warning that if the system continued sterilizing gold inflows, the system’s account would soon fall below \$100 million dollars.³³⁶ Rather than issuing a policy directive, the OMIC asked the Board to join them to voice their opinions. After the meeting, the OMIC recommended a policy of halting open market sales and instead making purchases until the system account reached \$250 million. On May 13th, Adolph Miller (Board) argued new purchases would fuel stock market speculation. Instead, he proposed the Board approve termination of open market sales, without authorizing increased purchases. Miller’s proposal gained no support.³³⁷ Platt proposed approving the OMIC’s directive with the caveat that securities be acquired “gradually.” Only Miller dissented.

On July 27th, three weeks after the secret meeting on Long Island, the OMIC met with the Board and the St. Louis and Minneapolis reserve bank governors. At this meeting, Strong drew attention to the high interest rates prevailing in Europe and the looming American harvest season.³³⁸ He argued that unless the Federal Reserve met

³³⁶ OMIC Meeting Minutes 5/9/1927. Riefler’s compilation, 99-101.

³³⁷ Federal Reserve Board Minutes, 5/13/1927.

³³⁸ According to the OMIC’s secretary, “The most important consideration at the meeting was undoubtedly the fact that the differential between the rates in New York and the rates in London was not today sufficient to enable London, and therefore the rest of Europe, to avoid general advances in rates this autumn unless rates here were lowered, and that the consequence of such high rates as would result in Europe would be unfavorable to the marketing of our export produce abroad and would have an adverse effect generally on world trade.” OMIC minutes 7/27/1927. Riefler’s compilation, 129.

seasonal credit demands by making additional reserves available through open market purchases and discount rate reductions, global money market conditions would tighten, decreasing Europeans' capacity to purchase American crops. According to OMIC Secretary Riefler, "'All present at the meeting recognized that these developments would necessarily have a depressing effect upon business abroad and might tend to restrict the freedom of purchases of goods in this country at the usual season.'" The OMIC and Board authorized \$50 million in security purchases and it was agreed that the reserve banks would collectively lower their discount rates to 3.5%. Many interior governors suggested conditions in their district didn't warrant a discount rate reduction, but pledged support for the program because it was in the "national interest."³³⁹ Miller again argued an expansionary policy would fuel stock speculation. Platt acknowledged Miller's concern while summarizing the group decision, "Lower [the discount rate] in New York first and to hell with the stock market."³⁴⁰

Compared the 1924 program, the 1927 easing campaign was slight (see Figure 7). The domestic recession was milder, with a peak to trough decline in industrial production of only 6% compared to 18% in 1923-1924.³⁴¹ In the earlier episode, the FRBNY's discount rate was reduced in three steps by a total of 1.5%, whereas this time there was only a single half point reduction. After adjusting for gold exports and increased currency in circulation, the open market purchasing program's aggregate stimulus was \$278

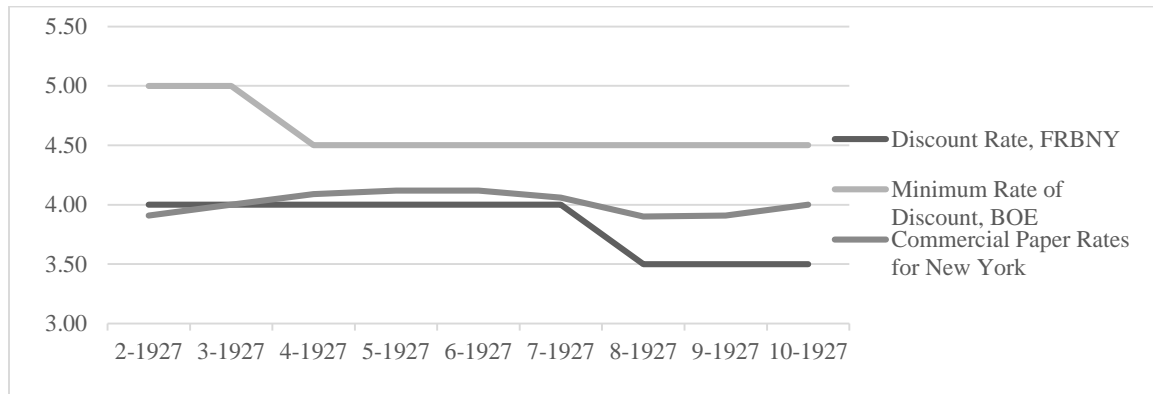
³³⁹ Clarke 1967, 126.

³⁴⁰ Cited in Clarke 1967, 127.

³⁴¹ Clarke 1967, 126.

million less than in the earlier episode, a vast sum when considering the system's account rarely exceeded \$500 million at this time.

Figure 7: New York and London Interest Rates (1927)



Source: Fred Database

Despite its lighter footprint, the 1927 easing program achieved its international objectives.³⁴² At the November 2nd OMIC meeting, Strong summarized recent developments: 1) domestic agricultural needs were smoothly financed; 2) sterling had appreciated on foreign exchange markets; 3) the US was a net gold exporter in September; 4) stock market speculation had increased; 5) the domestic volume of credit had grown; and 6) commodity prices had increased.³⁴³ Although his assessment was positive overall, Strong admitted “a less favorable result of easier money... one which was anticipated, has been some stimulation of stock exchange speculation...”³⁴⁴ Adolph

³⁴² According to the 14th Annual Report of the Federal Reserve Board (1927, 9), “For this reason it has been a matter of great importance to the Federal Reserve System to restore those influences upon international gold movements under which traditional central bank policies have been developed and tested by experience... The effectiveness of these factors in determining the flow of gold between countries depends primarily upon the existence of a fixed relationship between the value of currencies and gold. They year 1927 has witnessed important progress in reestablishing such a relationship.”

³⁴³ Strong was quick to link the system's easing to climbing agricultural prices, which were “partly [attributable] to success in marketing surplus production abroad.”

³⁴⁴ Strong was unwilling to judge, however, “how far this recent rise in stock prices represents excessive speculation and how far it represents a gradual readjustment of values to increased industrial efficiency,

Miller and his Georgetown neighbor, Secretary of Commerce Herbert Hoover, were quick to jump on the link between the system's 1927 easy money campaign and the subsequent New York Stock Exchange boom. The next section examines how the Board's heavy-handed enforcement of the 1927 easing policy and the stock market boom reignited the system's power struggle, decreasing the system's capacity to absorb international adjustment costs and thereby stabilize the gold standard.

The Chicago Discount Rate Controversy

Many years after the covert 1927 central banker conference, Charles Rist wrote E.A. Goldenweiser, "You probably know that the decision to lower the discount rate was taken directly in a conversation between Montagu Norman and Benjamin Strong, by themselves. All the rest of us had to do was to approve it later. Once more in this case English monetary policy was decisive for the rest of the world."³⁴⁵ Whether or not the 1927 international bargain was really struck by Strong and Norman alone is less important than the widespread perception that the decision was reached in an impolitic manner. After the 1927 program, international tensions quickly resurfaced. Although sterling appreciated on foreign exchange markets, Britain's underlying economic adjustment process progressed slowly.³⁴⁶ Capital poured into France to take advantage of its strong growth prospects and to speculate on a franc revaluation. The Banque de

larger profits, higher commodity prices, and a lower basic interest rate level than for some years past." OMIC Minutes 11/2/1927. Riefler's Collection, 147.

³⁴⁵ Letter from Rist to Goldenweiser 11/13/1949. Cited in Wicker 1966, 112.

³⁴⁶ According to Clarke (1967, 140), "Although those who knew the severity of the May 1927 crisis were keenly aware of the urgent need for economic adjustment, the general public was at best indifferent; when it was directly affected, it was often openly hostile to change."

France continued holding large balances in London and New York with “unmistakable reluctance.”³⁴⁷ France and Germany were shifting their reserves into gold and moving away from the gold exchange standard.

Suspicion about the circumstances surrounding the 1927 central bank collaboration reignited the power struggle within the Federal Reserve. On July 25th, Charles Hamlin (Board) recorded his reaction to learning of the secret central banker meeting:³⁴⁸

Governor Crissinger told me that there was a formal conference in New York... all the Governors representing Open Market Committee were there, and others; that it was in every sense a formal conference although Governor Crissinger did not know this until he got there; that Governor Norman unbosomed himself and told in what a critical position the Bank of England was as regards gold, that it must put its discount rate to the injury of business, commerce etc., unless the Federal Reserve Bank of New York should reduce its rate...

Hamlin concluded “Strong was very short sighted in ignoring the Federal Reserve Board... It will give some of the members, already sore, a reason for continuing so.” Despite Board members feeling slighted, Strong’s selective invitation of Federal Reserve officials was a shrewd political maneuver. The conference would have been pointless if Norman was unwilling to “unbosom” himself and plead for help in front of dozens of US officials of uneven financial expertise and social acumen. Adolph Miller’s obstructionism alone could have stalled negotiations. Strong calculated that if the US were to bear the international adjustment burden, he faced better odds negotiating the agreement himself and then convincing his colleagues that it represented their interests, which he earnestly believed was the case.

³⁴⁷ Clarke 1967, 142.

³⁴⁸ Hamlin’s Diary 7/25/1927. Cited in Degen 1987, 49.

In September, a clash occurred between the Board and reserve banks which wanted to abstain from the system wide discount rate reduction. At the July 27th meeting, Gov. McDougal (Chicago) declared that his bank did not plan on lowering its discount rate because local conditions did not warrant a decrease. After the meeting, most reserve banks requested and received authorization to reduce their discount rates to 3.5%. The directors of the Chicago, Philadelphia, San Francisco, and Minneapolis reserve banks voted to sustain their higher rates, however. On August 19th, Strong wrote Gov. Crissinger (Board) complaining about the disruptive effects of Chicago's higher rate while insisting "that is a matter for them to decide."³⁴⁹ Strong also wrote Norris (Philadelphia) and McDougal (Chicago) asking them to lower their rates. McDougal replied tersely, insisting Chicago would lower its rate "if and when it seemed expedient to do so."³⁵⁰ Strong wrote back appealing to McDougal's sense of humor:³⁵¹

I have read that austere letter of yours... and after finishing it feel as though I were sitting in an unheated church in midwinter somewhere in Alaska. The fact is, my dear Mac... I do believe... that the objects which we sought to accomplish by our rate reduction are mainly for the benefit of the producers of exportable crops in your district and the other districts, and that their ability to find their markets for the surplus of their crops in Europe... In other words, it is neither a New York question nor a Chicago question nor a district question, but a national question bearing upon our markets in Europe, consequently an international question...

Strong's personal appeal might have worked, but the Board decided to intervene. Gov. Crissinger informed the Board on September 6th that Chicago's chairman had written him suggesting Chicago's executive committee might vote to reduce its rate on

³⁴⁹ Strong letter to Crissinger. 8/19/1927. Cited in Meltzer 2003, 222.

³⁵⁰ MacDougal letter to Strong. 8/24/1927. Cited in Chandler 1958, 445.

³⁵¹ Strong letter to MacDougal. 8/26/1927. Cited in Chandler 1958, 445.

September 9th. Cunningham moved to assert the Board's authority, however, by compelling Chicago to reduce its rate. Hamlin proposed waiting until after the 9th, but his measure failed. The Board voted 4-3 to instruct the Chicago reserve bank to lower its rate to 3.5%.³⁵² Hamlin was frustrated by this turn of events, which he considered a breach of Federal Reserve protocol. He explained his July 27th support for the system wide easing program because an expansionary policy would "[help] English purchasing power for our exports thus benefiting agriculture." He now felt the Board shouldn't establish a rate "solely for international reasons..." instead, rates should be set for "local reasons – a desire to help farmers move their crops... [and] somewhat doubted [the Board's] power to put in a uniform rate in order to help New York help the English situation."

The Board's decision to compel a Chicago rate reduction was controversial. Gov. Crissinger resigned shortly thereafter, which many interpreted as signaling the decision's illegitimacy.³⁵³ President Coolidge appointed Gov. Roy Young (Minneapolis) to replace Crissinger as Board Governor. Minneapolis had been the last reserve bank to reduce its discount rate, so many considered his appointment an endorsement of greater reserve bank autonomy and a weak Board.³⁵⁴ The St. Louis Star suggested Young would make a great governor so long as he kept "his Western atmosphere enough to realize that all of

³⁵² Federal Reserve Board Minutes. 9/6/1927. Those dissenting in both cases were Platt, Hamlin, and Miller. The Board also voted to compel San Francisco to lower its rate. See Wicker 1966, 112-113; Kettl 1986, 32; Degen 1987, 49; Eichengreen 1992, 26; Meltzer 2003, 222-223.

³⁵³ In a cable to Norman, Strong suggested the timing of Crissinger's resignation was poor, as he had decided to resign prior to the Chicago controversy, but waited to announce his decision formally until after Mellon and President Coolidge returned from abroad. Strong cable to Norman, 9/16/1927. Cited in Wicker 1966, 114.

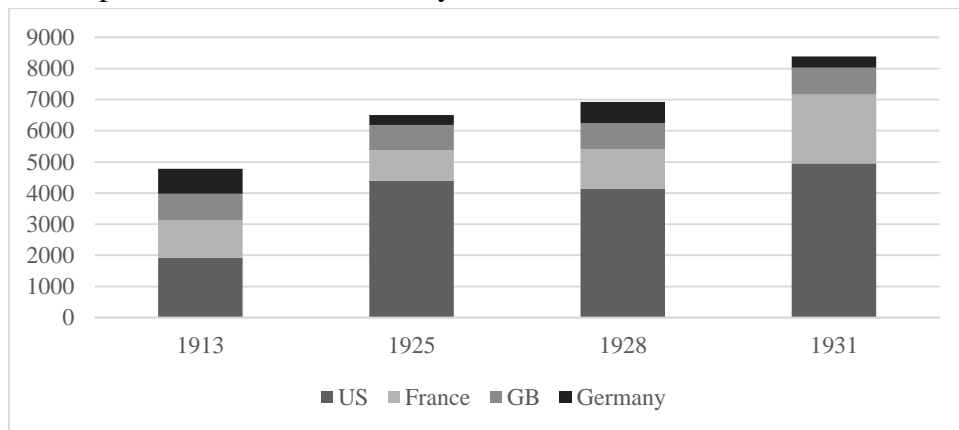
³⁵⁴ Riefler's compilation, 136

the banks and all of the money are not in New York, nor all of the nation's industries in Wall Street."³⁵⁵

The New York Stock Market Boom and Wall Street's Capital Vortex

By 1928, Strong's dream of restoring the international gold standard was nearly complete.³⁵⁶ In June, France legalized its depreciated exchange rate, ending speculative capital inflows. By locking in its competitive exchange rate, however, France ensured a steady stream of trade surpluses. Like the US, France sterilized its gold imports, exporting deflationary pressures. Between 1927 and 1932, France's share of global monetary gold reserves rose from 7% to 27% (see Figure 8).

Figure 8: Comparative National Monetary Gold Stock, \$ Millions USD



Source: League of Nations Statistical Tables

The New York Stock Exchange's famous 1928-29 bull market placed new strains on the international financial system and revealed the limits of Federal Reserve internationalism. The gold exchange standard, as constituted in 1928, depended on the US running balance-of-payments deficits to provide international reserves. To do so, U.S.

³⁵⁵ Kettl 1986, 33.

³⁵⁶ Eichengreen 1992, 187.

capital exports need to outstrip persistent trade surpluses. As New York call loan rates rose above European interest rates, global investors and U.S. corporations increasingly began loaning funds to Wall Street.

For the first time since the discovery of open market operations, international and domestic conditions came into conflict in shaping Federal Reserve policy.³⁵⁷ The international situation called for expansionary credit policies to push down US interest rates and relieve pressure on European central banks. Adolph Miller and Benjamin Strong alike had argued, however, that combatting stock market speculation should be an objective of Federal Reserve policy. On January 12th, the OMIC initiated an open market sales program to curb stock market speculation, commenting “European money markets are now in a position largely to take care of themselves.”³⁵⁸ By July 18th, the system’s account had been reduced by \$301 million to \$75 million.³⁵⁹ In February, the FRBNY began a series of discount rate hikes, raising it in three steps from 3.5% to 5%. By summer, Federal Reserve policymakers found themselves in a “classic monetary dilemma.”³⁶⁰ The system had tightened credit enough to raise US interest rates above those prevailing in Europe, but was unwilling to make credit so dear as to burst the stock market bubble.³⁶¹ Soaring call loan rates pulled global capital toward Wall Street (see Figure 9).

³⁵⁷ Clarke 1967, 151; Eichengreen 1992, 210.

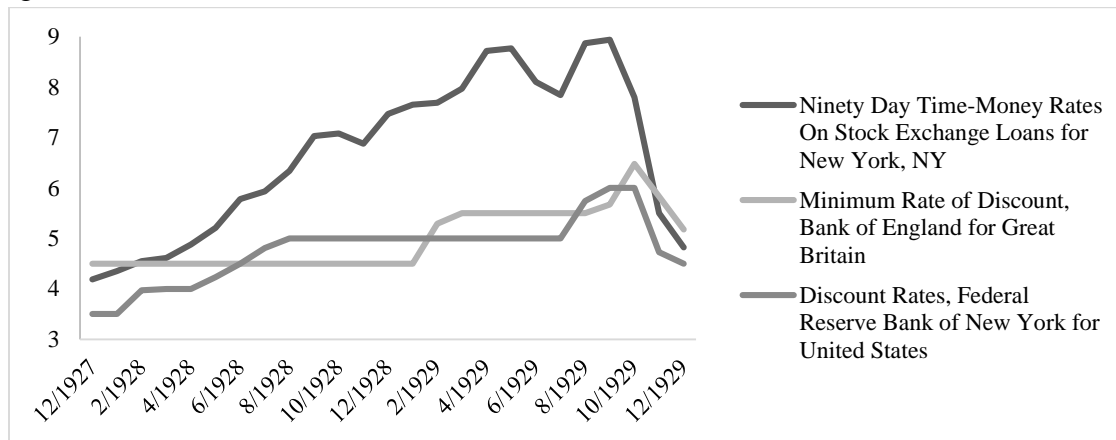
³⁵⁸ OMIC Minutes 1/12/1928. Riefler’s Compilation, 174.

³⁵⁹ OMIC Minutes 6/18/1928. Riefler’s Compilation, 216-222.

³⁶⁰ Wicker 1966, 129.

³⁶¹ Chandler 1971, 36; Eichengreen 1992, 217.

Figure 9: New York and London Interest Rates (1928-1929)



Source: Fred Database

Benjamin Strong spent the summer of 1928, his last, in Europe. He had been sick and out of action for much of the year, leaving Deputy Governor George L. Harrison in charge of the FRBNY and the OMIC. When Strong returned to the U.S. in August, he informed the FRBNY directors that he was resigning based on doctor's orders. That fall, the OMIC and the Board decided to meet seasonal credit needs by establishing a preferential discount rate for trade acceptances, rather than buying securities on the open market or lowering discount rates, which they believed would fuel stock market speculation.³⁶² The harvest season passed without a crisis, but call loan rates kept climbing. Strong passed away on October 22nd.

In 1927 and the first half of 1928, the U.S.'s annualized balance-of-payments deficit stood around \$1 billion. In 1929, it dropped to \$53 million.³⁶³ As U.S. capital exports slowed, the external position of European central banks, other than the Banque de

³⁶² Riefler's compilation 237-242. See discussion in Wicker 1966, 127-128.

³⁶³ Clarke 1967, 148.

France, grew increasingly precarious.³⁶⁴ In January 1929, Norman visited New York.³⁶⁵ Norman suggested a sharp FRBNY discount rate hike to pop the stock market bubble. Although an increase would place tremendous short-term pressure on the BOE, Norman believed that once stock speculation ended, U.S. interest rates would decline and capital exports would resume. The FRBNY directors agreed.

On February 5th, Harrison pleaded with the Board “...we should increase discount rates and through sharp incisive action quickly control the long continued expansion in the total volume of credit so that we might then adopt a system policy of easing rates.”³⁶⁶ The Board disagreed. On February 2nd, the Board sent a letter instructing the reserve banks to apply “direct pressure” on member banks to prevent them from using discount window loans to lend funds out on the call loan market.³⁶⁷ The FRBNY directors considered direct pressure ineffective. More so than other system officials, they recognized credit’s fluidity across money markets. In Strong’s words, the system “cannot control [credit] once it leaves our doors.”³⁶⁸

³⁶⁴ Eichengreen (1992, 222) argues, “... the decline in U.S. foreign lending had a devastating effect on their external positions. Often a draconian compression of domestic spending was the only option consistent with continued maintenance of the gold standard.”

³⁶⁵ Clarke 1967, 151-152.

³⁶⁶ The same day, Harrison counseled Secretary Mellon against a simultaneous move with the BOE. Although coordinated action “would have the greatest effect upon the control of credit... [Harrison] feared... such concerted action might be misinterpreted and severely criticized to the point of militating against our effective cooperation with foreign banks of issue.” Cited in Clarke 1967, 154.

³⁶⁷ This particular “direct pressure” program was Adolph Miller and Charles Hamlin’s idea, but the Board had demanded a similar campaign in 1919. See Wicker 1966, 131; Chandler 1971, 84-85; Wheelock 1991, 79; Meltzer 2003, 249.

³⁶⁸ Chandler 1958, 430; Kettl 1986, 35.

The direct pressure controversy paralyzed the system from January through August. On February 14th, the FRBNY requested a discount rate increase from 5% to 6%. The Board denied this request and ten consecutive follow up requests stretching into June. On March 15th, Harrison expressed his frustration in a cable to a FRBNY director:³⁶⁹

We have tried everything but the bank-rate... With nearly \$1,000,000,000 in discounts in the Federal Reserve System I believe we still have control and that sharp incisive and if necessary repeated increases will be effective. Of course such a procedure may be costly and will require courage but will it be more costly or require more courage than to do nothing in the face of the likelihood of a long continuation of present or even higher market rates with their inevitable effect upon economic and monetary conditions both here and abroad?

Harrison “campaigned directly by phone, telegraph, and meetings, and indirectly through the Treasury... to get the Board to approve a rise in rates. He was supported by virtually the entire Federal Reserve System outside Washington. The Governors Conference and the Federal Advisory Council unanimously recommended higher rates.”³⁷⁰ Chafing at Harrison’s relentless campaign, Gov. Young (Board) complained to Hamlin that Harrison “lived and breathed for Norman.”³⁷¹ Young and Hamlin believed Harrison had promised Norman a rate increase. EA Goldenweiser, the Board’s Statistical Director, dismissed this charge, however, stating Harrison merely “desired to play the world game.”³⁷² In April, Gov. Norris (Philadelphia) wrote Hamlin expressing his frustration with the direct pressure program, “Our 5 percent rate is equivalent to hanging

³⁶⁹ Harrison cable to Young 3/15/1929. Cited in Clarke 1967, 155.

³⁷⁰ Wood 2005, 191.

³⁷¹ Hamlin’s Diary. Cited in Clarke 1967, 157.

³⁷² Wicker 1966, 134.

a sign out over our door, ‘come in,’ and then we have to stand in the doorway and shout ‘keep out.’ It puts us in an absurd and impossible position.”³⁷³ Over time, internal opposition within the Board mounted to the direct pressure program. Platt, Mellon, and Young eventually voted to approve rate increases.³⁷⁴ On June 12th, the direct pressure program was suspended.

The standoff between the Board and the FRBNY resulted in a policy stalemate which achieved neither’s objectives.³⁷⁵ Market rates continued to climb, stock market speculation continued, and European central banks faced relentless pressure. By June, the FRBNY and the Board agreed that the system would need to ease credit to avoid a crisis during the fall harvest season. A compromise was reached at an August 8th joint meeting of the Board and the Governors Conference that the FRBNY would raise its discount rate to 6%, other reserve banks would keep their rates stable, and the FRBNY would lower its bill buying rate and purchase large volumes of trade-related securities to provide a sufficient volume of seasonal credit.³⁷⁶ Harrison cabled European central bank governors on August 10th explaining the decision, “As you know our discount rate has been below open market rates for many months... While our domestic situation calls for such a policy we of course have in mind the need of the European economy also for lower interest rates in New York and believe that our present program will work towards that

³⁷³ Hamlin’s Diary. Cited in Kettl 1986, 36; Chandler 1958, 468.

³⁷⁴ According to Wicker (1966, 138), “None of these men ever had very much faith that moral suasion could get the job alone, but they were willing to experiment and to await the results.”

³⁷⁵ Clarke 1967, 157; Wheelock 1991, 79.

³⁷⁶ Only the Chicago, St. Louis, and Richmond governors opposed a shift toward ease.

end more quickly and more safely than a program of relaxation without the protection of an effective discount rate.”³⁷⁷ From August to October, the system purchased over \$300 million in trade acceptances.³⁷⁸ On September 29th, the OMIC and the Board approved a program of purchasing \$25 million per week in government securities.³⁷⁹

The New York Fed’s Swift Response to the Stock Market Crash

On October 23rd, the New York Stock Exchange began its infamous crash. The next day, the FRBNY requested a discount rate reduction from 6 to 5 ½%, which was denied unanimously by the Board.³⁸⁰ After a day of severe liquidation on October 28th, Harrison stayed up all night worrying about a proper policy response. After consulting with a couple FRBNY directors, Harrison instructed his open market desk agent at 3 am to purchase \$100 million worth of government securities for the FRBNY’s account before the day’s trading began.³⁸¹ The FRBNY also made it known that the “discount window [was] wide open... member banks might borrow freely to establish the reserves required against the large increase in deposits resulting from the taking over the loans called by others.” As interior banks and foreigners rapidly withdrew funds from the call loan market, New York banks absorbed over \$1 billion in call loans and extended another

³⁷⁷ Chandler 1971, 74.

³⁷⁸ Wicker 1966, 142; Chandler 1971, 75.

³⁷⁹ OMIC Minutes 9/29/1929. Riefler’s compilation, 349-350.

³⁸⁰ It approved a follow up request on November 1st to reduce its discount rate to 5%. On the 14th, the Board approved a further reduction to 4.5%. Chandler 1971, 78.

³⁸¹ These purchases ended up amounting to \$132 million. Wood 2005, 197.

\$300 million in new loans. According to Friedman and Schwartz, the FRBNY's rapid response prevented the crash from spiraling into a broader banking and financial crisis.³⁸²

Adolph Miller was "indignant" when he learned of the FRBNY's purchases and argued member banks should have been forced to borrow from the discount window. Hamlin was "inclined to agree... but excused the New York bank on grounds that it was a critical emergency."³⁸³ The Board passed a regulation on November 5th forbidding reserve banks from making independent open market purchases without first obtaining the Board's approval.³⁸⁴ Two days later, the Board's counsel informed Young he held "considerable doubt of its legality."

On November 12th, the OMIC directive declared that recent liquidations posed "a serious threat to business stability... [Indicating] the need of having the Federal Reserve System do all within its power toward assuring the ready availability of money for business at reasonable rates." The committee requested authorization to purchase up to \$200 million in securities, while noting that it might have to buy government securities since trade-related bills were in high demand.³⁸⁵ The Board refused, replying "In the event that an emergency should arise with such suddenness and be so acute that it is not practicable to confer with the Governor, the Board will interpose no objection to a

³⁸² Friedman and Schwartz 1963, 335-339.

³⁸³ Hamlin's Diary. Cited in Wicker 1966, 145; Wood 2005, 197.

³⁸⁴ The regulation stated "'Except with the approval of the Federal Reserve Board, no Federal Reserve Bank shall (a) buy any bonds, notes, certificates of indebtedness or Treasury bills of the United States, having a maturity in excess of fifteen days, or (b) sell any bonds, notes, certificates of indebtedness, or Treasury bills of the United States.'" Riefler's compilation, 359-360.

³⁸⁵ OMIC Minutes 11/12/1929. Riefler's compilation, 367-368.

purchase operation being undertaken, with the understanding, however, that prompt advice of such purchase be furnished the Board.”

In the aftermath of the Board’s rejection of the OMIC directive, the FRBNY’s directors voted to unilaterally purchase an additional \$50 million in securities. This move further inflamed the Board. On November 24th, Gov. Young (Board) announced he had reached an agreement with Harrison (FRBNY) that that the Board would endorse the OMIC’s recent directive to purchase up to \$200 million in securities, in exchange for the FRBNY no longer making unilateral purchases without prior Board approval.³⁸⁶ Harrison entered this agreement reluctantly. He protested to Young, “more and more the Board has taken to itself not supervisory powers but the equivalent of operating functions and the responsibility for the detailed transactions of the various Federal Reserve Banks... the logical consequence... was that the Federal Reserve Board would become a central bank operating in Washington...” Young responded “the Federal Reserve Board had been given most extraordinarily wide powers, that as long as the Board had those powers, they would feel free to exercise them and Congress could determine whether they objected to having a central bank operating in Washington.”³⁸⁷ In December, the FRBNY purchased \$155 million in government securities for the system account.

New York’s stock market crash and the FRBNY’s aggressive easing policy produced beneficial international effects.³⁸⁸ Norman cabled Harrison on October 24 informing him, “Recent liquidation in your stock market and reduction in call money

³⁸⁶ Riefler’s compilation, 374. See discussion in Wicker 1966, 145.

³⁸⁷ Harrison Papers, 11/15/1929. Cited in Friedman and Schwartz 1963, 365; Wood 2005, 198.

³⁸⁸ Clarke 1967, 168; Kindleberger 1973, 128-9; Eichengreen 1992, 249.

rates have been satisfactory and have helped to re-establish international position.”³⁸⁹ As call loan rates collapsed, foreigners repatriated their capital, New York’s foreign bond market revived, and U.S. capital once again began flowing abroad. The US exported gold from December through February. European currencies strengthened and European central banks adopted easier monetary policies. Completion of Young Plan negotiations to restructure German reparations payments triggered renewed optimism about European growth prospects, buoying capital outflows.³⁹⁰ The Young Plan also created a new international organization, the Bank for International Settlements, which was tasked with administering German reparations payments. Domestic opposition prevented the Federal Reserve System from joining this new central bankers’ club, foreclosing the possibility of a near-term institutionalized commitment to international financial cooperation.³⁹¹

Central Bank Fragmentation in the Gold Exchange Standard’s Twilight

As U.S. capital exports surged in the opening months of 1930, the institutional roots of the Federal Reserve’s open market policy activism were being demolished. Adolph Miller took advantage of growing discord within the system to revive an earlier Federal Advisory Council proposal to expand the open market committee to include all twelve reserve bank governors.³⁹² On January 16th, 1930, Miller introduced a proposal to

³⁸⁹ Norman cable to Harrison. 10/24/1929. Cited in Clarke 1967, 159.

³⁹⁰ According to Clarke (1967, 170-1), “... the revival of international lending during the first half of 1930 was remarkable. The total of new issues for foreign account floated in the United States was \$701 million, second only to the record amount issued in January-June 1928.”

³⁹¹ Eichengreen 1992, 259; Toniolo 2005, 45-48.

³⁹² The Federal Advisory Council’s recommendation was made in August 1928, but gained little traction at the time. Earlier in the spring of 1928, Miller had unsuccessfully proposed that open-market operations only be allowed by an affirmative vote of at least five members of the Board, so they would be used “only under the pressure of an exigency so real or so important that prudence would advise against awaiting the

reconstitute the OMIC as the Open Market Policy Conference (OMPC), a committee composed of all twelve governors.³⁹³ The Board passed this resolution by a vote of 6 to 1. Afterward, Gov. Young explained his dissenting vote by stating that he had recently reached an agreement with Treasury Secretary Mellon and the FRBNY's directors that no reorganization of the open market committee would take place at that time. Hamlin proposed overturning the Board's previous decision based on Young's explanation, but the vote to reconsider was lost on a 3-3 tie.³⁹⁴ On January 23rd, the Board sent the reserve banks a letter informing them of the institutional change.

The directors of the FRBNY recognized that the OMPC was an unpromising venue for forming an active open market operations policy. Many formerly-excluded reserve bank governors agreed with Adolph Miller's charge that "whenever the Federal Reserve System operates through the open-market committee, it operates, in effect, as a central bank... You strip your regional banks of their separate control of credit in their several districts when you operate with their resources in the central money market of the country."³⁹⁵ They were highly reluctant to endorse activist open market policies which would sacrifice their own discretion. In January, the FRBNY directors circulated a letter to the other reserve banks informing them that they had considered withdrawing from the conference:

slower action through discount rates." See Chandler 1971, 13. Note that these recommendations preceded Strong's death.

³⁹³ Riefler's compilation, 392. This committee's membership was identical to the governors conference.

³⁹⁴ Federal Reserve Board Minutes. 1/16/1930. Discussed in Chandler 1971, 132.

³⁹⁵ U.S. Congress. Senate. Banking and Currency Committee. 1931. *Operation of the National and Federal Reserve Banking systems*. 71st Cong., 3d sess.

...there is still a real difference of opinion, among those deemed capable of forming a judgment, as to the power of cheap and abundant credit, alone, to bring about improvement in business and in commodity prices... Our directors have believed... that whatever steps the Reserve System may take... to facilitate a more active and stronger bond market through which capital funds may be made available for new enterprise or distributed to those parts of the world where purchasing power is now seriously curtailed, should be taken promptly and courageously...

The letter concluded by stating that the FRBNY's directors chose to remain in the OMPC because they "preferred persuasion and further discussion to independent action."³⁹⁶

At the OMPC's first meeting on January 28th, Harrison began a lonely campaign of pushing for a system wide easing policy.³⁹⁷ The Board attended the meeting and expressed its opposition to any additional credit easing beyond purchases of trade-related bills. Board members left, however, when the governors decided the policy directive. Harrison proposed an ambitious "affirmative ease" program of open market purchases and discount rate reductions.³⁹⁸ Govs. Black (Atlanta) and Seay (Richmond) supported Harrison's proposal. The remaining eight governors urged caution, however. Gov. Norris (Philadelphia) summarized the majority view:

...we feel that it is better that the situations should clear up further, that the extent and duration of this recession should be more ascertainable... rather than to exhaust our ammunition now in what may be perhaps a vain attempt to stem an inevitable recession.

On March 5th, E.A. Goldenweiser delivered a "very pessimistic" report on business conditions to the Board.³⁹⁹ The report swayed Miller, who confessed "the

³⁹⁶ Wicker 1966, 154.

³⁹⁷ OMPC Minutes 1/28/1930. See discussions in Wicker 1966, 146; Chandler 1971, 150.

³⁹⁸ The FRBNY's preliminary report argued that credit had not been eased sufficiently to encourage business investment.

³⁹⁹ Board Minutes 3/5/1930. Hamlin's Diary. Cited in Wicker 1966, 150.

depression was much graver than he anticipated and... we ought to consider whether the System could not be helpful... he would approve a rate reduction to 3.5%.” The rest of the Board, over Miller’s objection, agreed to propose that the FRBNY purchase \$50 million in government securities for its own account, stating “no harm could be done and some good could be accomplished.”⁴⁰⁰ The FRBNY directors approved the purchases unanimously. On March 14th, the Board granted the FRBNY’s request to lower its discount rate to 3.5%.

When the OMPC met on March 24th, the other governors deemed New York’s purchases “unwise” and approved no further bond acquisitions.⁴⁰¹ The OMPC also implemented a new open market policy procedure. Henceforth, open market policy decisions would be made by the OMPC, submitted to the Board, and then sent to the reserve banks for consideration as to whether or not each bank would choose to participate.⁴⁰² Between OMPC meetings, policy implementation authority would be delegated to a five-member Executive Committee.⁴⁰³

In late April, the FRBNY requested a discount rate reduction to 3%. Harrison argued the change was necessary for “reviving” the bond and mortgage markets which “historically and logically appear to be a precedent or a necessary accompaniment of

⁴⁰⁰ Riefler’s compilation, 414-416.

⁴⁰¹ Some scholars have argued this meeting was a critical juncture and that adoption of an expansionary open market policy at this point could have led to recovery. See Kindleberger 1973, 137; Meltzer 2003, 297-298; Shull 2005, 98.

⁴⁰² Riefler’s compilation, 425-430.

⁴⁰³ This Executive Committee would retain the OMIC’s membership for one year but was scheduled to rotate thereafter.

recovery in business and prices after a period of depression.”⁴⁰⁴ The Board unanimously denied the request. A week later, Gov. Young announced he had changed his mind and led a narrow 4-3 coalition approving New York’s request.⁴⁰⁵ Hamlin suggested some Board members removed their opposition because the BOE and Banque de France had lowered their rates to 3% the week before.⁴⁰⁶

On May 14th, Harrison told the Board that a government security buying program could combat the deepening recession.⁴⁰⁷ The OMPC met on May 21st. Harrison’s preliminary report suggested there was no “no material evidence of recovery” as commodity prices had declined “to new low levels [not witnessed] since 1916...”⁴⁰⁸ The next day Harrison reported to the Board that the conference discussed declining commodity prices and trade at length, but ultimately decided against an expansionary open market program. Uncharacteristically, Adolph Miller pointed out that aggregate Federal Reserve credit outstanding was at its lowest level since 1924. He was alarmed by the “contraction of the basis of fundamental credit, whose effects would be felt not only in the United States but throughout the Western World.”⁴⁰⁹ Miller proposed that

⁴⁰⁴ Harrison told the FRBNY directors that production and trade had declined in March, foreign trade had declined in the first quarter, and that gold continued flowing into the US, weakening European exchanges. See discussion in Meltzer 2003, 299.

⁴⁰⁵ Federal Reserve Board Minutes 5/2/1930. Those dissenting were Miller, Cunningham and James.

⁴⁰⁶ Hamlin’s Diary. Cited in Wicker 1966, 151.

⁴⁰⁷ Gov. Young (Board) approved Harrison’s proposal to call an OMPC meeting. Federal Reserve Board Minutes. 5/14/1930. See discussion in Wood 2005, 199.

⁴⁰⁸ The report pointed out that the stock market had rallied dramatically in April, but had tumbled since. It also noted that gold and currency inflows had been used to pay off discount window borrowing, rather than extending new loans. OMPC Minutes 5/21/1930. Riefler’s compilation, 444-450.

⁴⁰⁹ Joint Meeting of the OMPC and Board. 5/22/1930. Riefler’s Compilation, 452-453.

government securities be bought until aggregate system assets (discount loans and securities held) reached \$1 billion dollars. Harrison replied the FRBNY's directors "would look with favor upon an early purchase of Government securities" to strengthen the bond market. Other governors doubted whether the system had responsibility for supporting the bond market, however.⁴¹⁰ No further purchases were approved.

On May 29th, the FRBNY's directors unanimously agreed to request authorization to buy government securities, noting "even a slight addition to the available reserve funds might prove helpful both from the point of view of its direct influence on the bond market and in the psychological benefit." On June 3rd, Harrison informed the Board that a majority of the OMPC's reserve banks supported authorizing the FRBNY to purchase \$50 million in government securities over two weeks.⁴¹¹ The Board approved this authorization by a vote of 4-3.⁴¹²

On June 16th, the FRBNY directors requested permission to lower its discount rate to 2.5%. Harrison explained his directors' views, "They are particularly concerned about the export trade which has such a direct effect upon commodity prices and feel that a revival of our foreign markets depends largely upon the bond market, and that hopes of

⁴¹⁰ Gov. Calkins (San Francisco) explained his opposition to a campaign to strengthen the bond market earlier in a letter to Harrison on 1/7/1930, "It is... futile to apply the word artificial to credit conditions, but it appears to us that the policy pursued has resulted in an artificial condition, and as we are not in sympathy with the view that artificial conditions should be created for the purpose of promoting a bond market, we are still reluctant to go along." Cited in Chandler 1971,137.

⁴¹¹ Approving banks included New York, Boston, Cleveland, Richmond, Atlanta, Minneapolis, and Kansas City. Dallas, Philadelphia, Chicago, and San Francisco disapproved. St. Louis posed no objection. Riefler's compilation, 457-458.

⁴¹² Federal Reserve Board Minutes. 6/3/1930. The dissenting votes were Miller, James, and Cunningham. Intriguingly, Miller proposed alternatively that the Board grant the OMPC a permanent standing authorization to purchase government securities until outstanding Federal Reserve credit reached \$1 billion, but this proposal was roundly defeated.

getting a strong bond market rest upon a continued ease in the short-time money market more than anything else.” The Board approved the rate reduction by a vote of 3-2. Platt noted that he voted yes despite a “good deal of doubt as to [the reduction’s] wisdom” as he felt that its “psychological effects might be unfavorable, giving the impression that conditions are worse than they really are.”⁴¹³

Harrison noted in his preliminary report for the June 23rd OMPC Executive Committee meeting that the bond market had revived in the year’s first half, but argued increased issues were due to pent up demand for capital, not abundant supply.⁴¹⁴ Harrison argued in favor of purchasing securities because, historically, system purchases often led banks to absorb more bond issues. All four other governors opposed further purchases, however.

Gov. Young (Board) then presented to the Executive Committee Gov. Calkins’ (San Francisco) letter explaining why his bank didn’t participate in the recent \$50 million buying program: “With credit cheap and redundant we do not believe that business recovery will be accelerated by making credit cheaper and more redundant... We find no reason to believe that excessively cheap money will promote or create a bond market, seeing evidence in the recent past to the contrary, and, further, do not consider the promotion or creation of a bond market one of the functions of the Federal Reserve System...” Platt then asked if any governors wanted to comment. Harrison said New

⁴¹³ Federal Reserve Board Minutes. 6/18/1930. Miller was not in attendance at this meeting. James and Cunningham voted against.

⁴¹⁴ Harrison noted, “There has been no evidence that domestic corporations are over supplied for capital, but rather there has been an increase in the demand for capital, especially from railroad and public utility corporations, and the bond market has not been strong enough to furnish all the funds which could be used.” OMPC Executive Committee Minutes. 6/23/1930. Riefler’s compilation, 466-467. Also see discussion in Wicker 1966, 152.

York's directors unanimously believed the bond buying program should continue for at least another two weeks because of its beneficial international effects:

...a good part of the difficulty at the present time is lack of purchasing power in various parts of the world which are not in a position to purchase or take up surplus commodities off the markets of the world... everything possible should be done to revive buying power for our surplus products through the export of long time capital to those parts of the world where purchasing power has been curtailed. Purchases of Government securities... would do no harm and might do some good in reviving the bond market...

Gov. Norris (Philadelphia) replied that the other Executive Committee members agreed with Calkins that the system had no responsibility "to develop or foster the bond market." Having lost his appeal before the Executive Committee, Harrison reached out to the other governors. On July 3rd, he circulated a letter explaining the FRBNY directors' support for renewed purchases:⁴¹⁵

The United States and most other countries of the world are in the midst of a severe business depression. The decline in business activity has been great as judged by almost every available index. Unemployment is serious... it must be agreed that there is a surplus of many basic commodities awaiting distribution, commodities which are wanted and needed in many sections of the world which have not the power to purchase them... Anything, therefore, that can be done to stimulate economic activity and thus provide a market for that surplus... whatever steps the Reserve System may take... should be taken promptly and courageously.

The other governors remained unmoved. Gov. McDougal (Chicago) wrote Harrison back, "I am not in agreement with your view that the placing of additional reserve credit in the market under conditions now current 'can do no harm'... I believe that it should be the policy of the Federal Reserve System to maintain a position of strength, in readiness to meet future demands."⁴¹⁶ On August 6th, the OMPC Executive

⁴¹⁵Harrison further argued the coming harvest season would strain financial markets and the system should combat tightening. He ended with a plea for "continued and frank exchange of views among the Federal Reserve Banks and the Board, especially at such a critical time as the present." Riefler's compilation, 480.

⁴¹⁶ McDougal letter to Harrison. 7/10/1930. Cited in Chandler 1971, 135.

Committee agreed to buy an additional \$25 million in government securities to offset gold exports, not as additional stimulus.⁴¹⁷

Harrison's preliminary memo for the September 25th OMPC meeting pointed out that the gold position of many European central banks had improved in 1930, but the improvement was explained by decreased currency in circulation due to the business depression, which was the worst of any witnessed since the 1880s.⁴¹⁸ Despite his clear alarm, Harrison sided with the 9-3 majority calling to keep the open market account stable, rather than making more purchases. Gov. McDougal (Chicago) explained his dissenting vote by stating he preferred open market sales because "banks in the cities are possessed of an enormous amount of surplus funds." Adolph Miller suggested "purchases of Government securities by the Federal reserve banks..." to "force banks and others to seek new investments... [which] might eventually lead to the injection into new enterprise of funds which could not otherwise be employed." After years of opposing open market purchases, Miller now embraced such a policy.⁴¹⁹ Recently appointed Gov.

⁴¹⁷ On September 3rd, the Board considered Harrison's telegram informing them that an OMPC majority had approved by telephone an authorization to purchase up to \$50 million in government securities, "only if necessary as a supplement to bill purchases in offsetting seasonal demands for credit, gold exports, or other influences towards firmer money which might interfere with the continuance of present money conditions." The Board also considered Gov. Calkins' (San Francisco) letter which objected to Harrison's communication procedure. "I do not believe that it is possible to reach a reasoned conclusion without discussion, and it is obviously impossible to have adequate discussion over long distance telephone, discussion that involves twelve or more individuals." The Board authorized the purchases, but agreed with Calkins that future policy decisions should be made at OMPC meetings. The authorization was not used. Riefler's compilation, 488-489

⁴¹⁸ At this meeting, Gov. Norris (Philadelphia) shared a memo prepared by his directors criticizing the system's recent policies for having remained easy for too long: "We believe that the correction must come about through reduced production, reduced inventories, the gradual reduction of consumer credit, the liquidation of security loans, and the accumulation of savings through the exercise of thrift. These are slow and simple remedies... [Easy money policies] have doubtless avoided greater evils that might have occurred, but it is our judgment that they have been carried too far and too long." Riefler's compilation, 494.

⁴¹⁹ OMPC Minutes. 9/25/1930. Riefler's compilation, 513.

Eugene Meyer (Board) objected, stating “psychologically it would make people think we had entered on a campaign of inflation...”⁴²⁰ The Executive Committee was given authority to buy or sell up to \$100 million in government securities to sustain present easy conditions in the principal money markets with the understanding that it likely wouldn’t exercise the authority.

Harrison was criticized within the FRBNY for excessive caution. In September, two of the bank’s leading officers, WR Burgess and Carl Snyder, endorsed a more aggressive bond buying campaign.⁴²¹ Snyder proposed large government security purchases to fight credit deflation. Burgess said if he controlled the system, he would add surplus funds into the banking system to force banks to find ways of putting them to use. Harrison countered that since New York and Chicago member banks were out of debt to the system, additional funds would fuel “forced investments... the dangers of such a policy of ‘inflation’ were great and the advantages doubtful.” He also pointed out that persuading other OMPC members would be difficult.⁴²²

After June, U.S. capital exports slowed to a third of their robust early 1930 pace.⁴²³ That month, Herbert Hoover signed into law the protectionist Smoot-Hawley Tariff over the public opposition of a 1,028 economists. Smoot-Hawley negotiations had dragged on for over a year and a half. 34 countries had officially denounced the

⁴²⁰ Hamlin’s Diary. See discussion in Wicker 1966, 161.

⁴²¹ Wicker 1966, 157; Kindleberger 1973, 136.

⁴²² By November, a majority of FRBNY directors endorsed an open market buying campaign. Harrison argued purchases might stimulate capital outflows to France where “it would be less useful, from a world standpoint, than in this country.”

⁴²³ Clarke 1967, 173.

legislation.⁴²⁴ In late 1930, bank failure rates spiked in the US and France, shaking investor confidence and leading to US currency hoarding.⁴²⁵ Mounting fiscal deficits in the US, Germany, and Britain further eroded confidence.

At the December 20th OMPC Executive Committee meeting, Harrison pointed out that the recent failure of the New York-based Bank of United States, the largest commercial bank failure in US history, had triggered a panic in the New York market. \$150 million dollars had been withdrawn from New York City banks, requiring an offsetting increase in Federal Reserve credit. The FRBNY had purchased \$123 million in government securities in response, \$43 million for its own account. The Executive Committee approved these purchases retroactively, but suggested the full OMPC should meet in January to discuss whether or not to sell the recently-purchased securities.⁴²⁶ On December 24th, the FRBNY received Board approval to reduce its discount rate to 2% to help combat its incipient banking crisis.

The 1931 Global Crisis and Sterling's Collapse

In 1931, the interwar gold exchange standard came tumbling down. In a slow-moving drama, financial instability first emerged in central Europe, moved to Germany, and culminated in a run on sterling which was floated in September. Over the summer, Harrison remained in close contact with his European counterparts and worked to provide

⁴²⁴ Kindleberger 1973, 133.

⁴²⁵ Wicker 1966, 160; Kindleberger 1973, 146. Friedman and Schwartz (1963, 309-310) consider the late 1930 panic a discrete shock which the Federal Reserve failed to adequately respond to. Elmus Wicker (1996, 24-59) argues, contrastingly, that the bank failures in 1930 were localized and did not constitute a nationwide panic. Wicker, Elmus. 1996. *The Banking Panics of the Great Depression*. New York: Cambridge University Press.

⁴²⁶ OMPC Executive Committee Minutes. 12/20/1930. Reifler's compilation, 523-527. See Chandler 1971, 154.

emergency support for the German Reichsbank and the BOE. Harrison also worked to sustain the gold exchange standard by proposing expansionary open market purchases to revive the bond market. These efforts failed, however, as entrenched opposition within the OMPC preempted expansionary policies. After sterling's September float, a global run on the dollar commenced as the US fell into a prolonged banking and financial crisis which developed into a currency crisis.

On January 21st, 1931, Harrison told his OMPC colleagues that the U.S.'s balance-of-payments surplus was draining reserves from Europe:⁴²⁷

...the world owes the United States on balance about \$600,000,000 each year, and that payment has to be made in gold, in imports from foreign countries to us, or by borrowing from us. These countries were unable to send us much more gold, their exports to us were now limited and new financing curtailed. Their only alternative was to diminish their purchases of goods from us, which was now being done to our detriment... the people he met abroad appeared to believe that recovery from the present business depression depends largely on America, partly for psychological reasons and partly because of the importance of exports to us and borrowing from us...

It was agreed at this meeting that the depression was deepening and the US market for new foreign bond issues was virtually non-existent. WR Burgess, now the FRBNY's Deputy Governor, proposed a \$1 billion dollar government security buying campaign to revive the bond market, but was ignored.⁴²⁸ Gov. McDougal (Chicago) argued that the system's easy money policy had failed to help and was doing more harm than good. He supported Gov. Calkins' (San Francisco) proposal to sell \$100-\$200 million of securities on the open market. Harrison voted with the majority that "in these circumstances it would be desirable to dispose of some of the System holdings of government securities as

⁴²⁷ OMPC Minutes. 1/21/1931. Reifler's compilation, 538-544.

⁴²⁸ Wicker 1966, 160.

and when opportunity affords itself to do this without disturbance or any tightening of the money position.” At the OMPC-Board meeting the next day, Gov. Meyer (Board) voiced his opposition to security sales, suggesting the public would interpret sales as a tightening policy which was inappropriate in light of the recent banking panic. No securities were sold beyond those purchased in December.

In March, Harrison told the FRBNY directors he saw no compelling reasons for further open market purchases. FRBNY officer Carl Snyder disagreed. He told EA Goldenweiser “[the] continued purchase of securities was absolutely necessary and that the only reason for not buying them was the Board’s apparent desire to see a large army of unemployed.”⁴²⁹ Whether Harrison actually believed purchases were unnecessary or merely politically infeasible is hard to judge.

The OMPC met in Washington on April 29th. Harrison’s preliminary memo emphasized continued weakness in the US and abroad. He noted that although system’s account was large by historical standards, purchases were “not pursued with the idea that... any vigorous stimulant might be given to business or finance.” Instead, they merely offset the contractionary effects of the stock market bust. Harrison argued mounting international political disturbances and high US tariff barriers were scaring Americans away from purchasing foreign bonds, leaving Europeans starved for capital.⁴³⁰ He regretfully noted that since 1930, France and the US shared the “distinction of acting as a magnet to draw gold from countries which sorely needed it to money markets where it was already excessive.” He concluded, “...it is clear that the seriousness of the present

⁴²⁹ Quoted in Wicker 1966, 161.

⁴³⁰ OMPC Meeting Minutes. 4/27/1931. Riefler’s Compilation, 554-654.

world situation and the central position of the United States in the whole world picture makes it desirable to tax our ingenuity that the Federal Reserve System may put forth every possible effort within its power towards maintaining a measure of credit stability throughout the world and towards eventual business recovery." Harrison asked for authority to purchase up to \$100 million in government securities, with the understanding that these purchases would only be made if the system was unable to buy trade-related bills. Gov. Norris (Philadelphia) finally softened his opposition, saying he "saw no probability of any bad results from the policy." Norris even suggested he was willing to lower Philadelphia's discount rate, but feared that the system might be too slow to tighten policy in the future if speculative forces took hold. Fancher (Cleveland) stated "the economic situation throughout the world has seriously changed in the past year and is perhaps more serious than ever; the gold flow is most important; and... the System can lend its efforts to make money so cheap as to put it to work..." Even McDougal (Chicago) admitted gold was "the big question before us." Although he "does not see how cheaper rates will stimulate business, nevertheless it may serve to move gold elsewhere." Martin (St. Louis) noted there was "no historical precedent for the present situation" but "was in favor of trying the experiment." The OMPC and Board endorsed Harrison's program. The Board also approved the FRBNY's request to reduce its discount rate to 1.5%.⁴³¹

On May 8th, Harvard Economist OMW Sprague wrote Harrison regarding New York's rate reduction, "It is an historic event – the lowest rate that has been established

⁴³¹ The Board also approved reductions at the Chicago, Cleveland, St. Louis, and Dallas reserve banks.

by a central bank in any country. It signifies, I suppose, that we are experiencing the worst depression that has ever been recorded.”⁴³² A day earlier, the German Ambassador had arrived in Washington, D.C., warning of a “disastrously developing financial situation” in Germany.⁴³³ Later that month, the failure of Austria’s largest bank increased speculative pressure on Germany.⁴³⁴ On June 5th, Germany’s Brüning-led government issued a decree announcing civil servant salaries and unemployment assistance would be reduced and a crisis tax would be implemented. Five days later, the Communist, Socialist, and Center parties demanded the Reichstag convene to rescind Brüning’s authorization to govern by decree. Gold poured out of Germany. On June 13th, the Reichsbank raised its discount rate from 5 to 7%, slowing the outflow. Between June 1st and June 17th, the Reichsbank lost over 1,400 million RM of gold, half of its reserves.

On June 20th, U.S. President Herbert Hoover announced a one-year moratorium on all intergovernmental payments, including reparations and war debts. The German and British governments immediately accepted the moratorium. Financial markets calmed. In France, however, the moratorium was received as a “bombshell.”⁴³⁵ Treasury Secretary Mellon traveled to Paris to negotiate French acceptance. On June 25th, an agreement was reached for a \$100 million dollar joint credit to be extended to Germany from the BOE, the Bank for International Settlements, the Banque de France, and the FRBNY. By July 5th, this credit was exhausted. Norman cabled Harrison, “The position in Germany has

⁴³² OMW Sprague letter to Harrison 5/8/1931. Cited in Chandler 1971, 156.

⁴³³ Kindleberger 1973, 152.

⁴³⁴ The bank was called the Credit Anstalt. See Chandler 1971, 164; Kindleberger 1973, 148.

⁴³⁵ Kindleberger 1973, 156-157.

worsened because, while folks have been talking and arguing in Paris, the Reichsbank has been bleeding to death.”⁴³⁶

France finally accepted the moratorium on July 6th, but it was too late to save Germany. Reichsbank President Hans Luther sought a \$1 billion international loan to quell Germany’s banking crisis and restore confidence, but “in such unpropitious circumstances that it was brushed aside as completely impractical.”⁴³⁷ French authorities demanded heavy political concessions in exchange for support and President Hoover claimed Congress would never authorize a large loan when the US was running a \$1.6 billion dollar deficit.⁴³⁸ That month Germany imposed draconian capital controls, effectively abandoning the gold standard.

Harrison noted in his preliminary report for the June 22nd OMPC Executive Committee meeting that gold inflows from Germany and Argentina were coming “at considerable cost to those countries” and were been effectively sterilized by increased US currency hoarding.⁴³⁹ Harrison argued “the events of the past two weeks were in some ways the most critical which the world has passed through since the war, that there had been a threat of a general moratorium and a possible breakdown of capitalism in Europe... it seem[s] desirable to take every possible measure available to the Federal Reserve System for improving the situation. He could see no risk in buying governments

⁴³⁶ Norman Cable to Harrison 7/4/1931. Cited in Chandler 1971, 165.

⁴³⁷ Clarke 1967, 44.

⁴³⁸ Among other demands, France wanted Germany to renounce a customs union with Austria. Kindleberger 156-157.

⁴³⁹ OMPC Executive Committee Minutes. 6/21/1931. Riefler’s compilation, 576.

at this time, but considerable advantage...” Harrison demanded an urgent response to reinforce the psychological effect of Hoover’s moratorium announcement two days prior. Gov. Black (Atlanta) agreed, “The President... had taken a constructive step which should be backed up to the limit...”⁴⁴⁰ The committee approved \$50 million in government security purchases. Gov. Meyer (Board) argued more purchases might be needed.⁴⁴¹

In July, speculation shifted to England. In the first half of 1931, the BOE gained \$125 million in gold. Its position quickly reversed after mid-July, however. The MacMillan report was released on the 13th, revealing that foreign sterling balances, short-term liabilities for the BOE, were much larger than anticipated.⁴⁴² On July 26th, the May Committee’s report was released, predicting Britain’s budget deficit in the coming fiscal year would exceed £120 million sterling. In the second half of July, the BOE lost \$200 million in gold. It raised its bank rate in two steps from 2.5% to 4.5%. On July 29th, Norman collapsed from illness and exhaustion. His diary entry from two days earlier ominously stated “danger of suspension of gold payments.”

On August 1st, a £100 million sterling loan was announced from the FRBNY and the Banque de France. British elites quickly agreed, however, that a much larger foreign loan would be necessary to sustain gold convertibility. They considered such loans

⁴⁴⁰ Black was committed to using expansionary policies to combat the crisis. Richardson and Troost (2009) argue Black’s proactive approach prevented bank failures in his district following the 1929 crash. See Gary Richardson and William Troost, "Monetary Intervention Mitigated Banking Panics during the Great Depression: Quasi-Experimental Evidence from a Federal Reserve District Border, 1929–1933." *Journal of Political Economy* 117.6 (2009): 1031-1073.

⁴⁴¹ Gov. Young (Boston) voted against this authorization. Gov. Norris (Philadelphia) abstained from voting.

⁴⁴² Kindleberger 1973, 159.

unobtainable, however, prior to announcement of a balanced budget package. The May Committee report had recommended closing the deficit with steep cuts to unemployment benefits. A “classic political struggle” broke out within the divided Labour government among factions calling for slashed social expenditures, tariff hikes, and taxing the rich.⁴⁴³

On August 11th, the OMPC and Board met for a final time prior to sterling’s collapse.⁴⁴⁴ Harrison pointed out that the reserve banks still had \$750 million in free gold among them which could be deployed to buy securities. Harrison proposed a major government bond buying program. Gov. Meyer (Board) said the Board was prepared to approve purchases of up to \$200 to \$300 million in government securities. Gov. Fancher (Cleveland) proposed a smaller program of \$120 million in purchases. The OMPC approved this smaller package with only Harrison and Young (Boston) dissenting. Young was opposed to government bond purchases, believing they benefited money center banks disproportionately. Harrison argued only a “bold stroke” might succeed. Miller agreed, “...skeptical as he might be toward Open Market Policy as an instrument of the Federal Reserve System... if there ever had been a justification for its bold, experimental use, even though it might only serve to demonstrate the limits of... such a policy, that situation exists at present time.” The smaller \$120 million package was implemented.

On August 24th, Labour Prime Minister MacDonald resigned and formed a new national government with the sole mission of saving the pound.⁴⁴⁵ On September 10th, the government announced an austerity budget with £80 million pounds in new taxes and £70

⁴⁴³ Kindleberger 1973, 159-160.

⁴⁴⁴ Federal Reserve Board Minutes. 8/11/1931. Cited in Wicker 1966, 162; Chandler 1971, 145.

⁴⁴⁵ Chandler 1971, 166; Kindleberger 1973, 160-162.

million pounds in budget “economies.” It then secured a \$4 billion dollar private loan from creditors in New York and Paris. These loans slowed the BOE’s reserve drain, but by mid-September the run on sterling resumed. On Saturday, September 19th, British authorities announced sterling’s gold convertibility suspension effective on Monday. Since July, \$1 billion dollars’ worth of funds had been withdrawn from London. The BOE’s gold reserve was down to £180 million pounds. Within four days of being floated, the pound had dropped 25% on foreign exchange markets.

On September 22nd, a run on US gold reserves commenced as investors became convinced that a dollar convertibility suspension was inevitable. On that day, the US lost \$116 million dollars’ worth of gold, the largest daily loss ever sustained by the US.⁴⁴⁶ Initially, the FRBNY’s directors wanted to sustain that bank’s low discount rate policy to protect the bond market and avoid reinforcing investors’ perceptions that the US’s gold position was vulnerable.⁴⁴⁷ WR Burgess, who was attending a conference in Europe, cabled the FRBNY cautioning against a rate increase, pointing out that gold withdrawals had not effected the system’s free gold position. Gov. Meyer (Board) intervened and informed the FRBNY he expected a discount rate increase. On October 1st, the FRBNY’s discount rate was increased to 2%. Two weeks later, the FRBNY raised its rate to 3.5% when Meyer told its directors “that an advance in the rate was called for by every known rule... foreigners would regard it as a lack of courage if the rate were not advanced.”

⁴⁴⁶ Chandler 1971, 167.

⁴⁴⁷ Wicker 1966, 163-166; Chandler 1971, 177.

The Federal Reserve's tightening magnified the restrictive effect of gold exports and currency hoarding. 827 American banks failed in September and October. Currency in circulation rose by \$393 billion and the gold stock declined by \$727 million, reducing bank reserves by \$1,120 million. In November, gold exports slowed, but a new wave of bank failures across the Mid-Atlantic region created a "credit blockade" as banks scrambled to increase their liquidity.⁴⁴⁸ Over the last four months of 1931, the US monetary gold stock declined by 11%. Commercial bank suspensions increased 86% from the second half of 1930 and defaults on foreign dollar-denominated bonds increased seventeenfold.⁴⁴⁹ In the six months following sterling's suspension, the US "witnessed the most rapid contraction of bank credit and the money supply ever experienced in America."⁴⁵⁰ When Franklin Roosevelt became president in March, 1933, dollar suspension was inevitable as the FRBNY lacked gold to export.⁴⁵¹ Its gold reserve ratio had been reduced to 24%, 16% below its mandated legal minimum.⁴⁵²

Conclusion: Ideas, Interests, and Institutions

The Republican Party has just introduced the long-expected tariff bill... [which] proceeds upon the essentially unsound and vicious doctrine, that a nation can grow rich out of its export trade... This is an age and era of people of inconsistency. We say to the nations of Europe – pay us the eleven billions that you owe us – and then we make it impossible for them to pay it by the prohibitive tariff... this tariff bill... will come back some day and work the

⁴⁴⁸ Wicker 1966, 169.

⁴⁴⁹ Clarke 1967, 219.

⁴⁵⁰ Chandler 1971, 175.

⁴⁵¹ Barry Eichengreen, *Hall of Mirrors: The Great Depression, The Great Recession, and the Uses-and Misuses-of History*. Oxford University Press, 2014: 233.

⁴⁵² Meltzer 2003, 386.

destruction of the political party that adopts it... It strikes me as being economically unsound, politically unwise, and likely to be suicidal in its effect.

Benjamin Strong, letter to Will H. Hays, July 1, 1921.

The interwar gold exchange standard, like all fixed exchange rate regimes, was a house of cards. This particular monetary order, however, was built on the shakiest of foundations. Strong, Norman, Keynes and other contemporaries catalogued the myriad barriers preventing restoration of a prosperous liberal international order: simmering great power hostilities; the reparations-war debt payments connection; U.S. protectionism and official aloofness; the strong dollar and America's mountain of gold; misaligned European exchange rates; and social opposition to economic adjustment processes. Clarke concludes central bank cooperation's decline after 1928 "was only part of the larger failure of the Western democracies to deal successfully with the economic and political problems of their time."⁴⁵³

The fact that the interwar gold exchange standard came into existence at all was a miracle. The U.S. emerged from WWI economically-dominant, but its fragmented institutions systematically dispersed power, giving geographically-dispersed "isolationists" the upper hand in crafting state policies. As Benjamin Strong pointed out in 1921, protectionism was incompatible with the goal of collecting war debts, since shielding U.S. markets from imports left Europeans no means of earning foreign exchange. Strong predicted mercantilist foreign economic policies would prove "suicidal" for the Republican Party. Eventually they did. In hindsight, it is remarkable that U.S. policies didn't cause an international crisis earlier. Throughout the period, U.S.

⁴⁵³ Clarke 1967, 221.

fiscal and trade surpluses and enforced war debt collections placed a deflationary drag on the international economy.⁴⁵⁴ Europeans were right to criticize the Federal Reserve's gold sterilization policies as it effectively removed U.S. gold imports from the monetary gold stock. When France copied this policy in 1928, the global economy was trapped in a deflationary vice.

Monetarist scholars are wrong in concluding that gold sterilization proves that Federal Reserve policymakers focused narrowly on domestic macroeconomic stabilization objectives, however. As was demonstrated above, many of the system's central bankers, especially those from New York, believed the fates of the national and international economies were intertwined. In 1924 and 1927, majorities on the open market committee and the Board endorsed system wide easing policies to support gold restoration abroad and increase European purchasing power. These stopgap measures were highly successful in staving off an international crisis.

I have argued that the 1927 program opened a rift within the system which paralyzed Federal Reserve policymaking and ultimately led to increased institutional fragmentation. With the exception of the FRBNY's unilateral response to the 1929 stock market crash, the system stopped stabilizing the international economy after the summer of 1927. A cursory review of 1930-1931 open market policy debates reveals that the governors who formerly controlled the OMIC rarely supported Harrison's expansionary proposals. This evidence seemingly casts doubt on the interest-based portion of my

⁴⁵⁴ Between mid-1926 and mid-1931, the US received \$1 billion on its war debt account. Eichengreen 1992, 224.

theoretical explanation. In the context of a collapsing global economy, however, central bankers' preferences over the currency stability–domestic policy autonomy trade-off can shift.⁴⁵⁵ In an increasingly autarchic world, foreign currency stabilization becomes less worthwhile even for those agents representing internationally-oriented interests. Below I will briefly review competing ideational and interest-based explanations of the Federal Reserve's policy behavior from 1930-31 before defending my institutional explanation.

There are three main ideational explanations of the system's policy behavior during the onset of the depression. The first focuses on leadership. It argues Harrison was less persuasive in convincing his colleagues of the virtue of expansionary policies and less effective at preventing institutional changes than Strong would have been.⁴⁵⁶ The second explanation, the so-called "Riefler-Burgess doctrine" view, focuses on the system's flawed policy indicators, namely money center member bank indebtedness and nominal interest rate levels, as supporting insufficiently expansionary policies.⁴⁵⁷ Both Strong and Harrison argued publicly that open market purchases provided effective stimulus up to the point where member banks in New York and Chicago paid off their discount window borrowings. In this view, the system's open market strategy remained consistent from 1924 through 1933. The third view focuses on Federal Reserve policymakers' flawed belief that open market policy was an ineffective means of

⁴⁵⁵ Frieden 1991; 1996.

⁴⁵⁶ Friedman and Schwartz 1963; Brunner and Meltzer 1968.

⁴⁵⁷ Wicker 1966; Brunner and Meltzer 1968; Wheelock 1991; Eichengreen 1992, 251-3; Meltzer 2003, 398; Wood 2005.

stimulating the economy.⁴⁵⁸ In this view, if more system officials understood monetary policy could provide effective stimulus, a more expansionary policy would have been implemented.

An alternative view in the literature focuses on diverging interests within the system to explain why expansionary open market programs weren't sustained. One version of this argument maintains that the Boston and Chicago reserve banks opposed expansionary open market purchasing programs to defend their member banks' interests.⁴⁵⁹ In a world devoid of promising investment opportunities, government securities were an important source of income for commercial banks. Securities purchased by the Federal Reserve were unavailable to commercial banks, limiting their earning potential. According to this logic, the Boston and Chicago reserve bank governors opposed expansionary open market policies to protect their member banks' portfolios. A second interest-based explanation focuses on how individual reserve banks' endowments influenced their systemic policy preferences. Through 1935, reserve bank participation in systemic open market purchases remained voluntary. Beginning in 1931, the so-called free gold problem emerged.⁴⁶⁰ Each reserve bank was mandated to keep a mixture of gold and trade-related securities on hand as collateral for currency issues, with a maximum ratio of 60% trade-related instruments and 40% gold reserves. As global

⁴⁵⁸ Wicker 1966; Eichengreen 1992; Meltzer 2003, 281; Romer, Christina D. and David H. Romer. 2013. "The Most Dangerous Idea in Federal Reserve History: Monetary Policy Doesn't Matter." *The American Economic Review* 103 (3): 55-60.

⁴⁵⁹ Epstein, Gerald and Thomas Ferguson. 1984. "Monetary Policy, Loan Liquidation, and Industrial Conflict: the Federal Reserve and the Open Market Operations of 1932." *The Journal of Economic History* 44 (4): 957-983.

⁴⁶⁰ Chandler 1971, 129, 186-7; Eichengreen 1992, 297-8; Meltzer 2003, 275, 406-7.

trade collapsed, trade-related bills grew scarce and reserve banks had trouble attaining them. As their stocks of bills decreased, reserve banks had to increase their stock of gold on hand proportionally. Passage of the 1932 Glass-Steagall Act, which allowed reserve banks to hold government securities as collateral for currency, eased this constraint. A third way interests might have influenced policy has to do with exogenous changes in the openness of the international economy.⁴⁶¹ When the international economy moves toward closure, agents which formerly believed they had a vested interest in currency stability abroad might now reorder their preferences and prioritize domestic monetary policy autonomy. For the former OMIC governors who watched the U.S. inexorably drift toward greater protectionism after Herbert Hoover promised in the 1928 presidential campaign to increase agricultural tariffs, which culminated after a year and a half of logrolling into the infamous Smoot-Hawley tariff, they might have come to believe Federal Reserve was growing impotent in its attempts to sustain international purchasing power. In such an environment, they might have preferred to defend their own institutional autonomy, by relying on discount rate policy, rather than wasting systemic resources on a lost cause. It is easy to believe that no amount of credit stimulus would have convinced American investors to loan large sums abroad in the context a collapsing global economy.

The ideational and interest-based hypotheses outlined above provide significant leverage in explaining the Federal Reserve's timid response to the deepening global crisis. Absent a theory of how these factors worked to shape policy outcomes through

⁴⁶¹ Frieden 1991; 1996.

concrete institutional processes, however, they remain underdeveloped. Lester Chandler provides the clearest theory linking Federal Reserve institutions, central bankers' preferences, and observed policy outcomes. He highlights the unsettled nature of the Federal Reserve Act as fueling the system's power struggle. "Even the closest reading of the legislative history of the Act and of the Act itself as it existed in the late 1920s cannot yield a precise answer [regarding the system's locus of authority]. A considerable decentralization of power was clearly intended. Congress had, after all, rejected proposals for a single central bank and had provided for a system of 8 to 12 regional Reserve banks."⁴⁶² The Federal Reserve Act was an invitation to struggle. Early debates about policy and normative governance often blurred. Agents fought not only over policy outcomes, but also over their right to shape policy in the first place. Strong and other would-be central bankers recognized at the system's origin that its decentralized structure posed barriers to the formation of coherent policies. The creation of the compact OMIC in 1923 reduced the system's fragmentation by delegating policymaking authority to the governors of the system's best endowed reserve banks. Lacking a legal foundation for its delegated authority, however, and existing in an American political culture which delegitimated hierarchies, this extra-legal institution remained vulnerable to normative attack and redefinition. At a time when many officials still believed the Federal Reserve Act's purpose was to disperse financial authority, the OMIC's eventual displacement was inevitable. Many governors took Adolph Miller's argument that open market operations

⁴⁶² Chandler 1971, 5. See also, West 1977, 205-226; Meltzer 2003, 245.

eroded reserve bank autonomy seriously. If there was one thing system officials could agree to at the time, it was that the system was *not* intended to be a central bank.

Friedman and Schwartz argue that governors on the OMPC were less inclined to follow New York's leadership because they came 'instructed by their directors' and wielded petty jealousies toward New York's power.⁴⁶³ In reality, however, officials throughout the system held diverging and inconsistent ideas regarding the efficacy of monetary policy and represented markedly different constellations of interests. Since many officials outside of the FRBNY believed open market operations undermined their regional autonomy and held less coherent theories of monetary policy than their New York counterparts, the expansion of the open market committee inevitably led to greater caution in wielding that policy instrument. Even when individuals changed their minds, such as Adolph Miller's late conversion to believing in the power of open market operations, preference shifts proved insignificant for policy outcomes. Fragmented and inconsistent policy preferences were a persistent brake on system expansion.⁴⁶⁴

Institutional fragmentation, therefore, contributed to monetary policy timidity after 1927. In 1929, FRBNY officials requested discount rate hikes to curb stock market speculation eleven times and were shot down each time by the Board. After the 1929 crash, FRBNY officials sought rapid discount rate reductions and expansionary open market operations policies to revive the bond market and promote US capital exports.

⁴⁶³ Friedman and Schwartz 1963, 414.

⁴⁶⁴ According to Chandler (1971, 8), "...the indecisiveness, vacillations, and delay in open-market policy did not result solely from controversies over the location of control powers; they reflected also wide differences of opinion both within the Federal Reserve Board and among the Federal Reserve banks concerning the appropriate role of open-market operations in government securities."

Although the FRBNY eventually lowered its discount rate to historically low levels, many reductions were initially vetoed by the Board. Had the FRBNY not been continually forced to solicit Board approval, it would have lowered its discount rate more rapidly. The same is true to an even greater extent for open market operations policy. The FRBNY reacted to the stock market crash with bold, unilateral, open market purchases. Harrison broke his own bank's rules, consulting with only a few FRBNY directors before ordering purchases, in order to stave off crisis. Though his bank supported Harrison's extraordinary maneuver, he was sanctioned by Board which now demanded the right to veto reserve banks' individual portfolio decisions. They further censured him by voting to replace the centralized OMIC with the fragmented OMPC. Under the new regime, New York's open market proposals were subject to a protracted institutional process governed by a sea of potential veto players. Harrison first pitched his expansionary programs to the full OMPC, where they invariably met stiff resistance. When he did gain the OMPC's endorsement, the Board asserted its right to veto OMPC decisions. If Harrison cleared both of these institutional hurdles, policy implementation authority was delegated to the OMPC's Executive Committee. There he often encountered resistance to rapidly acting on the committee's delegated purchasing authority. Finally, even after open market purchases had been made, other reserve banks could choose not to participate in the purchasing programs. When certain reserve banks chose not to contribute, others became reluctant to participate because they feared having to buy more than their normally-allotted share. Over time, the FRBNY was left with growing residuals from OMPC purchasing campaigns. New York's gold reserve ratio steadily deteriorated

while reserve banks which boycotted system purchases, such as Chicago, maintained large stocks of surplus gold.

It is clear that if the FRBNY controlled the Fed, the system would have enacted expansionary policies more courageously during the opening years of the Great Depression. Even those who argue the system's open market strategy remained consistent following Strong's death agree "monetary policy would undoubtedly have been more responsive had New York retained its leadership position."⁴⁶⁵ WR Burgess abandoned the Riefler-Burgess framework in 1930 and pushed for bold expansionary open market purchases despite low money center discount window indebtedness.⁴⁶⁶ Even Adolph Miller embraced the "experimental" use of expansionary open market operations by the fall of 1930. If he had controlled the Fed at that moment, a more expansionary policy would have been implemented.

Instead, no one was in charge. Or perhaps more accurately, everyone was. In the context of a collapsing global economy and rampant institutional fragmentation, building and sustaining an expansionary coalition was impossible. Even if all system officials agreed that monetary policy could help revive the economy, they inevitably would have disagreed about the desirable degree of Federal Reserve stimulus. Reserve bank governors' perceptions of the state of the economy were shaped by conditions prevailing in their districts. Even minor policy disagreements mapped onto protracted institutional processes would have limited policy adjustments. In New York and Atlanta alone did

⁴⁶⁵ Wheelock 1991, 68.

⁴⁶⁶ Meltzer 2003, 408-9.

Federal Reserve officials maintain a cosmopolitan outlook throughout the onset of the depression, equating U.S. economic prospects with conditions prevailing abroad.⁴⁶⁷ If the Aldrich Plan supporters had gotten the central bank they demanded two decades earlier, such a centralized institution would have likely responded more aggressively to the Great Depression's deflationary spiral.⁴⁶⁸

⁴⁶⁷ Eugene Black, Governor of the Federal Reserve Bank of Atlanta, was the only other steadfast supporter of expansionary open market policies on the OMPC. Black's support is often explained as deriving from his belief in the "power" of monetary policy, but his district's regional economic interests, centered on cotton exports to England, might have also shaped Black's preferences.

⁴⁶⁸ Bordo, Michael D. 2012. "Could the United States Have Had a Better Central Bank? An Historical Counterfactual Speculation." *Journal of Macroeconomics* 34 (3): 597-607.

CHAPTER V

CENTRAL BANKERS AND THE FIGHT TO SAVE BRETTON WOODS

This chapter analyzes the Federal Reserve's failed attempt to stabilize the Bretton Woods fixed exchange rate regime in the 1960s. When Bretton Woods was negotiated in 1944, wartime state-building pressures had left the Fed a centralized Treasury adjunct. When the fixed exchange rate system came under severe pressure during the 1960s, however, the Federal Reserve was unable to respond decisively to the crisis due to the extreme decentralization of its decision-making structure. An historical irony is that the Federal Reserve central banker who had the strongest desire to preserve the fixed exchange rate system, Chairman William McChesney Martin, Jr., had earlier led the charge to dismantle the system's war-inspired hierarchies after the system regained operational independence in 1951. In the early 1960s, Federal Reserve agents collaborated with European central bankers and the U.S. Treasury to "patch up" Bretton Woods by building new international financial architecture.⁴⁶⁹ Chairman William McChesney Martin, Jr., and FRBNY President Alfred Hayes led the international diplomatic charge while simultaneously pushing for tighter monetary policies inside the Fed to address the dollar's underlying external weakness. They were frustrated in their attempts to tighten policy, however, by a fragmented policymaking process which took

⁴⁶⁹ James 1996, 160-163; Toniolo 2005, Chapter Eleven; Andrews, David M. 2008. "Kennedy's Gold Pledge and the Return of Central Bank Collaboration: the Origins of the Kennedy System, 1959 – 1962." In *Orderly Change: International Monetary Relations since Bretton Woods*, ed. David Andrews. Ithaca: Cornell University Press, 100-119.

into account the preferences of 19 Federal Reserve officials when determining policies. Timely policy adjustments would have reassured market participants, improved the credibility of the gold-dollar link, and thereby prolonged Bretton Woods.

How Federal Reserve Institutions Hastened Bretton Woods' Collapse

The Federal Reserve System is often ignored in international political economy (IPE) analyses of Bretton Woods' collapse. Many scholars focus on expansionary US fiscal policies as driving progressive dollar overvaluation and thereby destabilizing the fixed exchange rate regime.⁴⁷⁰ Others emphasize international factors in explaining Bretton Woods' breakdown. Robert Triffin famously predicted Bretton Woods' collapse in 1960 due to the incongruity between rapidly growing international trade and a slowly growing global monetary gold stock.⁴⁷¹ In this view, the U.S. needed to run balance-of-payments deficits to provide global liquidity, but paradoxically cumulative deficits would undermine confidence in the dollar's gold link. Another international perspective suggests the currency regime depended on "consensual American hegemony."⁴⁷² In this

⁴⁷⁰ These explanations emphasize exploding deficits, driven by a failure to choose among guns, butter, and higher taxes, as culminating in Richard Nixon's 1971 decision to close the Treasury's gold window. See Odell, John S. 1982. *US International Monetary Policy: Markets, Power, and Ideas as Sources of Change*. Princeton: Princeton University Press; Gowa, Joanne. 1983. *Closing the Gold Window: Domestic Politics and the End of Bretton Woods*. Ithaca: Cornell University Press; Eichengreen, Barry. 2000. *From Benign Neglect to Malignant Preoccupation: US Balance-of-Payments Policy in the 1960s*. No. w7630. National Bureau of Economic Research.

⁴⁷¹ Triffin argued that because the U.S. dollar was used to settle international transactions, the U.S. would be forced to run balance-of-payments deficits to provide international liquidity. If it failed to do so, Triffin predicted a global liquidity crunch would occur on the scale of the Great Depression. Paradoxically, however, sustained balance-of-payment deficits also undermined confidence in the gold-dollar commitment. Triffin predicted this dilemma would ultimately lead to a global run on the dollar. Triffin, Robert. 1960. *Gold and the Dollar Crisis: the Future of Convertibility*. New Haven: Yale University Press.

⁴⁷² Maier, Charles S. 1977. "The Politics of Productivity: Foundations of American International Economic Policy after World War II." *International Organization*. 31 (4): 607-633.

view, the U.S.'s trading partners tolerated its external deficits in exchange for the U.S. providing an international vehicle currency and foreign investment.⁴⁷³

The Federal Reserve's absence from these analyses is puzzling because the Fed's central bankers played a leading international role in "patching up" Bretton Woods.⁴⁷⁴ Harold James describes the 1960s as Bretton Woods' "heyday" because central bank cooperation reemerged on a scale unseen since the 1920s.⁴⁷⁵ FRBNY agents attended monthly meetings at the Bank for International Settlements (BIS) in Basel, Switzerland, and collaborated to construct new stability-enhancing institutions. Although central bankers were aware of Triffin's dilemma, they "consciously believed that the breakdown of the system could be postponed indefinitely, or that the system could be made to survive until a better substitute could be worked out, as long as the holders of dollars exercised restraint in converting them into gold."⁴⁷⁶ Central bankers were skeptical of schemes to replace Bretton Woods, such as Triffin's proposal to create a new international reserve currency issued by a supranational central bank.⁴⁷⁷ Instead, they

⁴⁷³ Gavin (2004) argues that Bretton Woods' collapse is inseparable from growing tensions within the North Atlantic Treaty Organization alliance. See Gavin, Francis J. 2004. *Gold, Dollars, and Power: the Politics of International Monetary Relations, 1958-1971*. Chapel Hill: University of North Carolina Press.

⁴⁷⁴ Toniolo 2005, Chapter Eleven.

⁴⁷⁵ James 1996, Chapter Six.

⁴⁷⁶ Toniolo 2005, 353.

⁴⁷⁷ Per Jacobssen, the managing director of the International Monetary Fund, wrote in his diary, "There is in the world a madness at the present, the Triffin plan, the Stamp Plan - and don't know what. If there were a referendum, I suppose that 75% of the U.S. economists would favour some such plan - and perhaps something similar in England. And in France Raymond Aron told me that, if he were not a Keynesian, he would be a socialist - and there are many like him. God knows what students are taught." Quoted in Toniolo 2005, 401.

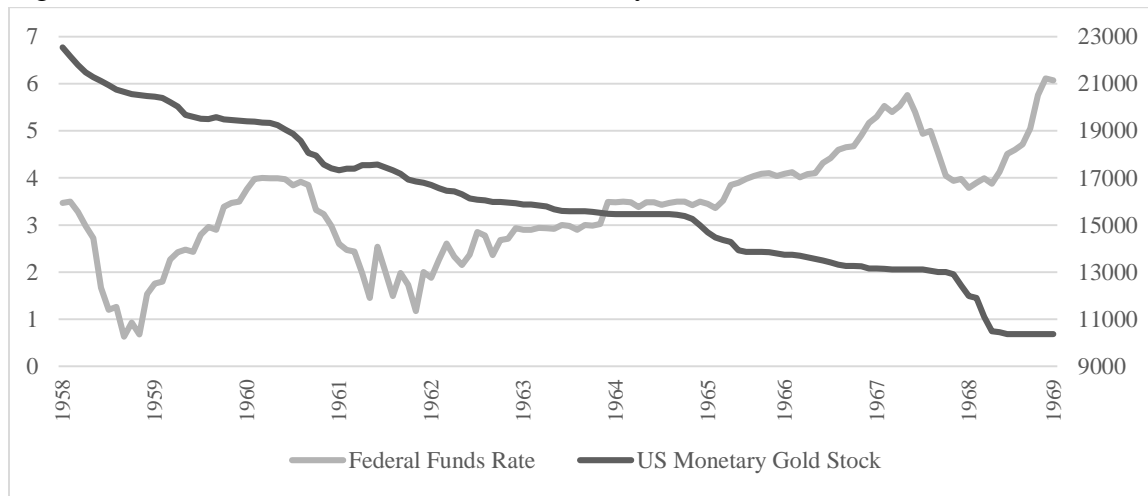
believed Bretton Woods could be sustained indefinitely through central bank cooperation and macroeconomic restraint in persistent deficit countries.

Despite certain Federal Reserve agents' persistent calls for tighter policies to defend the dollar, U.S. monetary policy changed slowly in the sixties. This chapter argues delayed U.S. monetary policy restraint contributed to Bretton Woods' collapse. There is a burgeoning literature on the Fed's complicity in the so-called Great Inflation of 1965-1979.⁴⁷⁸ In this literature, the Fed's overly expansionary monetary policies are commonly attributed to flawed Keynesian models and indicators.⁴⁷⁹ To the extent that Federal Reserve policies fueled escalating U.S. inflation rates, however, they also promoted exchange rate misalignment (see Figure 10). I argue that the interaction of institutional fragmentation and ideological polarization, not the flawed content of ideas alone, was the root of the system's underwhelming attempt to tackle inflation and defend the dollar. The U.S. was already well on its way to abandoning the gold-dollar link by the time Keynesian economists gained control of the Federal Reserve Board in the mid-1960s.

⁴⁷⁸ One important exception is Barry Eichengreen and Michael Bordo's recent argument that Federal Reserve policymakers prioritized international factors prior to 1965, but abdicated this responsibility when the Johnson Administration began implementing capital controls. Bordo, Michael D. and Barry Eichengreen. 2013. "Bretton Woods and the Great Inflation." In *The Great Inflation: The Rebirth of Modern Central Banking*, eds. Bordo and Orphanides. Chicago: University of Chicago Press, 449-489.

⁴⁷⁹ This "ideas" hypothesis parallels the workhorse explanations for the Fed's depression-era policy mistakes. There are an abundance of ideational explanations of Fed policy failures in the 1960s and 1970s. A useful survey is found in the introduction to Michael D. Bordo and Athanasios Orphanides, eds. *The Great Inflation: The Rebirth of Modern Central Banking*. University of Chicago Press, 2013.

Figure 10: Federal Funds Rate and U.S. Monetary Gold Stock in Millions (1958-1968)



Source: Fred Database

Although scholars traditionally date Bretton Woods' collapse to 1971 or 1973, this chapter follows recent scholars by dating the effective end of the fixed exchange regime in 1968, when the London gold pool collapsed.⁴⁸⁰ This temporal reordering invites a reassessment of the underlying causes of Bretton Woods' collapse. Policymakers throughout the western world grew alarmed by the U.S.'s rapidly declining gold reserves beginning after 1958. During the conservative Eisenhower administration, new economists were unable to gain a foothold in either the fiscal or monetary policymaking processes. Keynesians gained control of the Council of Economic Advisors under President Kennedy, but they lost a broader battle within the administration to chart national currency policy. Kennedy instead favored an old guard faction within the Treasury and the Federal Reserve which hoped to use U.S. macroeconomic policy instruments to defend the dollar's gold parity. Keynesians gained greater influence over

⁴⁸⁰ Gavin 2004, 182; Toniolo 2005, 350; McKinnon 2014, 43-45.

currency policy under Lyndon Johnson, but cumulative non-adjustments of U.S. macroeconomic policies had already undermined the gold-dollar link's credibility.

To understand how Federal Reserve institutions contributed to Bretton Woods' collapse, one needs to understand how those institutions evolved in the period since 1931. This chapter begins by briefly overviewing the system's institutional development from the Great Depression through the 1951 Fed-Treasury Accord, which restored the system's operational independence. It then analyzes a post-Accord flaring of the system's internal struggle which resulted in the creation of a fragmented, consensual monetary policymaking process where nineteen agents weighed in on policy decisions. The chapter then analyzes this regime's performance from 1958-1968. It concludes by arguing that the Fed's fragmented institutions played a key role in sustaining low U.S. interest rates low long after central bankers recognized that monetary restraint could help stabilize the dollar and prolong Bretton Woods.

The Fed's Rationalization, Capture, and Wartime Development

By 1933, monetary politics had escaped the confines of the Federal Reserve. In 1932, the Hoover Administration supported the creation of the Reconstruction Finance Corporation (RFC), a governmental body tasked with recapitalizing illiquid banks and railroads.⁴⁸¹ The 1932 Glass-Steagall Act authorized the Federal Reserve Banks to use government bonds as collateral for currency issues, eliminating the free-gold problem which had undermined previous bond-buying campaigns. In the context of severe congressional pressure, the OMPC embarked on an unprecedentedly-large \$1 billion

⁴⁸¹ Elmus Wicker (1996, 109) argues that the creation of the Reconstruction Finance Corporation blurred the Federal Reserve's lender-of-last resort responsibilities.

dollar government bond-buying campaign. This program temporarily arrested the deflationary slide, but internal opposition from the Boston and Chicago reserve banks led to its early termination.⁴⁸² The 1932 Glass-Steagall Act also forbade reserve banks from engaging in international diplomacy, delegating diplomatic authority to the Board.⁴⁸³

Between the November 1932 presidential election and Franklin Roosevelt's March inauguration, the U.S. banking system collapsed.⁴⁸⁴ In January 1933, Congress required the RFC to publicly disclose which banks had borrowed from it during the first half of 1932, making banks hesitant to borrow from it and contributing to depositor uncertainty.⁴⁸⁵ On February 13th, negotiations between the RFC and the Guardian Group, a large Michigan banking conglomerate, broke down. In response, Michigan's governor declared a statewide banking holiday on February 14th, temporarily closing all banks and freezing deposits. Michigan's bank holiday announcement triggered bank runs in contiguous states. Depositors rushed to remove their deposits, and state authorities responded by implementing deposit withdrawal restrictions or announcing bank holidays of their own. By March 4th, bank holidays had been declared in 33 states; optional bank closings were implemented in five; and deposit restrictions were in place in ten.

Amidst the collapse, lame duck President Herbert Hoover reached out to Roosevelt and the Federal Reserve Board to negotiate a joint response to the banking

⁴⁸² These reserve banks' opposition has been explained by conflicting interests and the belief that monetary policy was incapable of combatting depression. See, respectively, Epstein and Ferguson 1984; Romer and Romer 2013.

⁴⁸³ This provision was intended as a censure of the FRBNY's 1920s diplomacy. See, Meltzer 2003, 429-430.

⁴⁸⁴ Wicker 1996, Chapter Four.

⁴⁸⁵ Wicker 1996, 108-117; Meltzer 2003, 427.

crisis, but was mutually rebuffed.⁴⁸⁶ In addition to the domestic currency drain, an external flight from the dollar had also taken root. Foreign depositors, uncertain about Roosevelt's gold commitment, withdrew funds from American banks. Between January and March, the U.S. monetary gold stock declined by \$299 million, or 7%. Although Hoover pushed Roosevelt to publicly commit to gold, Roosevelt replied that "mere statements" would do nothing to stop bank runs.⁴⁸⁷ On his first day in office, Roosevelt declared a national banking holiday and suspended international gold shipments.⁴⁸⁸ In an emergency session, Congress hurriedly passed the Emergency Banking Act, legalizing the bank holiday and providing a means for reopening solvent banks.⁴⁸⁹ In Roosevelt's first fireside chat a week later, he explained his plan for reopening sound banks. When banks began reopening the next day, they were flooded by a sea of depositors. Although many wouldn't reopen for months, the banking crisis was effectively over.⁴⁹⁰

In Roosevelt's inaugural address, he signaled support for restoring international currency stability. In May, however, Congress passed the Agricultural Adjustment Act which granted the president discretionary authority to print up to \$3 billion dollars of

⁴⁸⁶ Specifically, Hoover proposed that Roosevelt declare his commitment to sustaining the gold standard, that the Federal Reserve buy government securities, and sought Federal Reserve counsel on whether or not a Federal deposit scheme should be implemented. See Meltzer 2003, 383-384; Eichengreen 2015, 225-226.

⁴⁸⁷ Quoted in Meltzer 2003, 383.

⁴⁸⁸ Roosevelt invoked the WWI Trading with the Enemy Act to justify suspension of gold payments. Meltzer 2003, 388-389; Eichengreen 2015, 229.

⁴⁸⁹ This bill legalized the bank holiday, empowered the treasury secretary to reopen sound banks and place illiquid banks in conservatorships, allowed the RFC to purchase preferred stock from illiquid financial institutions, and loosened collateral requirements for Federal Reserve lending.

⁴⁹⁰ Eichengreen 2015, 229-230.

U.S. currency and devalue the dollar by up to 50% in terms of gold.⁴⁹¹ Before the London Economic Conference began in June, the U.S. delegation attempted to negotiate a three-way currency stabilization agreement with British and French authorities.⁴⁹² An agreement was beyond reach, however. On July 3rd, Roosevelt “torpedoed” the London Economic Conference by issuing a public statement declaring the primacy of domestic price stabilization: “The sound internal economic situation of a nation is a greater factor in its well-being than the price of its currency... The old fetishes of so-called international bankers are being replaced by efforts to plan national currencies with the objective of giving those currencies a continuing purchasing power.”⁴⁹³ Although Charles Kindleberger famously blamed Roosevelt’s inflammatory rhetoric for scuttling the London Economic Conference, Barry Eichengreen has argued convincingly that trilateral negotiations among Britain, France, and the U.S. had already failed.⁴⁹⁴

With the domestic banking crisis contained and the dollar delinked from gold, the stage was set for a dramatic restructuring of the American state’s relationship with the domestic financial system and the international monetary regime. On June 16th, Roosevelt signed into law the Banking Act of 1933, the more well-known Glass-Steagall Act.⁴⁹⁵

⁴⁹¹ When Roosevelt announced he would support the bill on April 18th, Budget Director Lewis Douglass said, “This is the end of Western Civilization.” See discussions in Kindleberger 1973, 202; Melzer 2003, 428-429.

⁴⁹² With Roosevelt’s approval, the US delegation proposed the restoration of gold payments with a dollar devaluation of 15 to 25%. After US devaluation, currency stabilization would be managed by a three-way stabilization fund. Kindleberger 1973, 207.

⁴⁹³ See Kindleberger 1973, 219.

⁴⁹⁴ Eichengreen 2015, 236.

⁴⁹⁵ See discussions in Chandler 1971, 270-71; Meltzer 2003, 429-434.

This law forbade banks from engaging in both commercial and investment banking activities.⁴⁹⁶ It also introduced a temporary national deposit insurance scheme, which was made permanent as the Federal Deposit Insurance Corporation in 1935.⁴⁹⁷ The Glass-Steagall Act also represented the Federal Reserve Act's first major revision since WWI. It created Regulation Q, giving the Board authority to prohibit interest on demand deposits and impose interest rate ceilings on time deposits.⁴⁹⁸ The open market committee was legally recognized and reconstituted as the Federal Open Market Committee (FOMC). The new committee retained the OMPC's membership until 1935.⁴⁹⁹

In the meantime, New Dealers moved to assert greater state control over securities markets and the dollar's exchange rate. The Securities Act of 1933, known as the Truth-in-Securities Act, required companies selling public stock to register with the government and disclose complete financial information. The Securities Exchange Act of 1934 sought to curb manipulative trading practices and required publicly-listed companies to disclose their financial data. It created a new federal agency, the Securities and Exchange

⁴⁹⁶ Banks were given one year to decide their subsequent specialization. Congress repealed these provisions in 1999.

⁴⁹⁷ Deposit insurance represented a victory for small-town unit banks over money-center banks which preferred liberalized branching provisions. See Meltzer 2003, 432. Had the Senate version of the 1913 Federal Reserve Act been made law, deposit insurance would have been introduced two decades earlier. Deposit insurance critics argue the US would have been better off if it liberalized branching provisions instead of insuring deposits. See, for example, Calomiris, Charles W. 2010. "The Political Lessons of Depression-era Banking Reform." *Oxford Review of Economic Policy* 26 (3): 540-560.

⁴⁹⁸ Gilbert, R. Alton. 1986. "Requiem for Regulation Q: What it Did and Why it Passed Away." *Federal Reserve Bank of St. Louis Review*. (February): 22-37.

⁴⁹⁹ The Federal Reserve Board was also given responsibility to regulate bank holding companies, corporate entities which can own stock in multiple banks. Branch banking restrictions prevented banks from directly owning other banks.

Commission, to enforce its provisions and empowered the Federal Reserve Board to adjust call loan margin requirements.

The Gold Reserve Act of 1934 authorized the Treasury to negotiate international monetary agreements and to intervene in foreign exchange, gold, and government security markets.⁵⁰⁰ It mandated that the Federal Reserve Banks transfer their gold reserves to the Treasury. After the transfer occurred, the dollar was stabilized at a new gold parity of \$35 per ounce, a 59% devaluation.⁵⁰¹ \$2 billion of the Treasury's resulting \$2.8 billion "profit" was used to capitalize an Exchange Stabilization Fund. Overnight, the Treasury gained control over a war chest rivalling the FOMC's system account. Although the dollar devaluation's legal foundations wouldn't be secured until the Supreme Court's 1935 *Gold Clause Cases* ruling, the Exchange Stabilization Fund increased the Treasury's power vis-à-vis the Federal Reserve. A Board memo lamented the Treasury's new "authority to assume complete control of general credit conditions and to negate any credit policies that the Federal Reserve System might adopt."⁵⁰²

New Deal financial reforms culminated in a major restructuring of the Federal Reserve System. The 1935 Banking Act finally addressed the system's underlying power struggle by centralizing power within the Board, which was reconstituted as the Board of Governors. The Board's *ex officio* members were purged, making its administrative

⁵⁰⁰ See discussions in Henning, C. Randall. 1999. *The Exchange Stabilization Fund: Slush Money or War Chest?* Washington, D.C.: Peterson Institute; Carlson, Mark A. and David C. Wheelock. 2014. "Navigating Constraints: The Evolution of Federal Reserve Monetary Policy, 1935-59." *Federal Reserve Bank of St. Louis Working Paper Series* 2014-013.

⁵⁰¹ Meltzer 2003, 457-458.

⁵⁰² Smead memo to Black. 1/17/1934. Cited in Meltzer 2003, 457.

officer (now titled Chairman) its undisputed leader.⁵⁰³ All Board members were now given the title of “Governor” and reserve bank executive officers were given the lesser title of “President.”⁵⁰⁴ Most importantly, the FOMC was reconstituted to give the Board prevailing authority over open market policy decisions. The Board’s seven governors gained permanent voting rights on the FOMC and the remaining five votes rotated among the twelve reserve bank presidents. The new structure represented a compromise between those who desired even greater centralization (Board Chairman Marriner Eccles) and those who defended the system’s decentralized, federal, structure (Sen. Carter Glass and the reserve bank presidents).⁵⁰⁵ Reserve bank participation in open market operations became mandatory. The Board was granted the power to increase member bank’s reserve ratios up to double their prevailing rates.⁵⁰⁶

The Federal Reserve’s depression-era reforms gave the Board impressive new powers while increasing its structural independence (see Table 3).⁵⁰⁷ By weakening reserve bank autonomy and centralizing control within the Board, the system became

⁵⁰³ Previously, the Board’s administrative officer was titled “Governor” and the Treasury Secretary was the “Chairman.”

⁵⁰⁴ Although in the US political system the President has long been considered more powerful than state governors, the top officers of European central banks were called governors. Thus, the Board’s reconstitution signaled that agency’s new primacy within the Federal Reserve System. See Wells, Donald R. *The Federal Reserve System: A History*. Jefferson: McFarland, 2004: 68.

⁵⁰⁵ Eccles suggested open market operations policy be made by a five-member committee composed of three Board governors and two reserve bank presidents. The American Bankers Association proposed the compromise 12 member structure actually adopted. See discussions in Meltzer 2003, 475-486; Wells 2004, 61-76.

⁵⁰⁶ It was also given veto authority over reserve bank executive officer appointments.

⁵⁰⁷ Structural independence was increased by purging *ex officio* cabinet members and lengthening Board appointments to 14 years. For an alternative view which argues the system’s structural independence was secured at its origin, see Jeong et al 2009.

more hierarchical and central bank-like. The simultaneous creation of a handful of new state financial agencies, however, meant the Fed operated within an increasingly crowded institutional order. Furthermore, the Treasury’s new powers consigned the system to “the backseat” of the monetary policymaking process through 1951.⁵⁰⁸

Table 3: Depression-era Financial Reforms

New State Agencies	Established	Board's New Powers	Established
Reconstruction Finance Corporation	1932	Negotiate International Agreements	1932
Federal Home Loan Bank Board	1932	Regulate Interest Rates Paid on Deposits (Regulation Q)	1933
Federal Deposit Insurance Corporation	1933	Adjust Call Loan Margin Requirements	1934
Securities and Exchange Commission	1933	Adjust Member Bank Reserve Ratios	1935
Bureau of Federal Credit Unions	1934	7/12 Votes on the Federal Open Market Committee	1935

Although the depression-era reforms were intended to increase the Board’s independence and institutional control, those changes did not prove durable. The rationalized Fed was quickly usurped by the Treasury. Furthermore, wartime state-building drew the FRBNY and the Treasury closer together, as it had in the earlier world war. In 1942, the FRBNY President was made the FOMC’s *ex officio* Vice-Chairman and given permanent FOMC voting rights.⁵⁰⁹ In April 1942, the Federal Reserve announced

⁵⁰⁸In this period, the system only adjusted member banks’ required reserve levels to respond to macroeconomic disturbances. The Board doubled required reserve levels from 1936-37, possibility contributing to the 1937-38 double-dip recession. See Meltzer 2003, 600; Carlson and Wheelock 2014.

⁵⁰⁹ It also became an *ex officio* member of FOMC’s five-member executive Committee, which implemented the FOMC’s policy directives. This institutional change was enacted by an act of Congress on July 7, 1942. See Twenty-Ninth Annual Report of the Board of Governors of the Federal Reserve System, 56; Wells 2004, 68.

that it would fully cooperate with the Treasury in financing the war.⁵¹⁰ To do so, it agreed to peg interest rates on government bonds. Short-dated bills were pegged at .375% and long term bonds were fixed at 2 ½%. Open market operations was reduced an administrative task of buying and selling enough Treasury bonds at various maturities to maintain a given interest rate structure. If Treasury bonds fell on secondary markets, the FOMC stepped in and bought bonds until they were pushed back up to par.

After the war ended, the Treasury demanded the peg remain in place. Chairman Marriner Eccles called for tighter monetary policies to combat mounting inflation, but was denied by successive treasury secretaries. When he was replaced as chairman in 1948, FRBNY President Allan Sproul assumed a more prominent role within the system and led the charge for greater independence.⁵¹¹ The postwar conflict between the Fed and the Treasury came to a head in the summer of 1950 as the U.S. prepared to fight the Korean War.⁵¹² Eccles testified before Congress in January, 1951, “As long as the Federal Reserve is required to buy government securities at the will of the market for the purpose of defending a fixed pattern of interest rates... This policy makes... the Federal Reserve System, an engine of inflation.”⁵¹³ The Fed-Treasury Accord was announced on March 4th, restoring the Fed’s operational independence.⁵¹⁴

⁵¹⁰ The 1942 War Powers Act also empowered the system to purchase bonds directly from the Treasury, which it did on occasion. Meltzer 2003, 599; Wells 2004, 78-80.

⁵¹¹ Meltzer 2003, 582.

⁵¹² Kirshner, Jonathan. 2007. *Appeasing Bankers: Financial Caution on the Road to War*. Princeton: Princeton University Press: 122-154.

⁵¹³ Joint Committee on the Economic Report. U.S. Congress 1951, p. 158.

⁵¹⁴ See Epstein, Gerald A. and Juliet B. Schor. 1995. “The Federal Reserve-Treasury Accord and the Construction of the Postwar Monetary Regime.” *Social Concept* 7 (1): 7-48; Hetzel, Robert L. and Ralph

The Battle for the Heart of the Federal Reserve (1951-1955)

This unique structure of the Federal Open Market Committee was hammered out after long experience and intense political debate... it exemplifies the unceasing search of the American democracy for forms of organization that combine centralized direction with decentralized control.

Chairman William Martin, Flanders Hearings, 1954

I am overlooking... the reiterated charge of Congressman Patman that Congress gave this great power of directing open market operations of the Federal Reserve Banks to twelve men, the twelve men gave it to five, the five gave it to one, and it ended up in the hands of Wall Street.

FRBNY President Allan Sproul, FOMC, 6/22/55

The 1951 restoration of operational independence reignited the system's dormant power struggle.⁵¹⁵ During the system's long period of capture, open market authority had concentrated within the FOMC's executive committee and the FRBNY's trading desk. After operational independence was restored, the FOMC's executive committee retained effective control over open market policy. This five-member body was composed of the presidents of the FRBNY and another reserve bank, the Chairman of the Board, and two other governors. The full FOMC met four times a year and approved broad policy guidelines for the executive committee, which met every few weeks. FRBNY President

Leach. 2001. "The Treasury-Fed Accord: A New Narrative Account." *FRB Richmond Economic Quarterly* 87 (1): 33-56; Meltzer 2003, 699-713; Wells 2004, 91-95.

⁵¹⁵ See discussions in Clifford, Albert. 1965. *The Independence of the Federal Reserve System*. Philadelphia: University of Pennsylvania Press: 274; Hetzel, Robert L. and Ralph Leach. 2001. "After the Accord: Reminiscences on the Birth of the Modern Fed." *FRB Richmond Economic Quarterly* 87 (1): 57-64; Bremner, Robert P. 2004. *Chairman of the Fed: William McChesney Martin Jr., and the Creation of the Modern American Financial System*. New Haven: Yale University Press: 97-113; Meltzer, Allan H. 2009. *A History of the Federal Reserve, Volume 2*. Chicago: University of Chicago Press: 62-72.

Allan Sproul dominated the executive committee.⁵¹⁶ Sproul was “the preeminent force, intellectual and political, within the Federal Reserve System.”⁵¹⁷

After the accord, William McChesney Martin, Jr., was appointed Chairman of the Board of Governors. Since Martin had negotiated the accord on behalf of the Treasury, many pundits interpreted his appointment as a signal that the system would remain subservient to the Treasury. Martin was determined to defend the system’s autonomy, however. He worked with Sproul to advance the concept of the Federal Reserve System being “independent within government.” Martin and Sproul believed that the system should be free from Treasury domination, but that it remained obligated to help finance budget deficits approved by Congress and promote an “orderly market” in government securities. Beyond this agreement on the system’s external position, Martin and Sproul held conflicting visions of the system’s normative governance. Sproul believed that the system’s war-inspired hierarchies increased its capacity to decisively intervene in financial markets, shape market participants’ psychology, and thereby stabilize the economy.⁵¹⁸ By delegating significant operational autonomy to the FRBNY’s trading desk, the system kept a continuous pulse on financial markets, increasing monetary policy’s credibility.

⁵¹⁶ Clifford 1965, 279; Volcker, Paul A. and Toyoo Gyohten. 1992. *Changing Fortunes: The World's Money and the Threat to American Leadership*. New York: Times Books: 5; Bremner 2004, 112; Meltzer 2009, 70.

⁵¹⁷ Sproul had served for twenty seven years in the FRBNY, regularly testified before Congress, and was the nation’s most prominent central banker internationally. See Kettl 1986, 85.

⁵¹⁸ Hetzel and Leach 2001, 61.

Martin, by contrast, believed hierarchy was inconsistent with the system's traditions and the broader nature of American political institutions. Martin's father was the foundational chairman of the Federal Reserve Bank of St. Louis. Martin remembered his father's Federal Reserve as being more collegial and decentralized than the post-accord Fed. Martin considered institutional fragmentation a source of strength and independence. He often reminisced about his childhood experiences of having Benjamin Strong and Carter Glass visit his house for dinner and engaging his father in theoretical and policy debates.⁵¹⁹ Whereas Sproul considered hierarchy and discretion the keys to institutional success, Martin believed decentralized, participatory institutions were capable of yielding equally sound and more legitimate policy outcomes. Martin's vision of a less centralized Federal Reserve wasn't rooted solely in nostalgia. He also considered a New York-dominated Fed susceptible to capture by the Treasury or private interests. Furthermore, he believed that the New York Fed's intervention in all segments of the government bond market prevented that market's development.

On May 17, 1951, Martin proposed that the FOMC form an ad hoc subcommittee to study the FOMC's operations in the government securities market. The subcommittee was composed of Martin, Gov. Abbot L. Mills, and President Malcolm Bryan (Atlanta). All were newcomers to the system. The subcommittee submitted its final report to the FOMC on November 12, 1952. The report was critical of the FRBNY's dominant position within the open market policymaking process and its practice of intervening in all segments of the government bond market. Martin and Sproul subsequently engaged in

⁵¹⁹ Bremner 2004, 13.

a “gentlemanly but polarizing” governance debate which slowly transformed the Federal Reserve System.⁵²⁰

The subcommittee’s report focused on two broad questions. What degree of freedom had the system actually gained from the Treasury’s debt-management prerogatives? And second, how would the system deal with the increased accountability which came along with operational independence? The ad hoc subcommittee’s report made four major recommendations.⁵²¹ First, open market operations should be confined to short-dated Treasury bills. Second, open market operations should only be used to implement monetary policies, not to support Treasury financing objectives. Third, the full FOMC should supervise open market operations implementation rather than the executive committee. Finally, the FOMC should develop a separate operating budget and hire its own staff.⁵²²

Each of the subcommittee’s recommendations called into question the prevailing authority of FRBNY President Allan Sproul. The report suggested Sproul came to FOMC meetings “not only as a contributor” to policy debates but also “as a protagonist for the actual day to day operation of the account.”⁵²³ Since Sproul personally supervised the

⁵²⁰ Bremner 2004, 102.

⁵²¹ Reprinted in U.S. Congress. Joint Committee on the Economic Report. Subcommittee on Economic Stabilization. 1954. *United States Monetary Policy, Recent Thinking and Experience*. 83rd Cong., 2nd sess., 6 December. Hereafter referred to as Flanders Committee Hearings. See discussions in Clifford 1965, 279-84; Meltzer 2009, 56.

⁵²² To accomplish these goals, the report suggested giving the FOMC an operating budget, a full-time staff, making the desk agent an FOMC employee and making separate officials responsible for implementing open market operations policy and the system’s agency functions for the Treasury and foreign central banks. See Clifford 1965, 279.

⁵²³ Flanders Committee Hearings, 281-283.

trading desk manager, other committee members were “reluctant to seem critical of a colleague, [and might] hesitate to scrutinize adequately the technical operations of the account.” Furthermore, the concentration of power within the FRBNY could make the system susceptible to “banker domination.” The report suggested that the all FOMC members should learn the technical aspects of open market operations and take a more active role in supervising the desk agent “to carry out more effectively his individual statutory responsibility as a committee member.”

In April 1953, Martin explained the ad hoc subcommittee report’s implications in a speech to the Economic Club of Detroit titled “The Transition to Free Markets.”⁵²⁴ Martin argued wartime necessity had forced the system, “...to stabilize the price of Government securities in relation to a fixed pattern of yields, and in so doing found itself feeding the forces that make for inflation.” He argued a pegging policy was inappropriate during peacetime, “In a free market, rates can go down as well as up and thus perform their proper function in the price mechanism. Dictated money rates breed dictated prices all across the board. This is characteristic of dictatorships... It is not compatible with our institutions.” Martin argued that by confining open market operations to short-dated Treasury bills, market agents would be forced to take on a more active role in valuing government security issues. A “bills-only” policy would prevent the system from slipping back into pegging government securities while cultivating the growth of a Treasury bond market characterized by “depth, breadth, and resiliency.”

⁵²⁴ Federal Reserve Bulletin 39, April 1953, 330-335.

The FOMC considered the ad hoc subcommittee's report on March 5, 1953.⁵²⁵ It voted unanimously to restrict the open market account manager to dealing in "bills-only" and changing its directive from "maintaining orderly conditions in the Government securities market" to "correcting a disorderly situation."⁵²⁶ Before the next FOMC meeting, Sproul caucused with the other reserve bank presidents at the Richmond reserve bank and voiced his concerns regarding the new arrangements.⁵²⁷ At the June 11th FOMC meeting, two governors were absent, granting the reserve bank presidents a 5-4 voting majority. Sproul used this momentary advantage to revisit bills-only, arguing "we should reserve for ourselves maximum freedom to operate."⁵²⁸ Sproul warned that the system shouldn't restrict its operations based on a "doctrinaire attitude on free markets..." which would "be sacrificing credit policy to untried theory." Instead, "the full Committee [should] give to the executive committee more authority than that embodied in the directive for correcting disorderly markets... the present prohibition puts a premium on sluggish action which would not meet the situations that may arise." Martin "noted that only nine voting members of the full Committee were in attendance at this meeting, and he inquired whether any member of the Committee thought that on a question as grave as this one it was appropriate to put the matter to a vote." Sproul refused to back down. He requested "that the restrictions on the executive committee against buying securities in

⁵²⁵ FOMC Minutes, 3/4/1953.

⁵²⁶ Due to Sproul's objection, Martin deferred discussion of amending the trading desk manager's supervisory structure.

⁵²⁷ Hetzel and Leach 2001, 60.

⁵²⁸ Sproul argued bills-only proponents "told that operations in bills would have prompt and pervasive effects throughout the market. That was the theory of perfect fluidity - perfect arbitrage. I think historical records and current observation indicate that a prompt and invariable response between short and long markets cannot always be expected." FOMC Minutes. 6/11/1953, 27.

other than the short term area except in correcting a disorderly market, and against certain purchases of securities during periods of Treasury financings, be rescinded.” The 5-4 vote split across institutional lines. Bills-only was removed from the policy directive.

All governors were in attendance at the next FOMC meeting.⁵²⁹ Martin again brought up bills-only. He began the discussion by stating, “The thing I like most about the Federal Reserve is the word ‘System.’ The first two words don't make much difference but ‘System’ does... The essence of the problem we were struggling with was a matter of degree of discretion... we want the Manager of the Open Market Account to have adequate discretion but don't want to put him in the position of having more discretion than is necessary.” Gov. Mills then proposed reinstating bills-only. Martin then asked Sproul to weigh in. Sproul explained, “My position – and that of the New York Bank – is that the Federal Open Market Committee should lay down the general lines of credit policy, that the interpretation and direction of the policy under changing conditions is the job of the Executive Committee... What I have been objecting to as a matter of principle... is trying to write into a ‘constitution’ of the Open Market Committee, a prohibition against actions deemed undesirable by particular members of the Committee, holding particular views, at a particular time. We can't afford a freeze of ideas or practices... It was to avoid this straitjacket... that I proposed the June motion to rescind the March action.”

Johns (St. Louis) then explained why he earlier voted to rescind bills-only, but now supported its reinstatement. In June, he had intended “to leave the executive committee a rather large area of discretion within which to make decisions which are

⁵²⁹ FOMC Minutes, 9/24/1953.

more than operating decisions and which involve considerable policy making prerogatives.”⁵³⁰ From “one point of view of good administration, it may be that such discretion can be more easily and possibly at times more quickly exercised by a smaller body such as the executive committee.” Johns now doubted this perspective, however. “If... the members of the Board of Governors... are at their posts and Mr. Sproul is at his post... the fact is that there are only four Presidents to be called in order to obtain action by the full Open Market Committee.” Given the ease of organizing the FOMC by telephone, Johns now “accept[ed] the proposal that the authority to modify the general instructions be retained in the hands of the full Open Market Committee.” Erickson (Boston), Fulton (Cleveland), and Leedy (Kansas City) agreed with Johns and endorsed Mills’ proposal.⁵³¹

Williams (Philadelphia) and Leach (Richmond) expressed concern that the proposal to reinstate bills-only carried too much of an air of permanence. Sproul agreed, “This carried with it... the implication of ‘writing a constitution’ for the open market operation.” Martin replied “no tablets of stone were being written.” The FOMC voted 9-2 to reinstate bills-only.⁵³²

In 1954, Martin and Sproul once again clashed over bills-only in congressional testimony before the Flanders Committee. Martin endorsed bills-only as a means of

⁵³⁰ He regretted the perception that his earlier vote indicated “my desire to vest in the management of the account or the New York Bank a large and almost unlimited discretion.”

⁵³¹ Leedy voiced skepticism over making large delegations to the extra-legal executive committee and “wondered what would be left for the full Committee if such decisions were to be turned over to the executive committee.”

⁵³² Only Sproul (New York) and Powell (Minneapolis) dissented.

forcing brokers to take on a greater market-making role for government securities.⁵³³ Sproul doubted, however, that “the market could develop into a broad, impersonal mechanism... if only the System Account were out of the picture.” The U.S. was a “mixed Government-private economy... [without] a free market in government securities since... open market operations of the Federal Reserve System came to be used as a principal weapon of credit policy.”⁵³⁴ Sproul summarized his opposition, “a central bank, which [depends] for its effectiveness upon psychological as well as direct influences... [should not commit] for all time to the principles and procedures which have grown out of current experience... The principal uncertainty created by the Federal Reserve System stems from the possibility of shifts in its basic policy not from the areas of the market in which it might operate.” Sproul also objected to the subcommittee’s proposal to transfer supervisory authority over open market operations to the full FOMC, which “would seem to depart from the intent of the statute and also from the ‘Federal’ structure of the Federal Reserve System.”⁵³⁵

Martin and Sproul both emphasized in their testimony that their feud was over operating procedures, rather than policy.⁵³⁶ Testifying against Martin was highly taxing on Sproul. He cherished the Federal Reserve’s hierarchy and respected Martin’s institutional position. The debate over bills-only was personal for him, however, as he

⁵³³ Flanders Committee Hearings, 15-25.

⁵³⁴ Allan Sproul letter to Henry Alexander of J.P. Morgan & Co. 3/12/1954, Sproul Papers, FOMC correspondence, 1954, folder I, Federal Reserve Bank of New York library.

⁵³⁵ Flanders Committee Hearings, 324.

⁵³⁶ Flanders Committee Hearings, 224-228.

resented the insinuation that a discretion-wielding FRBNY would reinstate a government bond pegging policy. Martin considered bills-only a minimal form of central bank intervention on the opposite end of the spectrum from a maximal pegging policy.⁵³⁷

After the Flanders Committee hearings, Martin pressed forward with his mission of transforming the FOMC. On March 2nd, 1955, the FOMC committee approved a broad directive for the executive committee.⁵³⁸ Johns (St. Louis) “inquired who would be making monetary policy if a directive, worded in the general terms stated, were given to the executive committee with the suggestion that the executive committee determine the level of free reserves on the basis of its appraisal of the needs of the economy.” Martin suggested Johns’ concerns had been raised in various forms in previous meetings and then proposed abolishing the executive committee. From a practical standpoint, “it would mean that only three additional Presidents... would need to come to Washington in order to have a meeting of the full Committee.” Martin continued, “I have consistently endeavored to emphasize the word ‘System’ in our activities. To me, that is the heart and core of what we are trying to build. If we do not work as a System, then we defeat the main purpose of our structure, which is really unique in terms of political science.”⁵³⁹ Martin deferred further discussion of the proposal until the next FOMC meeting.

⁵³⁷ According to Ritter (1980, 15), “The implication, which Sproul resented, was that anyone who opposed ‘bills only’ was somehow philosophically in league with the proponents of pegging and support operations.” Ritter, Lawrence S. ed. 1980. *Selected Papers of Allan Sproul*. New York: Federal Reserve Bank of New York.

⁵³⁸ FOMC Minutes, 3/2/1955.

⁵³⁹ FOMC Minutes, 3/2/1955, 131. See discussion in Hetzel and Leach 2001, 61.

On May 10th, FOMC Secretary Winfield Riefler distributed a proposal drafted by the Board's counsel to abolish the executive committee.⁵⁴⁰ The FOMC considered the proposal on June 22nd. Martin opened the discussion by stating "...the experience of the last few months gave further indication of the desirability of having the full Open Market Committee take the responsibility for decisions not only of policy but also as to open market operations."⁵⁴¹ Sproul derided Martin's proposal as channeling congressional populism, "I am overlooking - or at least disregarding - the reiterated charge of Congressman Patman that Congress gave this great power of directing open market operations of the Federal Reserve Banks to twelve men, the twelve men gave it to five, the five gave it to one, and it ended up in the hands of Wall Street. I continue to cling to the belief that we shouldn't change our organizational structure in order to try to accommodate ourselves to the attacks of the Congressman."⁵⁴² Sproul defended the executive committee by suggesting emergency FOMC meetings were impractical, "There may be times when it will be desirable to have a properly constituted body which can be assembled in a matter of hours, not to make policy but to refine policy made by the full Committee... there may be emergency situations in which such a properly constituted body would be in a position to make policy, temporarily, on behalf of the full Committee on something better than an ad hoc basis." Sproul considered telephone meetings "...no substitute for a face-to-face meeting at which ideas can be developed and debated, and the reaction of your associates to those ideas can be observed and taken into account. A

⁵⁴⁰ FOMC Minutes, 5/10/1955.

⁵⁴¹ FOMC Minutes, 6/22/1955, 3.

⁵⁴² FOMC Minutes, 6/22/1955, 7-8.

telephone canvass depends too much on who asks the question and how he asks it.” He concluded, “I do not think we have to abolish the executive committee in order to try to make sure that the full Committee accepts and discharges its responsibilities under the law, and there may be occasions when those responsibilities can be better discharged if an executive committee is kept in existence.” Martin countered that his proposal “was intended to give everybody more participation rather than less participation than they might have had in the past...”⁵⁴³ He pointed out that developments in commercial air travel had made frequent meetings of the full FOMC practical. Other FOMC members agreed and reminded Sproul that they had attended recent executive committee meetings.⁵⁴⁴ In the end, the FOMC voted unanimously to abolish the executive committee. Sproul retired the following June.

The House that Martin Built: Policymaking on the Consensual FOMC

Martin’s institutional reforms are often interpreted as centralizing policymaking authority within the Board of Governors in Washington, D.C.⁵⁴⁵ Martin’s biographer contends, however, that Martin oversaw a “historic democratization” of the FOMC, not the consolidation of a chairman’s dictatorship.⁵⁴⁶ He did so by asking all seven governors and twelve reserve bank presidents to weigh in on monetary policy decisions and by establishing consensual policymaking norms on the FOMC. Martin’s deliberative style

⁵⁴³ FOMC Minutes, 6/22/1955, 10.

⁵⁴⁴ Meltzer 2009, 71.

⁵⁴⁵ Clifford 1965; Meltzer 2009. In this view, elimination of the Executive Committee was the knock-out blow in a long feud between Washington and New York over control of the nation’s central banking system. According to Meltzer, “the regional banks became more important participants, but the Chairman dominated decisions.”

⁵⁴⁶ Bremner 2004, 112.

“meant that policy emerged slowly, but it also meant that no one FOMC member could dominate.”⁵⁴⁷ This chapter argues the egalitarian FOMC Martin crafted was ill-suited for making quick or decisive policy adjustments and it frustrated Martin’s future attempts to stabilize the dollar. “Martin... labored mightily to fashion a consensus-driven FOMC, and now he had to live with his creation.”⁵⁴⁸

Martin’s participatory FOMC norms supported policy rigidity in three ways. First, Martin’s “go-round” meeting procedure minimized his agenda-setting authority. He started each meeting by asking all present FOMC members, including those currently without voting rights (up to 19 officials), to weigh in on the state of the economy and their policy preferences. After everyone spoke, Martin sought to summarize the group’s consensus and put it up for a vote. If and when there was no consensus to be found, Martin recommended no policy change be made. Second, the shift in formal decision-making structure, from an executive committee where the FRBNY president and Chairman wielded two of five votes to the full FOMC where they wielded only two of twelve, limited those agents’ influence over policy outcomes. Since Martin and FRBNY President Hayes were among the system’s foremost inflation hawks in the 1960s, the greater influence they would have wielded on a still-existing executive committee would have likely translated into more restrained policies. Third, as Sproul had predicted, the system’s less centralized decision-making structure made it difficult to abandon 1950s precedents when they outlived their usefulness. Two of these proved highly salient during the 1960s. First, after the accord the system began a practice of maintaining an “even-

⁵⁴⁷ Kettl 1986, 86.

⁵⁴⁸ Bremner 2004, 109.

keel,” or keeping market interest rates stable, during Treasury refunding operations. This commitment grew more onerous during the 1960s, when aggregate fiscal deficits tripled those of the 1950s. Stable interest rates interacted with growing fiscal deficits to form an inflationary macroeconomic policy mix.⁵⁴⁹ Second, bills-only developed a rule-like status and remained in place after it began creating problems for monetary authorities. Had institutional authority remained lodged in the FOMC’s executive committee, it would have been easier to abandon practices as they lost their usefulness.

Economists at the Gates: Central Bankers in Bretton Woods’ Heyday

By historical standards, U.S. monetary outcomes during the 1950s are considered strong. Domestic prices remained stable, the national economy expanded steadily, and recessions were short and mild. Some scholars have attributed successful monetary outcomes in this era to Chairman William McChesney Martin’s “sophisticated” monetary policy framework which foreshadowed modern inflation-targeting techniques.⁵⁵⁰ Others emphasize the Federal Reserve’s benign external environment as promoting monetary stability.⁵⁵¹ A third view focuses on that era’s limited international capital mobility as

⁵⁴⁹ Inflationary monetary expansion can occur when monetary authorities passively accommodate fiscal deficits. In his review of the political business cycle literature, Allan Drazen (2001) argues that central bankers in the United States have often chosen to maintain stable interest rate policies in the run up to elections to avoid the appearance of ‘politics’ influencing monetary policy decisions.

⁵⁵⁰ Romer, Christina D. and David H. Romer. 2002. “A Rehabilitation of Monetary Policy in the 1950’s.” *American Economic Review* 92 (2): 121-127; Romer, Christina D. and David H. Romer. 2004. “Choosing the Federal Reserve Chair: Lessons from History.” *The Journal of Economic Perspectives* 18 (1): 129-162; Hetzel 2008.

⁵⁵¹ These include its operational independence and the Eisenhower administration’s fiscal conservatism. See respectively, Wheelock and Carlson 2014; Meltzer 2009.

enabling policymakers to use macroeconomic policy levers for domestic stabilization purposes without sacrificing exchange rate stability.⁵⁵²

This situation began changing rapidly in 1958, as European central banks began preparing for the dissolution of the European Payments Union (EPU).⁵⁵³ Under the EPU, international payments were settled multilaterally in dollars through the Bank for International Settlements (BIS). This regime allowed European central banks to economize on gold. European states agreed to dissolve the EPU as a means of restoring currency convertibility, however. In the post-EPU world, Europeans would settle their international accounts bilaterally, making dollars less useful. Consequently, the EPU's demise restored a competitive element among monetary authorities over access to gold reserves which had been in retreat since the 1930s.⁵⁵⁴

The tightening of international constraints in 1958 came at a bad time for American policymakers. In July, 1957, the U.S. had entered into a recession. The Federal Reserve responded by purchasing large quantities of Treasury bills, pushing their yield down from 3.4% at the recession's onset to .88% a year later. Further complicating monetary management was a Treasury request for emergency assistance with a refunding campaign.⁵⁵⁵ Between April and July 1958, the system purchased \$1.7 billion dollars in

⁵⁵² See Ruggie, John Gerard. 1982. "International Regimes, Transactions, and Change: Embedded Liberalism in the Postwar Economic Order." *International Organization* 36 (2): 379-415; Blyth, Mark. 2002. *Great Transformations: Economic Ideas and Institutional Change in the Twentieth Century*. New York: Cambridge University Press; McKinnon 2014.

⁵⁵³ Eichengreen 1996, 106-113.

⁵⁵⁴ Toniolo 2005, 423; Andrews 2008, 105-108.

⁵⁵⁵ On July 18th, the FOMC voted 8-2 to provide the Treasury extraordinary support by temporarily suspending the bills-only policy and buying longer-dated government bonds.

government securities, injecting substantial new reserves into the banking system. The First National City Bank called it “a Herculean support of the refunding.”⁵⁵⁶ The recession also pushed the 1959 Federal budget into a large \$12.5 billion dollar deficit, or 15% of the overall budget.⁵⁵⁷ The U.S.’s unexpected expansionary macroeconomic policy interacted with an increased European gold demand to push U.S. capital abroad. As U.S. interest rates declined, investors moved their mobile capital abroad where they could earn higher returns.⁵⁵⁸ An astounding \$2.2 billion dollars’ worth of gold left the U.S. in 1958, reducing the U.S. gold stock by 10%. Overall, the U.S. lost \$3.4 billion in liquid assets and gold, while Europeans gained \$3.7 billion.⁵⁵⁹

Policymakers on both sides of the Atlantic were alarmed by this sudden development. Just a few short years before, the U.S.’s massive gold reserves appeared impregnable and Europe was experiencing a dollar-shortage. With the restoration of convertibility, shortage turned to glut and the U.S.’s international economic dominance appeared to be waning. Previously in the 1950s, the U.S.’s balance-of-payment deficit had averaged \$1.5 billion dollars, and in 1957 it actually produced a surplus. In 1958, however, the balance-of-payment deficit ballooned to \$3.5 billion dollars.⁵⁶⁰ On December 22, 1958, President Eisenhower announced an austerity budget for fiscal year 1960 which would record a small surplus, a remarkable turnaround from the previous

⁵⁵⁶ Bremner 2004, 135.

⁵⁵⁷ Bremner 2004, 137.

⁵⁵⁸ James 1996, 180.

⁵⁵⁹ Gavin 2004, 38.

⁵⁶⁰ Andrews 2008, 106.

year's large deficit.⁵⁶¹ In July 1959, the State Department circulated a paper advocating an orthodox response to the U.S.'s external vulnerability, "Continued large balance-of-payments deficits such as we are presently incurring cannot be permitted to continue for much longer... the postwar experience of Western Europe amply demonstrates... restrictive or discriminatory methods serve to suppress and conceal the symptoms of imbalance. They do not promote, and usually impede, sound adjustments in the balance of payments, which can only come about through the pressures of competitive market forces operating within a framework of sound fiscal and monetary policy."⁵⁶² As the U.S. economy began recovering, the Federal Reserve moved to do its part in promoting balance-of-payments adjustment by tightening monetary policy. Between July 1958 and December 1959, the Federal Funds rate climbed from .68% to 3.99%. Discount rates were raised three times. Despite austerity, the U.S. balance-of-payments deficit grew to \$4.6 billion in 1959.⁵⁶³ Gold outflows declined by 60%, however. Dollar-holders were reassured by Eisenhower's fiscal retrenchment and the Fed's inflation-fighting resolve.⁵⁶⁴

Not all informed observers agreed that restoring external balance should be a prerogative of U.S. macroeconomic policy, however. In February, 1959, Keynesian

⁵⁶¹ Bremner 2004, 137.

⁵⁶² "International Payments Position of the United States." Cited in Gavin 2004, 38.

⁵⁶³ James 1996, 154-5.

⁵⁶⁴ Foreign monetary authorities were also alarmed by the U.S.'s declining international payments position. In March 1959, a delegation from the BIS visited the FRBNY and offered to sell up to \$250 million dollars' worth of gold to the Federal Reserve on favorable terms through repurchase agreement. They planned on selling the Fed gold held on deposit at the FRBNY, and purchasing offsetting amounts in the London gold market when the repurchasing agreements matured. Although this plan was never implemented, the BIS's olive branch foreshadowed an enhanced diplomatic role for the Federal Reserve and central bankers broadly in the 1960s. Andrews 2008, 102.

economists Walter Heller and Paul Samuelson testified before the congressional Joint Economic Committee attacking Eisenhower's austerity budget. Heller stated "the obsession with Federal expenditure cutbacks and early budget balance as a prerequisite to price stability is unfounded."⁵⁶⁵ Samuelson advised "to put the major emphasis on growth of real income... not letting concern over price inflation dominate decisions." Chairman Martin also testified in defense of Eisenhower's budget and the primacy of the price stability objective. He argued policy should "support sound credit expansion" so that "savers can have confidence in the future value of their investments."⁵⁶⁶ Martin pledged that the Federal Reserve would continue "the battle against the debasement of the currency with all of its perils to free institutions."

Through 1960, old guard conservatives dominated macroeconomic policy decisions in the Eisenhower administration and the Federal Reserve. With the approach of the 1960 presidential election, however, Keynesian economists argued that macroeconomic policies should be geared toward increasing economic growth and employment rather than restoring external balance. In March, the U.S. economy once again entered into recession. Between March and August, the FOMC eased open market policy and the Board lowered discount rates and reserve requirements. By October, the Federal Funds rate had fallen nearly two full percentage points from its February peak of 3.94%. In spite of the Fed's aggressive easing, the economy remained in recession through the November elections. Both presidential candidates, John F. Kennedy and

⁵⁶⁵ Quoted in Bremner 2004, 138.

⁵⁶⁶ U.S. Congress. Joint Committee on the Economic Report of the President. 1959. *Hearings on the Economic Report of 1959*. 86th cong., 1st sess., 467.

Richard Nixon, criticized the Federal Reserve's restrictive policies. Kennedy campaigned on a promise to increase the national economic growth rate to 5%.⁵⁶⁷ Whenever Kennedy encountered an economist, he asked them how he could achieve this goal.⁵⁶⁸

Over the summer of 1960, speculation broke out surrounding the future of the U.S. dollar. Capital-holders feared that a Kennedy presidential victory would hand U.S. macroeconomic policy levers to expansion-hungry Keynesian economists, stoking inflation.⁵⁶⁹ Uncertainty was exacerbated by fears that the Berlin crisis would spiral into open hostilities between the U.S. and the Soviet Union.⁵⁷⁰ Dollar speculation manifested itself as rising prices on the London gold market. As the U.S. recession dragged on and a Kennedy victory appeared increasingly likely, the price of gold skyrocketed. The London gold price reached \$40.60 per ounce on October 26th, five dollars over the dollar's parity.

Recognizing that uncertainty over the future course of economic policy was fueling dollar speculation, Kennedy made a public statement on October 31st declaring that his administration would maintain U.S.'s commitment to gold at the existing parity.⁵⁷¹ Although Kennedy's gold pledge temporarily eased speculative pressures, policymakers in the Eisenhower administration and the Federal Reserve remained convinced that drastic policy adjustments were necessary to restore confidence in the

⁵⁶⁷ Bremner 2004, 149.

⁵⁶⁸ James 1996, 178.

⁵⁶⁹ James 1996, 159; Toniolo 2005, 369; Andrews 2008, 107.

⁵⁷⁰ Gavin 2004, 45. Furthermore, gradual price inflation in a context of gold being fixed in terms of national currencies increased gold demand for industrial and artistic purposes. James 1996, 159.

⁵⁷¹ For an argument that Kennedy's pledge marked a decisive and durable shift in U.S. foreign economic policy toward promoting currency stability, see Andrews 2008. Contrastingly, this chapter argues that a lack of complementary macroeconomic policy adjustments rendered Kennedy's pledge incredible.

dollar. From the administration's perspective, the U.S.'s deteriorating payments position was driven primarily by Federal expenditures abroad to station U.S. troops in Europe. The administration believed that the payments deficit could be closed by either withdrawing U.S. troops or convincing its European allies to shoulder more of the fiscal burden of stationing them. On October 7th, President Eisenhower wrote West German Chancellor Adenauer requesting that his government pay the costs of stationing U.S. troops in Germany.⁵⁷² Adenauer refused, claiming such a policy was politically infeasible in a German election year. Treasury Secretary Anderson warned the U.S. might "have to pay out gold for practically all of our balance of payment deficit... [in Anderson's lifetime] we have not been faced by a problem as serious as the one facing us today."⁵⁷³

Chairman Martin believed Kennedy's campaign pledge to accelerate economic growth worried foreign dollar-holders. On November 22, he told his FOMC colleagues, "Until the whole world has a clear understanding of what the new administration contemplates, there will be great difficulty in following a proper [monetary policy] course.... [T]he balance of payments problem is the most important problem for the country to deal with at this time."⁵⁷⁴ At the next meeting, he warned that the Fed's policies was exacerbating uncertainty, "The system is seen as playing fast and loose with the credit of the U.S... due to the easy monetary policy we have been pursuing."⁵⁷⁵

⁵⁷² Gavin 2004, 47.

⁵⁷³ On November 7th, Anderson floated the idea of asking Congress to rescind legal provisions requiring a 25% gold cover for domestic currency in circulation, but warned it "would set off the biggest monetary debate in our history with terribly damaging effects." Gavin 2004, 47-49.

⁵⁷⁴ FOMC Minutes 11/22/1960, 41.

⁵⁷⁵ FOMC Minutes 12/13/1960.

Martin's fears didn't stem from paranoia. Between 1958 and 1960, the U.S.'s monetary gold stock had fallen by over \$5 billion dollars, nearly 25%. By January, 1961, the U.S. gold stock stood barely over \$17 billion, \$12 billion of which was legally-mandated collateral for domestic dollar claims.

In December, 1960, Eisenhower and Anderson advised president-elect Kennedy about the balance-of-payments problem.⁵⁷⁶ Kennedy quickly formed a balance-of-payments task force. He appointed former FRBNY President Allan Sproul to head the commission. The task force's primary recommendation was that Kennedy appoint a Treasury Secretary "who enjoys high respect and confidence in the international financial world."⁵⁷⁷ Kennedy passed on liberal candidates, such as John Kenneth Galbraith, and instead appointed the incumbent Undersecretary of State Douglas Dillon, a "conservative Republican and Wall Street stalwart." Kennedy appointed Sproul's FRBNY protégé, Robert Roosa, as Undersecretary of the Treasury for Monetary Affairs. The Dillon-Roosa faction would lead the charge within the Kennedy administration to reign in the external deficit and save Bretton Woods.⁵⁷⁸ They allied with Chairman Martin and FRBNY President Hayes inside the Fed in pursuit of these goals.

⁵⁷⁶ In the waning days of his presidency, Eisenhower dispatched Treasury Secretary Anderson and Undersecretary of State Douglas Dillon on a European tour to enlist support from the West German and French governments to help offset the costs of stationing U.S. troops in Europe. Once again, German Chancellor Adenauer refused to provide support, explicitly telling the delegation that he would receive greater political benefits by waiting to negotiate with the next administration. Anderson and Dillon were similarly unable to extract concessions from France. Gavin 2004, 52.

⁵⁷⁷ The group also proposed two routes to eliminate the payments deficit. It proposed a "restrictionist" avenue of cutting foreign expenditures through withdrawing troops and decreasing foreign aid. It endorsed an "expansionist" alternative of increasing exports, unilaterally reducing U.S. tariffs, easing capital restrictions, boosting tourism, and convincing Europeans to help pay for mutual defense. See Gavin 2004, 56-7, 62; Andrews 2008, 110.

⁵⁷⁸ Toniolo 2005, 371-2; Andrews 2008, 117.

In December, 1960, Eisenhower authorized the FRBNY to begin sending a representative to monthly BIS meetings in Basel, Switzerland.⁵⁷⁹ The FRBNY dispatched Charles Coombs, its Vice-President for International Affairs, to attend the December meeting. Coombs reported back, “European central bankers were beginning to show signs of acute anxiety as to the future of the dollar. This anxiety was reflected in almost aggressive questioning as to the prospective policies of the new administration...”⁵⁸⁰ In January, FRBNY President Hayes joined Coombs in Basel. Hayes told his European counterparts that his presence was a “goodwill gesture” and didn’t represent an official change in the U.S.’s official BIS non-affiliation. Hayes reassured the Europeans that the new administration had no intentions of abandoning fundamental U.S. foreign economic policy commitments, including the dollar’s convertibility, free trade, and free international capital mobility.⁵⁸¹ Europeans were comforted by Hayes’ message and the Dillon and Roosa appointments. They demanded that the Fed avoid “nullify[ing] European cooperative action by allowing interest rates to drop further.” The French representative brought up the possibility of a gold guarantee for France’s dollar holdings, but he was opposed by the other central bank governors. The Bank of Italy’s former governor, Donato Menichella, argued a gold guarantee would become “a fatal obstacle to monetary and fiscal discipline” in the U.S.

On February 6th, 1961, newly-inaugurated President Kennedy gave a speech addressing the U.S.’s balance-of-payments situation. He declared, “The United States

⁵⁷⁹ Toniolo 2005, 364; Andrews 2008, 113.

⁵⁸⁰ Toniolo 2005, 371.

⁵⁸¹ Toniolo 2005, 372.

official dollar price of gold can and will be maintained at \$35 an ounce. Exchange controls over trade and investment will not be invoked. Our national security and economic assistance programs will be carried forward. Those who fear weakness in the dollar will find their fears unfounded. Those who hope for speculative reasons for an increase in the price of gold will find their hopes in vain.”⁵⁸²

Currency speculation continued. Since Kennedy had taken a dollar devaluation off of the table, speculative pressure shifted toward West Germany, which was experiencing persistent balance-of-payment surpluses. On March 6th, the Deutsche mark was revalued by 5% vis-à-vis the U.S. dollar. Market participants considered this revaluation overly modest. The mark, the Italian lira and French franc surged on the foreign exchanges. To combat this speculative pressure, Bundesbank Governor Karl Blessing suggested the FRBNY make large sales of marks on forward markets. When the forward contracts matured, the Bundesbank promised to cover the foreign exchange costs of FRBNY sales it suffered a loss. At the March BIS meeting in Basel, the BIS offered the FRBNY a \$1 billion dollar standby credit line. Pressure against the dollar finally subsided.⁵⁸³

The Battle to Shape Currency Policy inside Kennedy's New Frontier

Fears that the Kennedy administration might enact policies which would destabilize the fragile fixed exchange rate regime were not unfounded. Aside from his conservative Treasury appointments, Kennedy surrounded himself with Keynesian economic advisors. He appointed Walter Heller (University of Minnesota) to head the

⁵⁸² Quoted in Andrews 2008, 111.

⁵⁸³ Toniolo 2005, 374.

Council of Economic Advisors (CEA) and filled its ranks with economists James Tobin (Yale) and Kermit Gordon (Williams). Paul Samuelson was made a presidential adviser. John Kenneth Galbraith was named Ambassador to India. This Keynesian faction hoped to increase government spending and lower interest rates and taxes to accelerate economic growth. Heller recognized, however, that the dollar's weakness posed a "cruel dilemma."⁵⁸⁴ The pro-growth policies advocated by the CEA would inevitably lead to a further deterioration of the U.S.'s balance-of-payments. The Heller- and Dillon-led factions battled within Kennedy's administration to shape currency policies.

The Keynesian faction was attracted to Robert Triffin's prognosis that the Bretton Woods system was inherently flawed.⁵⁸⁵ In 1960, Triffin published the "Gold and the Dollar Crisis," where he predicted the imminent collapse of the fixed exchange system. Triffin argued that a paradox plagued the international payments system. Because the dollar was the global reserve currency, its supply needed to expand at a rate which would facilitate surging international trade. For the U.S. to provide this liquidity, however, it needed to run continuous balance-of-payments deficits. Over time, cumulative external deficits would result in more dollars being held abroad than U.S. monetary authorities had gold to redeem them. When foreign authorities realized this asymmetry, they would rush to trade their dollars for gold and a global run on the dollar would collapse the fixed exchange regime. The chaotic unraveling of Bretton Woods would trigger a global

⁵⁸⁴ Gavin 2004, 71.

⁵⁸⁵ The CEA enlisted Triffin to help develop proposals for reconstructing the international monetary regime. See Heller memorandum to President Kennedy, 3/18/1961. "International Monetary Reform and Related Problems." Papers of John F. Kennedy. Presidential Papers. President's Office Files. Departments and Agencies. Council of Economic Advisers (CEA), 1961: January-March.

liquidity crunch, and likely lead to the return of depression. Triffin's proposed solution to this dilemma was to establish a new global currency issued by a supranational central bank. Kennedy's Keynesian advisers took refuge in Triffin's paradox. By rooting currency instability in a flawed monetary structure, rather than in the policies of persistent deficit states (e.g. the U.S. and U.K.), Triffin's interpretation provided justification for sustaining expansionary policies despite their negative impact on the balance-of-payments position. In Triffin's view, the U.S.'s external deficits served as a global public good. The Heller-led faction argued that U.S. austerity measures would both choke the domestic economy and cause a global liquidity crunch.

The clash between the Keynesian and old guard factions broke out immediately within the Kennedy administration. In March, 1961, Heller urged the president to tell Federal Reserve Chairman Martin "the time has come not for nudging [rates] but for a real shove... to make investment funds abundant and inexpensive."⁵⁸⁶ That month Heller, Dillon, and Martin testified before the congressional Joint Economic Committee. Heller argued that the recession's recent end was "only the beginning, not the end of the task of restoring momentum to the American economy." He called for lower long-term interest rates and increased Federal expenditures.⁵⁸⁷ Dillon stated he hoped the balance-of-payments problem would be resolved "sometime during calendar 1963." He told the committee that the president's "vigorous and determined" pledge to defend the dollar had already caused a "decided slackening" in gold outflows. Martin then testified against

⁵⁸⁶ Quoted in Bremner 2004, 156.

⁵⁸⁷ To read the CEA's full report for the Joint Economic Committee, see Papers of John F. Kennedy. Presidential Papers. President's Office Files. Departments and Agencies. Council of Economic Advisers (CEA): Testimony, 6 March 1961.

implementing an expansionary macroeconomic program, arguing “Attempts to reduce structural unemployment by massive monetary and fiscal stimulation of over-all demands likely will have to be carried to such lengths as to create serious inflationary problems.”⁵⁸⁸

Keynesians would fail to grasp the levers of national economic policy under Kennedy’s watch. Kennedy regularly told his advisers that “the two things which scared him most were nuclear war and the payments deficit.”⁵⁸⁹ Instead, the old guard faction of Dillon, Roosa, Martin, and Hayes charted the nation’s currency policy and led the charge to preserve Bretton Woods.

The next section overviews the construction of what Robert Roosa called the dollar’s “outer perimeter defenses” in the early 1960s, it demonstrates that Federal Reserve agents played key diplomatic roles in collaborating with European central bankers to find short-term solutions to currency speculation and buy time while the U.S. balance-of-payments position improved. It then argues that the effort to save Bretton Woods was undermined by a lack of supportive macroeconomic policy adjustments inside the U.S. Fiscal policy stagnated due to the clash between Keynesians and conservatives which was mapped onto the protracted budgetary process. Monetary policy also rigidified as an ideological split emerged inside the FOMC between the old-guard leadership and insurgent Keynesian appointees to the Board. Before the U.S.’s inflation rate began rising in 1965, international support for propping up the dollar was already

⁵⁸⁸ See discussion in Bremner 2004, 158.

⁵⁸⁹ Kennedy held a dogmatic belief that currency devaluation caused an insufferable loss of national prestige and influence. James 1996, 158; Gavin 2004; Andrews 2008.

waning. Cumulative non-adjustments of U.S. macroeconomic policies rendered the U.S.'s gold commitment incredible. When U.S. fiscal policy shifted toward expansion after 1964, it merely hastened the inevitable collapse of Bretton Woods.

Constructing the Dollar's Outer Perimeter Defenses

Between 1961 and 1964, Federal Reserve and U.S. Treasury officials collaborated with European central bankers to develop new mechanisms for stabilizing the fixed exchange rate system. Although policymakers were aware of Triffin's dilemma, they believed the incumbent order could be sustained indefinitely so long as foreigners were willing to continue accumulating dollars. Central bank cooperation's return to the forefront of international monetary relations led one analyst to describe the 1960s as the "heyday" of Bretton Woods.⁵⁹⁰ Cooperative efforts were geared toward achieving two major objectives, reducing the U.S.'s large external deficit and creating new international financial linkages which would deter currency speculation.

During the first half of the 1960s, the U.S.'s balance-of-payments deficit was driven entirely by capital outflows as the current account remained in surplus.⁵⁹¹ Between 1959 and 1964, the U.S. merchandise trade surplus actually increased from \$1,148 million in to \$6,801 million dollars. The balance-of-payments deficit was driven by two main sources, government expenditures abroad and private capital flows. Federal foreign expenditures were dominated by the costs of stationing U.S. troops overseas and averaged \$3 billion dollars per year between 1960 and 1964. Private capital outflows from the U.S. were made up of foreign direct investment and the movement of American

⁵⁹⁰ James 1996, 148.

⁵⁹¹ James 1996, 157-8.

funds into European banking systems and Euromarkets. Private capital exports ballooned from \$2.1 billion dollars in 1960 and to \$4.5 billion in 1964.

In 1961, the Kennedy administration asked its NATO allies to counter the balance-of-payments impact of the U.S.'s defense-related expenditures abroad by using U.S. military expenditure-related dollar surpluses to buy U.S.-produced military hardware.⁵⁹² This pressure was aimed most directly at West Germany, which both generated the largest dollar surpluses and was the most vulnerable to a withdrawal of U.S. troops. West Germany's opposition to military offsets softened after the erection of the Berlin Wall in 1961. In 1962, a full offset agreement was reached where Germany agreed to buy U.S. military hardware and U.S. Treasury bonds up to the full costs of stationing American troops.⁵⁹³ Each U.S. government agency was also instructed to develop a stringent "gold budget" which accounted for its impact on the national balance-of-payments position.⁵⁹⁴ Treasury Secretary Dillon led a minority faction calling for the full withdrawal of U.S. forces stationed in Europe to fix the U.S.'s external imbalance.⁵⁹⁵

A second area of concern was the role of low short-term interest rates in pushing U.S. capital abroad. This brought into question the FOMC's bills-only policy. Although bills-only was designed to defend the Federal Reserve's independence, in practice the system continued supporting Treasury refunding campaigns. In 1954 and 1958, the

⁵⁹² James 1996, 161; Gavin 2004, 64-67; Toniolo 2005, 405.

⁵⁹³ Although the U.S. demanded similar offset agreements with its other NATO allies, it was only able to extract a small \$100 million dollar commitment from Italy. Gavin 2004, 68.

⁵⁹⁴ Gavin 2004, 80; Andrews 2008, 111.

⁵⁹⁵ Gavin 2004, 47.

FOMC agreed to provide exceptional support for Treasury refinancing operations.⁵⁹⁶ In 1958, heavy Federal Reserve purchases drove Treasury bill yields down from 2.4% in January to .8% in June. Since short-term market interest rates closely tracked Treasury bill changes, interventions to support Treasury refunding campaigns pushed U.S. short term interest rates below those prevailing in Europe. In these situations, market agents had incentives to move their mobile capital abroad. This dynamic repeated itself in 1960. In January, Treasury bills yielded 4.35%, but by October they yielded only 2.3%. On October 25th, Hayes (FRBNY) lamented, “[T]he sharp decline in bill rates has doubtless been a significant factor in the deterioration in the balance of payments deficit in the third quarter.”⁵⁹⁷

In February 1961, Robert Roosa asked the FOMC to abandon bills-only and buy longer-dated Treasury bonds. Roosa wanted to twist the yield curve by allowing short-term interest rates to rise while keeping long-term interest rates stable. Chairman Martin now agreed that bills-only was contributing to the gold outflow.⁵⁹⁸ The FOMC voted to support “Operation Nudge” which shortly developed into “Operation Twist” (see Figure 11).⁵⁹⁹ Although the Fed’s interventions were less dramatic than some administration

⁵⁹⁶ In these periods, the FOMC agreed to temporarily abandon bills-only and support Treasury financing operations at all maturity lengths. In these periods, the Fed still did the majority of its purchases in bills, however.

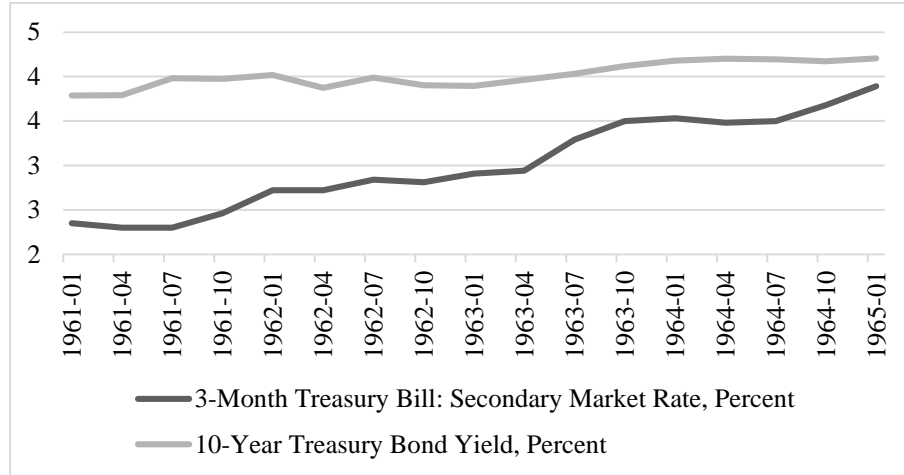
⁵⁹⁷ FOMC Minutes 10/25/1960.

⁵⁹⁸ Meltzer (2009, 474) argues “[Martin] was not confrontational, dogmatic, or unwilling to change his mind. He admitted mistakes and respected Board members who disagreed with him.”

⁵⁹⁹ Kettl 1986, 99; Bremner 2004, 159; Wood 2005, 256.

officials hoped for, they had the intended effect of allowing short term interest rates to rise without pushing up long term rates.⁶⁰⁰

Figure 11: Short- and Long-term Treasury Rates (1961-1965)



Source: Fred Database

In addition to these measures intended to address policy-related aspects of the U.S.'s external deficit, Roosa, Hayes, and Martin embarked on an ambitious endeavor to convince Europeans to accommodate the U.S.'s external deficits in the short-run, while building durable institutional safeguards to deter currency speculation. The first goal was pursued by the issuance of so-called Roosa bonds in 1962.⁶⁰¹ These 12- and 24- month bonds were marketed directly to European central banks as an alternative to exchanging surplus dollars for U.S. gold. Roosa bonds were sold for dollars, but were repayable in Swiss Francs, transferring exchange rate risk to the U.S. By the end of 1963, over \$750 million in Roosa bonds were outstanding.

⁶⁰⁰ For example, Heller complained that the Federal Reserve's support was "half-hearted" and "timid." Kettl 1986, 99.

⁶⁰¹ James 1996, 160; Bremner 2004, 166-7; Toniolo 2005, 388; Michael D. Bordo and Barry Eichengreen 2013.

Three additional international regimes were created to stabilize the fixed exchange rate system: the London gold pool, the General Arrangements to Borrow facility at the International Monetary Fund (IMF), and a central bank currency swap network. In November 1961, FRBNY President Alfred Hayes attended the BIS's meeting and proposed establishing a central bank syndicate for intervening in the London gold market.⁶⁰² Central bankers from the U.S., Switzerland, Britain, West Germany, France, Italy, Belgium, and the Netherlands collectively pledged \$270 million dollars' worth of gold to sell if the market price of gold in London rose above \$35.20. The gold pool was also a buyer's cartel, however. Each participating central bank pledged not to purchase gold autonomously. By delegating gold purchasing authority to the Bank of England, the central banks would avoid a competitive scramble for gold which would drive up its price. The central bankers believed that if gold speculation could be eliminated, the long run supply of monetary gold reserves would exceed central bank demand. Therefore, they believed the gold pool would promote long-run price stability. Through 1964, the pool's gold sales were negligible and participating central banks' gold reserves had risen by \$1.2 billion dollars.⁶⁰³

The second regime established to stabilize the fixed exchange rate system was the IMF's General Agreements to Borrow (GAB) facility. In a 1958 speech at Harvard University, IMF Research Director Edward Bernstein proposed enlarging the IMF's stock of non-dollar reserves in case the U.S. needed to quickly access funds to fend off

⁶⁰² A similar proposal was first floated by the Banque de France governor a year earlier. Treasury Secretary Dillon broached the subject with his G10 counterparts at the September 1961 meeting of the IMF. See discussions in James 1996, 160; Gavin 2004, 60; Toniolo 2005, 375-381; Andrews 2008, 117.

⁶⁰³ Toniolo 2005, 381.

currency speculation.⁶⁰⁴ In 1960, Per Jacobsson, the IMF's Managing Director, told Chairman Martin, "To succeed in an antideflationary policy they must work together - but it is sufficient that the leading industrial countries work together.... These countries are, I think, able to determine together . . . the price trend - through appropriate open market and wage policies. Fortunately they all by now have more or less adequate reserves... [but] borrowing could not really be improvised in a crisis: some advance arrangements had to be made."⁶⁰⁵ Jacobsson warned that unless the GAB facility were established, "an obstinate Managing Director might refuse to initiate borrowing procedures before the U.S. budget balanced." Milton Gilbert, a BIS economic advisor, pointed out "it had not been anticipated in Bretton Woods that the United States might be an applicant for IMF credit."⁶⁰⁶ What was needed was "the creation of an additional facility by those industrial countries with an interest in preserving the functioning of the world reserve system." In December 1961, the G10 industrial countries pledged an additional \$6 billion on a standby basis which could be readily accessed by a large sovereign borrower on an emergency basis.

The dollar's final "outer perimeter defense" was the establishment of a central bank currency swap network. Early in 1961, Chairman Martin wrote Governor Brunet of the Banque de France proposing the creation of a central bank task force to study "the problem of restraining or neutralizing short-term capital movements arising from interest

⁶⁰⁴ Toniolo 2005, 399-402.

⁶⁰⁵ Quoted in James 1996, 162.

⁶⁰⁶ Quoted in Toniolo 2005, 399-400.

arbitrage and speculation.”⁶⁰⁷ Charles Coombs, the FRBNY’s representative, proposed establishing a currency swap network where each central bank would maintain bilateral credit lines accessible at any time to combat a speculative attack. Although continental Europeans were reluctant to establish a new mechanism which would automatically extend credit to deficit countries, they eventually agreed.⁶⁰⁸

Chairman Martin had more trouble selling the swap network domestically inside the Federal Reserve, however. He first broached the subject at the September 1961 FOMC meeting, but was met with indifference. Martin again brought it up on December 5th, but again failed to win support. Gov. Robertson summarized the majority’s sentiment, “There are no gimmicks by which the position of the dollar can be maintained in the world. It would be unwise to resort to devices designed to hide the real problems. The United States must practice what it has long preached about the need for monetary and fiscal discipline.”⁶⁰⁹ Two weeks later Martin delivered a letter from Undersecretary of the Treasury and former FRBNY official Robert Roosa to the FOMC. Roosa argued, “Only the central bank can make the prompt, smooth adjustments that are called for [during a currency crisis]. The very existence of a central banking capability for coping effectively with volatile flows can give confidence to international traders and investors and further the orderly evolution of international market processes.”⁶¹⁰

⁶⁰⁷ Quoted in Toniolo 2005, 384.

⁶⁰⁸ Toniolo 2005, 387.

⁶⁰⁹ Only FRBNY President Hayes and Governor George Mitchell supported the initiative. FOMC Minutes. 12/5/1961.

⁶¹⁰ Letter included in FOMC Minutes. 12/19/1961.

The matter came to a head at a FOMC meeting on February 13, 1962, at which point the Federal Reserve's whole litany of unresolved governance questions was again revisited. Did the system have the legal authority to intervene in foreign currency markets? If it did, who would oversee foreign currency operations: the Board, the FOMC, a subcommittee thereof, or the FRBNY? Did clear rules need to be established prior to proceeding? Why was Federal Reserve intervention necessary given the existence of the Treasury's Exchange Stabilization Fund? Was Federal Reserve intervention only favorable due to its "unlimited pocketbook?"⁶¹¹

FOMC members were also skeptical of the plan's policy implications. Charles Coombs was asked how the system's interventions would relate to Treasury foreign exchange operations. Coombs pointed out that the Treasury's Exchange Stabilization Fund was nearly depleted.⁶¹² Coombs was also asked what might be expected to be accomplished by intervening in a specific foreign currency. He replied "it would be assumed that central banks would never be operating at cross purposes." Martin described the actions "as a kind of lubricating device. These operations could not effect a fundamental cure for the balance-of-payments problem, but it should be possible to lubricate the market to a certain extent. The System's operations should not be so large as to try to correct a basic deficit, but they should be sufficient to give some assistance until

⁶¹¹ This question was posed by Gov. Robertson, FOMC Minutes 2/13/1962, 62.

⁶¹² He reported the ESF had been reduced to \$330 million and only \$125 million of that was available for currency interventions. Therefore the Treasury lacked the resources to engage in large scale currency interventions. FOMC Minutes. 2/13/1962, 55.

the more fundamental problems could be corrected.” Coombs agreed, the “whole point of these operations was to gain time until the basic situation changed.”⁶¹³

Gov. Mitchell pointed out that FOMC members lacked the expertise to supervise foreign currency operations, “If the Open Market Committee was going to consider international and domestic factors together, the members would have to become as conversant with the international considerations as the domestic.”⁶¹⁴ Martin urged his colleagues to rise to the challenge, “The world was changing quite a bit today... ten years from now operations in foreign currencies probably would be just as much a part of the System as open market operations in Government securities.”⁶¹⁵ The proposal was finally approved unanimously. As Coombs later recalled, “the FOMC somewhat apprehensively approved the undertaking.”⁶¹⁶ By the end of 1963, the FRBNY had established over \$2 billion dollars’ worth of swap lines. As James describes, the currency swap networks “revived in a straightforward way the day-to-day collaboration maintained in the 1920s between Governors Strong and Norman.”⁶¹⁷

⁶¹³Martin then asked Coombs to explain the circumstances under which the system might incur losses on its exchange interventions. Coombs “indicated that the most basic risk would be involved in the revaluation of a foreign currency.” He explained the Treasury had avoided such losses by requesting foreign central banks give two days’ notice prior to a revaluation, and this concession had been readily granted. FOMC Minutes. 2/13/1962, 59.

⁶¹⁴ FOMC Minutes. 2/13/1962, 74.

⁶¹⁵ FOMC Minutes. 2/13/1962, 78.

⁶¹⁶ Quoted in Bremner 2004, 171.

⁶¹⁷ James 1996, 160.

Monetary Policy Rigidity in the Kennedy Years

Central bankers recognized that cooperation alone couldn't save Bretton Woods. The BIS's 1961 Annual Report stated: "While central bank co-operation... provides a strong basis for meeting speculative attacks on currencies... They afford temporary relief of a situation but they do not cure it. They take the strain off the exchange markets at moments of disorderliness but they do not make weak currencies strong. They afford time for adaptations of policies but they are not a substitute for such adaptations."⁶¹⁸ This section demonstrates that Chairman Martin and FRBNY President Hayes pushed their colleagues on the FOMC to enact tighter monetary policies in the early 1960s to address the dollar's underlying weakness, but were hamstrung in their efforts by a fragmented policymaking process and increasing ideological polarization.

Thus far, this chapter has argued that the old guard faction dominated U.S. currency policy under Kennedy. Their victory over the CEA was not total, however. Shortly after Kennedy became president, he had the opportunity to fill a vacancy on the Board of Governors. Traditionally, the Treasury Secretary and the Chairman of the Board collaborated in identifying a potential governor, whom the President then appointed. Walter Heller was determined, however, to convince the president to appoint an economist who would exert a "liberal expansionary influence" on the Board.⁶¹⁹ On June 12th, 1961, Heller sent the president a memorandum suggesting the Board's vacancy provided an opportunity "to groom someone to succeed Martin when his chairmanship

⁶¹⁸ Quoted in Toniolo 2005, 383.

⁶¹⁹ Quoted in Bremner 2004, 160.

ends on March 31, 1963.”⁶²⁰ The current Board was “too passive... too unimaginative... [and] biased on the restrictive side – cutting booms off too soon and fighting unemployment half-heartedly.” Heller recommended that Kennedy appoint George Mitchell, the Chief Economist of the Federal Reserve Bank of Chicago.⁶²¹ Mitchell’s liberal credentials were demonstrated by his work on Adlai Stevenson’s 1956 presidential campaign. Heller recognized Martin would be have trouble opposing Mitchell’s appointment, as he was a well-respected member of the Chicago Fed. Kennedy announced Mitchell’s appointment in July. Shortly thereafter, Heller wrote Kennedy telling him that Mitchell was anxious to learn the “party line” so he could “meet the president’s expectations and justify his confidence.”⁶²² Heller was confident Mitchell would be his ally inside the Fed. “His general sympathy lies strongly with the president. He is not prepared to accept every move that Bill Martin makes.”⁶²³

Heller’s intuition that Mitchell’s presence on the Board would lead to an easier monetary policy proved correct, but not in the way that he expected. Heller hoped Mitchell would convince other FOMC members to lower long-term interest rates and discount rates. Instead, Mitchell slowed the system’s customary tightening of monetary policy as the economic expansion phase progressed by creating a new domestically-

⁶²⁰ Heller memorandum to President Kennedy, 6/12/1961. “Filling the Vacancy on the Federal Reserve Board.” Papers of John F. Kennedy. Presidential Papers. President's Office Files. Departments and Agencies. Council of Economic Advisers (CEA), 1961: June.

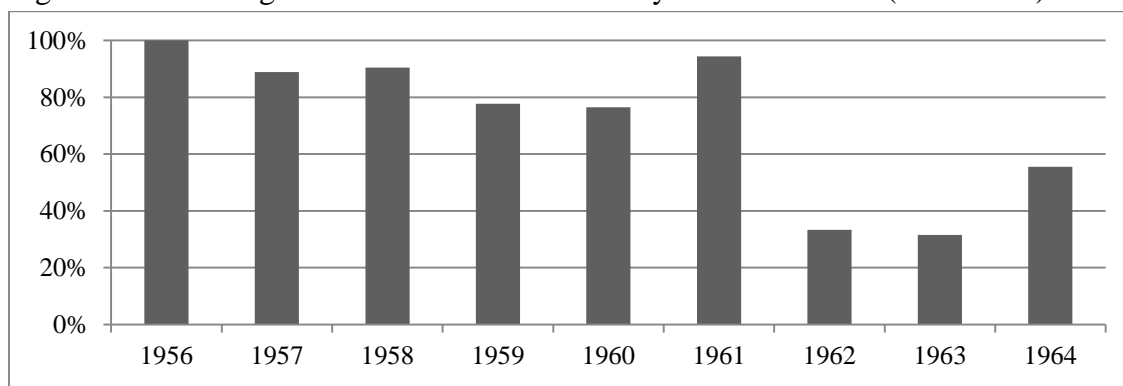
⁶²¹ Bremner (2004, 160) points out “Heller was the first CEA chairman to see the value of placing activist, pro-administration economists on the Fed’s board of governors.”

⁶²² Heller memorandum to President Kennedy, 7/13/1961. “Favorable Developments on the Federal Reserve Front.” Papers of John F. Kennedy. Presidential Papers. President's Office Files. Departments and Agencies. Council of Economic Advisers (CEA), 1961: July.

⁶²³ Quoted in Bremner 2004, 161.

oriented ideological pole within the system. Previously, the FOMC deferred to Martin and Hayes' internationally-oriented leadership. Although it often took several meetings before a consensus would form around Martin and Hayes' preferred policy adjustments, when Martin did bring changes up for a vote, they were usually unanimous. After Mitchell officially joined the Board of Governors on August 31st, 1961, his stalwart dovishness led to a breakdown of consensus on the FOMC (see Figure 12).

Figure 12: Percentage of Unanimous FOMC Policy Directive Votes (1956-1964)



The FOMC voted unanimously to maintain the same open market policy directive throughout 1961 until its final meeting on December 19th, when it voted 8-4 to increase monetary restraint. Mitchell led the dissent stating “he did not think this was the right time to start tightening.”⁶²⁴ Mitchell’s opposition to higher interest rates was in line with contemporary Keynesian orthodoxy, which prescribed low interest rate policies to support fiscal activism.

On 23 January 1962, Hayes asked his colleagues to raise the discount rate to signal that the U.S. was serious about tackling its external deficit, “This country is just too easy a place in which to borrow and not a sufficiently attractive place in which to

⁶²⁴ FOMC Minutes 12/19/1962.

invest... In terms of open market policy this means that we should edge toward less ease... The balance of payments problem is serious enough to raise the question whether we could not act on the [discount] rate in advance of a market rate rise... to emphasize... our determination to do our part in meeting the critical international problem.”⁶²⁵ Johns (St. Louis) agreed, “Higher interest rates would be beneficial from the standpoint of the balance of payments, both in the shorter and the longer run.”⁶²⁶

Mitchell (Board) led the charge against higher rates. He first noted his disagreement with Martin and Hayes’ view that interest rates should rise automatically as time passed during a business expansion.⁶²⁷ Mitchell then addressed the international situation, “It might be true that this country was a good place to borrow for people in countries with higher interest rates. Nevertheless, one must be cautious about adopting a particular policy that was at odds with what the domestic economy required. A move in the direction of higher interest rates would not... renew the confidence of foreigners in this country. Such a move would perhaps make it a little harder for American banks to lend abroad, but this was about as much as the technique could hope to accomplish.”

Bopp (Philadelphia) stated he wouldn’t support monetary policy tightening until he saw

⁶²⁵ Hayes emphasized that monetary policy alone could not correct the dollar’s underlying weakness and suggested Martin “stress to the Administration the seriousness with which we regard the international outlook and... urge a more prompt and vigorous concerted Government program to meet the balance-of-payments outlook...” FOMC Minutes 1/23/1962, 11-12.

⁶²⁶ Shepardson (Board) and Mills (Board) also voiced support for Hayes’ proposal. Deming (Minneapolis), Ellis (Boston), and Irons (Dallas) agreed with Hayes’ view, but believed timing was poor for a policy change due to a forthcoming refinancing campaign by the Treasury, during which the system would keep an “even keel.”

⁶²⁷ Mitchell argued “monetary policy should be formulated according to the events of the moment.” FOMC Minutes. 1/23/1962, 15-16.

evidence of accelerating inflation.⁶²⁸ Many committee members stated that the system should delay a policy change in light of a forthcoming Treasury refinancing campaign.⁶²⁹ Customarily, the system maintained an “even keel” during refunding campaigns, meaning that it tried to keep interest rates stable for the duration of bond drive. Irons (Dallas) summarized the FOMC’s dilemma, “the Committee continue[s] to face the problem of trying to strike a balance between the domestic situation and the international situation. At present there [is] also the fact that a Treasury refunding [is] in the offing.”⁶³⁰

After everyone else spoke, Martin stated “...at this point there was less urgency for tightening, apart from the international situation... [which] was very difficult to evaluate; it was easy to see ghosts that might or might not be there... the immediate fact of overriding importance was the Treasury refunding... he thought the consensus today was essentially to maintain an even keel.”⁶³¹ The committee voted unanimously to keep an even keel for the duration of the refunding campaign and to forego an immediate discount rate increase.

In March, FOMC Secretary Ralph Young reported back from his attendance at a recent OECD meeting, “The tone of the meeting was highly critical of U.S. financial

⁶²⁸ Fulton (Cleveland), King (Board), Robertson (Board), Wayne (Richmond), Clay (Kansas City), Scanlon (Chicago), Deming (Minneapolis), Swan (San Francisco), Ellis (Boston), and Bryan (Atlanta) favored keeping policy stable.

⁶²⁹ Robertson (Board) noted a policy change was only possible for one week and then an even keel would need to be maintained for Treasury financing. Wayne (Richmond), Clay (Kansas City), Deming (Minneapolis), Swan (San Francisco), Irons (Dallas), Ellis (Boston) also argued even keel should guide short-term policy.

⁶³⁰ FOMC Minutes. 1/23/1962, 23.

⁶³¹ FOMC Minutes. 1/23/1962, 31-32.

policy. Confidence in the dollar is waning.”⁶³² Martin revisited the balance-of-payments problem, telling his colleagues it was “...a vital factor in the unemployment situation. Foreign capital was finding the United States less and less attractive, there were pressures for movement of capital abroad, and this was having a deleterious effect on employment in this country. It was also causing uncertainty with regard to capital investment for modernization and improvement of plant and equipment, which was vital to an expanding business picture. Therefore, the balance of payments problem was not separable from the over-all problem.”⁶³³ Hayes agreed, “Everyone would agree... that the basic solution was in remedying the U.S. balance of payments. At such time as it was demonstrated that the United States was doing that, the desire for gold would fade away. The reason for uncertainty was nervousness as to where this country was headed.”⁶³⁴

Despite Martin and Hayes’ calls for restraint, monetary policy changed slowly in the early 1960s. The discount rate increase Hayes demanded in January, 1962, wasn’t enacted until July, 1963. Policy changes were slowed by the interaction of fragmented institutions and ideological polarization. Bordo and Eichengreen summarize:⁶³⁵

The FOMC meetings between 1961 and 1964 featured vigorous debate between those individuals (usually including Chairman Martin) advocating tight policy to defend the dollar and the proponents of looser conditions designed to stimulate growth and reduce unemployment. On multiple occasions, the two groups deadlocked, resulting in no change in policy. Policy almost certainly would have been loosened in a number of these instances absent the importance attached by the first faction to balance-of-payments considerations.

⁶³² FOMC Minutes. 3/5/1962.

⁶³³ FOMC Minutes 3/5/1962, 56-57

⁶³⁴ FOMC Minutes 3/5/1962, 1962, 65.

⁶³⁵ Bordo and Eichengreen 2013, 457.

Keynesian Ascendancy and Macroeconomic Disorder under Johnson

The CEA's Keynesian economists exercised limited influence under President Kennedy. While Heller succeeded in shaping Kennedy's first appointment to the Federal Reserve Board, he was unsuccessful with subsequent appointments. When Martin's term as chairman drew to a close in early 1963, Heller hoped Kennedy would replace him with George Mitchell.⁶³⁶ Dillon declared his support for Martin's reappointment, however, "Martin's support of our fiscal policy will be of vital importance in holding foreign opinion in line during the coming months and avoiding any foreign loss of confidence in the dollar."⁶³⁷ Paul Samuelson agreed, telling Kennedy that Martin reassured foreigners and probably protected \$1 billion of the U.S.'s gold reserve. After Kennedy asked Martin to stay on, he told Heller, "Frankly I need Martin and Dillon. I need these Republicans to maintain a strong front as far as the financial community is concerned."⁶³⁸ Martin was a registered Democrat.

Another vacancy on the Board of Governors opened when G.H. King resigned on September, 18th, 1963. Again, Heller proposed that Kennedy appoint a liberal economist. This time he suggested Seymour Harris of Harvard, a prominent Federal Reserve critic.⁶³⁹ Martin and Dillon were determined not to be cut out of the appointment process again, however. According to Heller, Martin obscured the timing of King's pending retirement

⁶³⁶ Heller recalled a conversation with the President. Kennedy asked Heller, "Now tell me again, how do I distinguish [macroeconomic] policy?" Heller responded, "Well, monetary, M, that's Martin." Kennedy responded, "Yes, but what about when Martin is no longer chairman of the Fed?" Heller said, "Well, you've got Mitchell." Heller, Council of Economic Advisers Oral History Interview - JFK#1, 8/1/1964, 194-195.

⁶³⁷ Quoted in Bremner 2004, 174.

⁶³⁸ Heller, Council of Economic Advisers Oral History Interview - JFK#1, 8/1/1964, 354-357.

⁶³⁹ Bremner 2004, 181.

while he and Dillon vetted an appropriate candidate. They proposed J. Dewey Daane, a Treasury Department holdover from the Eisenhower Administration. Daane was a trained economist who formerly served as Vice President of the Federal Reserve Bank of Richmond. Kennedy appointed Daane.

The one area in which the CEA gained the Kennedy administration's support was in the realm of fiscal policy. In his 1963 State of the Union Address, Kennedy proposed a major tax cut to buoy economic growth. Conservatives attacked the proposal and it went nowhere in Congress. When Martin was reappointed, the administration asked him to publicly endorse the tax cut. Martin offered his guarded support to the Congressional Joint Economic Committee while insisting, "The System would be derelict in its responsibilities were it – in the light of a large deficit – to add to bank reserves and to bring about substantial credit expansion solely to facilitate the financing of the deficit."⁶⁴⁰ He warned, "Accelerated growth will lead to larger credit demand and a gradual rise in interest rates, not through a restrictive monetary policy, but through the influence of monetary forces."⁶⁴¹

Kennedy was assassinated on November 22nd, 1963. Shortly after Lyndon Johnson was sworn in as the new president, he declared to Walter Heller, "I'm no budget slasher... I am a Roosevelt New Dealer."⁶⁴² Johnson made passage of Kennedy's tax cut

⁶⁴⁰ U.S. Congress. Joint Committee on the Economic Report of the President. 1963. *January 1963 Economic Report of the President*. 88th Cong., 1st Sess., 322.

⁶⁴¹ U.S. Congress. Joint Committee on the Economic Report of the President. 1963. *January 1963 Economic Report of the President*. 88th Cong., 1st Sess., 375.

⁶⁴² Heller Papers, cited in Bremner 2004, 187.

his administration's top priority. At the final FOMC meeting of 1963, Martin told his colleagues, "If the present euphoria is translated into a tax cut into a real surge in the economy, we might be faced with the need for... drastic action to be taken at the first opportunity."⁶⁴³

The Revenue Act of 1964 was signed into law by President Johnson on February 26. The act called for major reductions in marginal income tax rates. The CEA feared that the Federal Reserve would move to raise interest rates after its passage and thereby mitigate its expansionary impact. Heller wrote in the *New York Times*, "A strong upswing in the economy need not bring tight money or high interest rates. It would be self-defeating to cancel the stimulus of the tax reduction by tightening money."⁶⁴⁴ At the 17 June FOMC meeting, FRBNY President Hayes warned his colleagues, "[Our] bargaining position in international financial matters has been dramatically weakened as our cumulative deficit has grown. We cannot afford to let the situation continue for long without taking decisive steps to check it."⁶⁴⁵ On August 18, a divided FOMC voted 6-5 to tighten open market policy.⁶⁴⁶ On November 23rd, Martin took advantage of Mitchell's absence from a Board meeting to gain 5-1 approval for a discount rate increase.

Despite making limited progress on reigning in expansionary U.S. macroeconomic policies, the early 1960s collaboration among Treasury officials, the

⁶⁴³ FOMC Minutes 12/17/1963, 55.

⁶⁴⁴ "The President's Economic Report for 1964," *New York Times*, 26 January 1964.

⁶⁴⁵ FOMC Minutes 6/17/1964.

⁶⁴⁶ On this vote, recent Board appointee Dewey Daane joined with Governors Mitchell and Robertson and two reserve bank presidents in opposing the change.

Federal Reserve, and European central banks to stabilize the dollar seemed to be progressing well. A prominent 1963 Brookings Institution study predicted that the U.S. would return to achieving balance-of-payment surpluses by 1968.⁶⁴⁷ The U.S. merchandise trade surplus had grown from \$1,148 million in 1959 to \$6,801 million in 1964.⁶⁴⁸ In 1964, the U.S. only lost \$125 million dollars' worth of monetary gold, a twentieth of its 1958 gold loss.

Although these trends were encouraging, CEA officials were anxious to criticize the Fed-Treasury's dollar-stabilizing collaborations as "technical devices."⁶⁴⁹ Heller derided the old guard faction's tactics as "secret, day-to-day, piecemeal, [and] ad-hoc."⁶⁵⁰ The CEA's Keynesians viewed international monetary problems through a Triffin lens. Rather than seeking to preserve the doomed Bretton Woods order, they joined State Department officials in demanding that high-level political negotiations take place to reform the international monetary system.⁶⁵¹ Keynesian ideas gained ascendance within the Johnson administration when Douglass Dillon tendered his resignation in January 1965.⁶⁵²

⁶⁴⁷ Salant, W. A. 1963. "Competitiveness and the US Balance of Payments." *The US Balance of Payments in 1968*. The Brookings Institution Washington.

⁶⁴⁸ James 1996, 157.

⁶⁴⁹ James 1996, 158.

⁶⁵⁰ Cited in Gavin 2004, 84.

⁶⁵¹ Gavin 2004, 82.

⁶⁵² Meltzer 2009, 441.

The Johnson administration charted a dramatically different currency policy course than its predecessor. Under Kennedy, measures to reform the international currency regime, such as creating a new international reserve asset or devaluing the dollar, were considered taboo.⁶⁵³ The Johnson administration, by contrast, developed a dual-pronged strategy of using capital controls to address the U.S.'s balance-of-payments problem in the short run while undertaking a high-level diplomatic initiative to reform the international monetary regime. Kennedy had pioneered the use of capital controls by signing the interest equalization tax into law in July 1963. Under this program, Americans were taxed on the interest income differential accrued by purchasing higher-yielding foreign bonds rather than investing domestically.⁶⁵⁴ Capital controls grew progressively more draconian under Johnson. In February 1965, the Johnson administration and the Federal Reserve jointly announced a “voluntary” capital export restraint program intended to limit the ability of American banks and corporations to loan funds abroad.⁶⁵⁵ In March, Martin told Johnson that he wanted to resign. Johnson rejected Martin’s resignation, however, stating that he couldn’t lose Martin right after losing Dillon.⁶⁵⁶ Martin stayed on without his ally.

The second major shift in U.S. currency policy was announced by Treasury Secretary Henry Fowler in a speech on July 10th, 1965.⁶⁵⁷ Fowler declared that the U.S.

⁶⁵³ James 1996, 158; Andrews 2008.

⁶⁵⁴ Bordo and Eichengreen 2013, 451.

⁶⁵⁵ James 1996, 160; Hetzel 2008, 69; McKinnon 2013, 45.

⁶⁵⁶ Bremner 2004, 161-162.

⁶⁵⁷ Odell 1982, 79; James 1996, 167; Toniolo 2005, 408. James dubbed this “a partial conversion to Triffinism.”

was prepared to participate in the first international monetary conference since Bretton Woods to create a new mechanism for generating international liquidity (other than U.S. payments deficits). When central bankers next gathered at Basel there was an atmosphere of “astonishment, puzzlement and resentment.”⁶⁵⁸ The central bankers believed that they had been succeeding in preserving the incumbent order and considered the G-10 a poor venue for negotiating monetary reform.

In 1965, the old guard faction’s battle to defend the dollar grew lonelier inside the Federal Reserve as well. On April 1st, President Johnson announced the appointment of Sherman Maisel to the Board of Governors. Maisel was the first academic economist appointed to the Board since Adolph Miller in 1914. Martin had pressed Johnson to appoint someone from the banking community and reminded him the Federal Reserve Act prescribed appointments “shall have due regard to a fair representation of the financial, agricultural, industrial and commercial interests and geographical divisions of the country.” Johnson was undeterred, however, and chose Maisel based on the belief he would join Mitchell in promoting low interest rate policies to support the president’s expansionary fiscal program. Maisel’s appointment meant that the Board now had three reliable doves, Mitchell, Robertson, and Maisel. The old guard which followed Martin and Hayes by focusing on balance-of-payments considerations was in retreat.⁶⁵⁹

By the time of Fowler’s announcement, Martin was growing increasingly frustrated with the administration’s expansionary fiscal policy and military programs

⁶⁵⁸ Toniolo 2005, 408.

⁶⁵⁹ At this point it was unclear whether J. Dewey Daane would side with the hawks or the doves. If Daane sided with the Keynesians, Martin would have been unable to convince the Board to support austere monetary policies in anything but extreme inflationary conditions.

which he believed were placing the economy on a dangerous path. On June 1st, Martin gave the commencement speech at Columbia University where he compared prevailing boom conditions with those which existed on the eve of the Great Depression. He concluded, “Then, as now, government officials, scholars, and businessmen are convinced that a new economic era has opened, an era in which business fluctuations have become a thing of the past.”⁶⁶⁰

From May through August, the FOMC voted to keep its policy directive stable. At each meeting, however, dissenting votes were cast by agents calling for greater restraint. On 12 October 1965, Hayes told his colleagues there was “a real basis for concern about potential inflation pressure, against a background of cumulative large increases in bank credit and a serious international payments problem that leaves us little margin for assuming inflation risk... an increase in the discount rate [is] the most appropriate method of signaling a move toward greater firmness in monetary policy and validating the firming that has already occurred in market rates.”⁶⁶¹ Throughout the fall, Martin and Hayes worked together to convince the Board to approve a discount rate increase.⁶⁶² At the 23 November FOMC meeting, J. Dewey Daane stated that he would support a discount rate increase. The showdown between the Board’s hawks and doves came to a head on December 3rd, when the Board voted 4-3 to approve a ½ percent discount rate increase.⁶⁶³ President Johnson was irate. He invited Martin to his Texas home two days

⁶⁶⁰ Martin, Columbia University Commencement Speech, 6/1/1965.

⁶⁶¹ FOMC Minutes 10/12/1964.

⁶⁶² Bremner 2004, 206.

⁶⁶³ Maisel, Mitchell, and Robertson voted against the increase.

later to receive Johnson's famous "ranch treatment."⁶⁶⁴ Martin refused to back down and informed the president the Board's decision was final.

In December, 1965, Martin told President Johnson that the Federal Reserve would not be able to lower interest rates until the Federal Government raised taxes to reign in exploding deficits. In March, April, and June of 1966, Martin followed up his initial request with letters to the president imploring him to "share the burden of economic restraint among all the tools of economic policy."⁶⁶⁵ By mid-1966, most economists shared Martin's view that taxes needed to be raised to cool aggregate demand. Paul Samuelson publicly endorsed a tax increase in February. Even Walter Heller wrote the president urging fiscal restraint.⁶⁶⁶ Johnson was leery of seeking a tax increase, however, because he knew that conservative Democrats in Congress would demand reductions in Great Society spending as a *quid pro quo* for a tax increase. Johnson refused to choose between guns and butter.

In January, 1966, Johnson had the opportunity to replace Canby Balderston on the Federal Reserve Board. Johnson appointed Andrew Brimmer, the Assistant Secretary of Commerce. Brimmer was a liberal economist and the Board's first African American appointee. Martin protested that Kennedy and Johnson "ignored the law" by appointing "a majority from a single profession."⁶⁶⁷ Another economist "would damage confidence

⁶⁶⁴ This included a tongue-lashing and a high-speed drive across the hilly dirt roads of Johnson's estate. See Martin's Oral History; Volcker and Gyoten 1992, 38; Bremner 2004, 1; Meltzer 2009, 473-4; Bordo and Eichengreen 2013, 463.

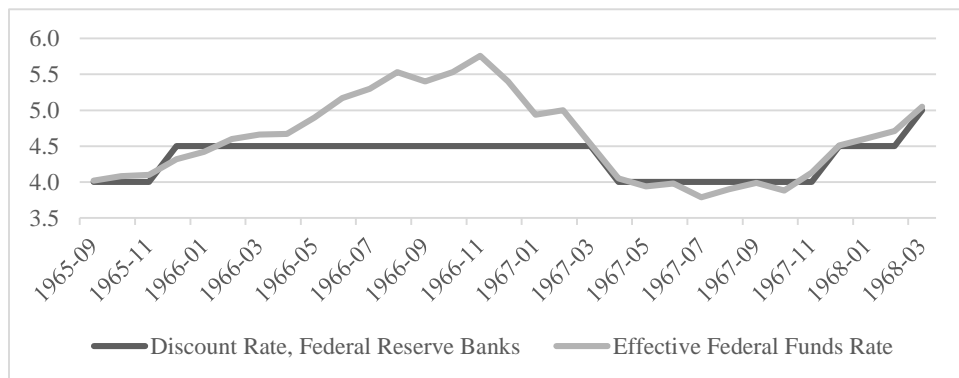
⁶⁶⁵ Quoted in Bremner 2004, 221.

⁶⁶⁶ Bremner 2004, 222.

⁶⁶⁷ Quoted in Bremner 2004, 212.

and gravely impair the ability of the Federal Reserve to carry out functions of vital importance to the economy and the government alike.”⁶⁶⁸ By spring of 1966, the Keynesian revolution on the Federal Reserve Board was nearly complete. There were now four economists serving on the Board, three of which were Keynesians. The Board’s staff was also increasingly dominated by Keynesians.⁶⁶⁹ Many conventional accounts blame the Fed’s Keynesian policy frameworks for enabling U.S. inflation rates to rise beginning in 1965. This view is inconsistent with the system’s actual policy actions in the late-1960s, however, when monetary policy grew increasingly stringent. After it became obvious fiscal tightening wasn’t forthcoming, the Fed’s Keynesians reluctantly embraced tighter monetary policies. As Gov. Maisel noted in his diary, “doves now became hawks.”⁶⁷⁰ Open market policy tightened through the spring of 1966 (see Figure 13).⁶⁷¹

Figure 13: Federal Reserve Policy-Related Interest Rates (1965-1968)



Source: Fred database

⁶⁶⁸ Martin letter to Johnson. 2/2/1966. Cited in Meltzer 2009, 491.

⁶⁶⁹ Hetzel 2008, 70.

⁶⁷⁰ Maisel diary, FOMC Summary, 2/9/1966, 3. Cited in Meltzer 2009, 494.

⁶⁷¹ The FOMC voted to tighten open market policy unanimously six straight times from December 14th through May 10th, 1966.

At the July 26th FOMC meeting, recently-appointed Gov. Andrew Brimmer urged “as much firmness as possible... and an increase in the discount rate when the time is propitious.”⁶⁷² No further discount rate increases or open market restraint was forthcoming, however. At the end of June, Martin underwent prostate surgery which kept him sidelined for two months. The Martin-less Board rejected a FRBNY request for a discount rate increase, raised reserve requirements twice, and sent a letter to member banks asking them to voluntarily restrict their new loans. Like in 1929, the Board turned to moral suasion to slow credit expansion.

By August 1966, a “credit crunch” had enveloped the American economy. Relatively high yields on government and corporate bonds were draining deposits from savings and loans and commercial banks, whose interest rates were capped by Regulation Q. This disintermediation process restricted credit flows into mortgage and municipal bond markets, causing a public outcry.⁶⁷³ Members of congress criticized the Federal Reserve’s restrictive policy. The economy slowed. The Fed reversed course in the fall.⁶⁷⁴

In his 1967 State of the Union address, Johnson finally called for a 6% tax surcharge on corporate and individual income taxes to combat exploding deficits. Johnson’s call was ignored by Congress, however, and quickly dismissed as an

⁶⁷² FOMC Minutes. 7/26/1966.

⁶⁷³ Degen 1987, 136; Wood 2005, 256; Hetzel 2008, 71; Bordo and Eichengreen 2013, 463.

⁶⁷⁴ Between November 22nd and April 4th, 1967, the FOMC voted to ease monetary policy five times. On the first three votes to ease policy, several members dissented because they believed monetary policy was already sufficiently easy and cited balance of payments considerations. The second two decreases were unanimous. The board also voted unanimously to lower reserve requirements and discount rates in early 1967.

administration priority. Unsustainable economic growth quickly returned. On June 5th, Martin confronted Johnson over his half-hearted support for a tax surcharge. In a June 26 speech, Martin declared, “I would support income tax increases amounting to 10% to bring federal income and expenditures closer to balance.”⁶⁷⁵ In July, the administration announced it would send legislation to Congress to enact a 10% tax surcharge. Once again, Congress ignored the request. Congress would finally agree to implement a tax surcharge in June 1968, but it would come too late to save the fixed exchange rate system.

The Collapse of Bretton Woods

Throughout the 1960s “heyday” of financial cooperation, central bankers explicitly recognized that their international collaborations would only prove successful in the long run if they were accompanied by domestic policy adjustments addressing the system’s underlying vulnerabilities. This meant the system’s two persistent deficit countries, the U.S. and Great Britain, needed to implement policies which brought their balance-of-payments positions closer to equilibrium.⁶⁷⁶ These countries’ shared position as issuers of international reserve currencies, however, afforded them an “exorbitant privilege” of financing their external deficits in their domestic currencies. In practice, this meant the U.S. and U.K. could delay absorption of macroeconomic adjustment costs and attempt to shift those costs onto their trading partners.⁶⁷⁷

⁶⁷⁵ Quoted in Bremner 2004, 235.

⁶⁷⁶ Alternatively, surplus countries could have adopted more expansionary policies.

⁶⁷⁷ Cohen 2006.

The above analysis has suggested that U.S. macroeconomic policy throughout the 1960s was locked in an ideological stalemate which was grafted onto fragmented monetary and fiscal policymaking processes. If the U.S. case represents the pitfalls of excessive institutional fragmentation, Great Britain does a nice job of illustrating the vulnerabilities of excessive centralization. The British parliamentary system often grants unified control of government to a single political party. In the 1960s, the Bank of England was an adjunct of the state. Consequently, the levers of national economic policy instruments were often controlled by a single dominant party. Britain's slow pace of economic adjustment during the 1960s was attributable to a strong state's commitment to using macroeconomic policy instruments to fight domestic unemployment, rather than remedying Britain's external deficits.

Sterling's vulnerability was a recurring theme after WWII. In 1949, a Labour government devalued the pound. By 1960, sterling was again in trouble. In 1961, the Bank of England gained access to \$900 million dollars' worth of bilateral credit lines with other central banks and the BIS. Its governor, Cameron Cobbold, noted that such assistance was "a short-term protective covering ... that does nothing to change any long-term trends.... we cannot expect our partners to maintain these arrangements indefinitely unless we are able to show that our underlying position is responding to treatment."⁶⁷⁸ In late July, the Conservative British government announced emergency measures to deal with its external deficit and was granted a \$2 billion IMF loan. Speculative pressure subsided. By the end of 1962, however, Britain had over £2.8 billion in external liabilities

⁶⁷⁸ Toniolo 2005, 383.

compared with only £1 billion in foreign reserves. Consequently, sustaining the pound's parity depended on the credibility of government policy.⁶⁷⁹

In 1964, a Labour government came to power and speculation against Sterling again mounted. In July, estimates of Britain's balance-of-payments deficit were revised upward. Labour officials considered devaluing the pound, and European central bankers braced for this possibility. The government ultimately ruled out a devaluation, however, because it didn't want Labour to become known as the party of devaluation.⁶⁸⁰ To defend the pound, the British government renewed its \$1 billion dollar credit line with the IMF and the Bank of England borrowed another \$1 billion from eight central banks. Lord Cromer of the Bank of England demanded a discount rate hike to restore confidence in sterling, but was denied by the government. On November 11, the Labour government announced its budget, which called for increased social expenditures. Speculative pressure spiked and the government eventually agreed to raise the bank rate from 5% to 7%. According to Toniolo, "what only a few weeks before would have been seen as evidence of decisive action was now interpreted as an admission of failure."⁶⁸¹ On November 25, Cromer and Hayes (FRBNY) called on their European counterparts to arrange a sterling support package. Hayes argued devaluation would have "disastrous consequences for the dollar and the whole international financial system."⁶⁸² A \$3 billion package was quickly arranged and speculation eased.

⁶⁷⁹ Toniolo 2005, 389.

⁶⁸⁰ Toniolo 2005, 390.

⁶⁸¹ Toniolo 2005, 391.

⁶⁸² Toniolo 2005, 392.

On February 4, 1965, French President Charles de Gaulle made a public speech attacking the U.S.'s abuse of its "exorbitant privilege" and called for a return to a pure gold-standard.⁶⁸³ "The convention whereby the dollar is given a transcendent value as international currency no longer rests on its initial base, namely, the possession by America of most of the gold in the world. The fact that many States accept dollars as equivalent to gold, in order to make up for the deficits of any American balance of payments, has enabled the United States to be indebted to foreign countries free of charge." French critics claimed persistent U.S. balance-of-payments deficits were enabling American corporations to buy up European companies at inflated prices. Over the preceding years, France had acquired large stocks of U.S. dollars through payments surpluses. Charles de Gaulle stunned the world by announcing that France would begin converting its existing portfolio of dollars into gold.⁶⁸⁴ If West Germany followed suit, the U.S.'s remaining surplus gold reserves would have been wiped out. Instead, on March 30, 1967, Bundesbank President Karl Blessing wrote Chairman Martin promising the bank would keep its dollar reserves "to play its full part in contributing to international monetary cooperation."⁶⁸⁵

A final wave of speculative pressure in 1967 resulted in sterling's devaluation and the collapse of the London gold pool.⁶⁸⁶ Over the summer, British authorities lost \$1.3

⁶⁸³ James 1996, 169; Toniolo 2005, 356.

⁶⁸⁴ France's stock of foreign exchange fell from \$284 million at 1964's end to \$112 million by 1966. France withdrew from the North Atlantic Treaty Organization in April, 1966, and the London gold pool in July, 1967.

⁶⁸⁵ Karl Blessing letter to William McChesney Martin, Jr. 3/30/1967.

⁶⁸⁶ Toniolo 2005, 398-399.

billion dollars' worth of reserves. On November 12th, BOE Governor O'Brien told his BIS colleagues that the pound would have to be devalued if a long-term \$3 billion dollar support package could not be arranged.⁶⁸⁷ Support for sterling could not be rallied. On November 15th, the Callahan government formally devalued the pound by 14.3%.

Through 1965, the London gold pool had operated in surplus, allowing participating central banks to add to their gold reserves without pushing up the market price of gold. In 1966, however, the gold pool shifted into a permanent deficit. In September, the FRBNY received permission to expand the pool's collective resources from \$270 to \$320 million. On May 23, 1967, the Bank of England informed participating central banks that the pool's cumulative deficit had reached \$282 million. Once again, Hayes (FRBNY) requested and received an additional \$50 million increase in the pool's limit. The outbreak of the Six Days War on June 5th, 1967, led to another spike in gold demand, and the pool was forced to sell \$60 million dollars' worth of gold in two days. On June 10, the pool's cumulative deficit had grown to \$367 million. Central bankers, including Federal Reserve Chairman Martin, gathered at the BIS to formulate a collective response. Although Martin expressed doubt about remedying the U.S.'s balance-of-payments deficit in the short term, he declared the U.S. would sell its gold "to the last bar, if need be, in defense of the gold price."⁶⁸⁸

⁶⁸⁷ U.S. Treasury Secretary Fowler wrote a memo to President Johnson suggesting that while allowing a sterling devaluation might be tempting, "the risks for us are just too great to take this gamble if we can find another alternative." Toniolo 2005, 399.

⁶⁸⁸ Although France dropped out of the gold pool, the FRBNY pledged to cover France's share. Toniolo 2005, 414.

After sterling's devaluation, speculative pressure immediately shifted to the dollar. At the time of the December BIS meeting, the gold pool's cumulative deficit had grown to \$550 million dollars. President Johnson dispatched Undersecretary of the Treasury Frederick Deming to Basel to meet with the central bank governors. The presence of a high-ranking political official at the BIS was unprecedented.⁶⁸⁹ Arrangements were made to meet elsewhere in Basel. Word of Deming's presence quickly leaked to the press, however, and was interpreted as presaging major changes in the international monetary regime. At the meeting, Governors Carli (Italy) and Ansiaux (Belgium) proposed establishing a two-tier gold market where official transactions would be settled according to the existing parity structure, but the private price of gold would be determined by market forces. Deming said the U.S. favored continuing the existing single market structure. Ansiaux responded that this meant, in practice, the U.S. wanted the gold pool's permanent continuation. He cautioned that Americans "should understand that in Europe the central banks [are] at the end of their tether; they will not go on selling gold and accumulating dollars."⁶⁹⁰ By the end of December 15th, the gold pool's operational deficit had exploded to \$1,949 million. The Economist described Deming's trip as "a pretty expensive plane ride."⁶⁹¹ The next day, Fowler and Martin issued a joint statement reinforcing the U.S.'s commitment to maintaining its existing gold parity.

⁶⁸⁹ According to Toniolo (2005, 417) Deming's presence within the central bankers' club would be seen as "almost blasphemous, a violation of the inner sanctum of central bank cooperation."

⁶⁹⁰ Toniolo 2005, 418.

⁶⁹¹ Cited in Toniolo 2005, 417.

On January 1st, 1968, President Johnson announced a new balance-of-payment program which included more draconian capital controls. He also called upon Congress to repeal the gold cover requirement for domestic currency in circulation and to implement an income tax surcharge. The FOMC had voted unanimously to tighten open market policy at each meeting since sterling's devaluation, and it continued to do so through April.⁶⁹² The Federal Funds rate increased from 3.88% in October, 1967, to 6.11% in May, 1968.

Despite this last ditch effort to shore up the dollar's external weaknesses, it came as too little too late. The gold pool continued hemorrhaging gold, and its cumulative deficit stood at \$3,692 million by March 4th. President Johnson urged Chairman Martin to personally attend the March 9-11 BIS meeting. Although everyone in attendance acknowledged that the gold pool was on its last legs, Martin was able to gain one last respite to gain time for Congress to repeal the domestic dollar gold cover. The next week Treasury officials convinced Johnson to discontinue gold pool operations, however. Martin invited European central bankers to Washington, D.C.

Over the weekend of March 15th, 1968, central bankers gathered one final time to try to save Bretton Woods.⁶⁹³ Martin declared that the US would preserve its gold-dollar parity and endorsed a proposal for the IMF to issue a new synthetic international reserve asset called Special Drawing Rights. On the morning of March 16th, Martin opened the conference by calling on Governor Guido Carli (Italy). Carli restated his earlier proposal

⁶⁹² Similarly, the Board raised discount rates three times and reserve requirements once.

⁶⁹³ Bremner 2004, 243-45; Bordo and Eichengreen 2013.

to create a two-tier gold market. After Carli presented, Governor O'Brien (BOE) proposed that the official price of gold be raised as an alternative. Martin shut down this proposal, however, by stating, "The price of gold cannot be raised this weekend. It is necessary to come to a practical solution before Monday." On Sunday, the bankers reconvened and endorsed the Carli Plan, agreeing to dissolve the London Gold Pool. Subsequently, the U.S. Treasury stopped trading dollars for gold with foreign authorities. Bretton Woods was effectively finished.⁶⁹⁴

⁶⁹⁴ Gavin 2004, 182; Toniolo 2005, 423; McKinnon 2013, 44.

CHAPTER VI

CONCLUSION: THE INSTITUTIONAL ROOTS OF U.S.

CURRENCY LEADERSHIP

I vote *first*. I'm willing to stick my neck out. I think it's important that I make my position known. A Chairman who sits there until everyone has made his position known and then votes with the majority – what kind of leadership is that?

Arthur Burns, Chairman of the Board of Governors, *Fortune Magazine*, 1971

I might dream of a day of final triumph of central banking; that is when central banks are so successful in achieving and maintaining price and financial stability that currencies will be freely interchangeable at stable exchange rates.

Paul Volcker, Per Jacobsson Lecture, 1990

This dissertation has argued that central bank structures are crucial intervening variables in the monetary policymaking process which link central bankers' preferences with policy outcomes. It has generalized a hypothesis first advanced by Friedman and Schwartz (1963) that fragmented central bank structures are a source of monetary policy mistakes, while abandoning their domestic analytic frame. When taking into account the international context, it is revealed that many intractable policy debates inside the Federal Reserve pitted internationally-oriented central bankers, who called for policy adjustments to stabilize the dollar, against domestically-focused agents who urged caution and expressed ambivalence about the global impacts of U.S. monetary policies. In periods of relatively-centralized Federal Reserve governance, such as the 1920s and the early 1950s, internationally-oriented agents dominated the system's monetary policy decisions. As the system grew more fragmented in 1930 and 1955, however, these agents' voices were

drowned out by domestically-focused officials. Monetary policy grew increasingly rigid. I have argued that these domestic institutional changes supported transitions from relatively benign forms of U.S. currency leadership to more coercive forms. Fragmented institutions failed to support timely dollar-stabilizing policy adjustments which would have led to greater alignment between the U.S.'s *de facto* and *de jure* exchange rate regimes. Although U.S. presidents Franklin Roosevelt, Lyndon Johnson, and Richard Nixon are often blamed for abandoning the U.S.'s currency pegs, this dissertation's empirical chapters have argued that a wedge between the dollar's real and nominal exchange rates had already taken root by the time these officials came to power. As needed policy adjustments were deferred, the magnitude of the needed changes to defend the dollar's parity grew to the point of political infeasibility.

This project has attempted to bridge a gap between segmented scholarly literatures on international currency leadership, post-WWI fixed exchange rate regimes, and the Federal Reserve System's historical policy performance. It has argued, contrary to received wisdom, that U.S. central bankers have often taken into account the impact of U.S. monetary policies on the international currency regime when forming their policy preferences. Since the days of Benjamin Strong, FRBNY officials have taken the most cosmopolitan view of the system's responsibilities. More so than other Americans, the FRBNY's central bankers have consistently pushed for flexible monetary policies designed to support the dollar's external stability.⁶⁹⁵ Fragmented institutional processes,

⁶⁹⁵ Board chairmen William McChesney Martin, Jr., and Paul Volcker are exceptions to this generalization. Martin served as president of the New York Stock Exchange and headed the U.S. Import-Export Bank prior to becoming chairman, however, thus he adopted an international financial worldview. Similarly, Volcker cut his teeth within the system by serving as president of the FRBNY.

however, often prevented these officials from achieving their policy goals. As more agents weighed in on monetary policy decisions, the Federal Reserve's capacity to adjust policies in response to changing economic conditions decreased. This legacy would have pleased the Democrats who designed the Federal Reserve Act, as their primary design objective was to prevent New York financiers from capturing the system. Maybe William Jennings Bryan slayed the gold standard after all.

A remarkable aspect of the Federal Reserve System's history is the surprising durability of decentralized governance. Exogenous shocks, including major wars and the development of new policy instruments, layered new hierarchies atop the system's fragmented policymaking structures. These institutional changes increased the Fed's decision-making efficiency, but they failed to sustain themselves. Whenever the system's dormant governance debates flared, arguments in favor of reinstating the system's decentralized traditions won out over defenses of hierarchy. While today we might consider independent central banks unique institutions which are impervious to politics, this view carried little weight in the early Federal Reserve, where governance debates inevitably spilled over into broader arguments about the nature of American democracy. Consider Chairman William McChesney Martin Jr.'s congressional testimony defending the system's decentralized governance traditions:⁶⁹⁶

The System is a unique concept, an ingenious merging of public and private interests in a characteristically democratic institution. The doctrine of the separation of powers, as Mr. Justice Brandeis once pointed out, was adopted "not to promote efficiency but to preclude the exercise of arbitrary power"... Doubtless this reserve banking mechanism could be more efficiently devised... but it would be at the cost, I think, of something far more important... the

⁶⁹⁶ U.S. Congress. Joint Committee on the Economic Report. Subcommittee on General Credit Control and Debt Management. *Monetary Policy and the Management of the Public Debt*. 82nd Cong., 2nd sess., 10-31 March.

resolution of difficult problems... must come out of the minds of men and not from the forms in which they chance to be organized.

To the extent that Chairman Martin is remembered today, it is for his quips about the goals of central banking. Martin famously declared that the Federal Reserve's duty was to "to take away the punch bowl just as the party gets going." The consensual FOMC Martin crafted in the 1950s, however, made it difficult for him to achieve his hawkish policy objectives. In the early 1960s, Martin and FRBNY President Alfred Hayes agreed that the time had come for the Fed to take away the punchbowl of easy money and allow interest rates to rise. As they surveyed the FOMC's other partygoers, however, they were overruled by majorities urging caution or an even more expansionary policy. The punchbowl was left out so long that eventually in 1966 the Board's Keynesian "doves now became hawks."⁶⁹⁷

Leading explanations of the Federal Reserve's policy mistakes in the 1930s and 1960s point to the role of flawed ideas in driving persistent monetary policy errors.⁶⁹⁸ Implicit within these analyses is the assumption that the system functioned as a coherent institutional actor. In reality, however, there was no "Fed" to make policy decisions by maximizing a social welfare function. Instead, decisions were made collectively by expansive committees which took into account many agents' distinct policy preferences.⁶⁹⁹ Since monetary ideas were unevenly distributed across policymakers, the

⁶⁹⁷ Maisel diary, 2/ 9/1966, 3, cited in Meltzer 2009, 494.

⁶⁹⁸ See, respectively, Wheelock 1991; Bordo and Orphanides 2013.

⁶⁹⁹ Chappell, McGregor, and Vermilyea have demonstrated empirically that FOMC members hold unique monetary policy reaction functions. Chappell Jr, Henry W., Rob Roy McGregor, and Todd A. Vermilyea. 2005. *Committee Decisions on Monetary Policy: Evidence from Historical Records of the Federal Open Market Committee*. Cambridge: MIT Press Books.

mere existence of flawed ideas was an insufficient cause of policy mistakes. In the thirties and sixties alike, the FRBNY pushed for policies designed to promote international monetary stability. Inside the Fed, they were opposed by the holders of “flawed” ideas such as the real bills framework in the thirties or cost push inflation in the sixties. These battles were often fought to standstill and policy grew inflexible. The maintenance of rigid policies in the face of a changing economic environment led to policy “mistakes.” Consequently, existing ideational explanations of the Fed’s historical policy performance are incomplete. I have argued that rather than the flawed content of shared ideas being the root of policy errors, it was the polarization of conflicting ideas grafted upon fragmented processes which led to the maintenance of policies after they had become inappropriate.

This dissertation has focused its empirical analysis on the Federal Reserve’s policy performance during periods of operational independence running up to the London Gold Pool’s collapse. It ends its empirical analysis here for three interrelated reasons. First, the collapse of the London Gold Pool signaled the effective end of the Bretton Woods fixed exchange rate system. In subsequent years, the system’s advocates of an externally-oriented monetary policy were in terminal retreat. Economists’ takeover of the Federal Reserve Board was nearly complete. Meanwhile, as inflation mounted, the system’s monetarist critics gained increasing prominence in academia, policymaking circles, and inside the Fed. This debate among two domestically-focused macroeconomic schools of thought grew increasingly acrimonious and politicized throughout the 1970s. After the dollar’s golden fetters were formally abandoned, internationally-oriented monetary policy concerns lost traction inside the Fed.

The second reason my analysis ends in 1968 is because the passing of Martin's chairmanship in 1970 represented the end of the FOMC's institutional experimentation. Martin pushed the Federal Reserve Act's legislative boundaries by including all twelve reserve bank presidents in monetary policy decisions. His "go-round" meeting procedure voluntarily relinquished his own agenda-setting authority. Martin's commitment to building consensus meant "policy emerged slowly, but... no one FOMC member could dominate."⁷⁰⁰ His principled opposition to stacking the Board with economists was Martin's final act of fealty to the system's foundational traditions. Although the institutional reforms Martin championed are broadly interpreted as laying the foundations of the modern Federal Reserve, they actually represented a re-assemblage of the system's older traditions. When Arthur Burns replaced Martin in 1970, it signaled the passing of the system's old order. Under Burns, we witnessed the rise of the modern chairman-centric, technocratic, Federal Reserve. Burns abandoned many of Martin's experiments. He often spoke first in FOMC meetings and stated his policy prescriptions. As a business economist, his appointment as chairman finalized the transition to a Fed dominated by economic thinking. Burns' FOMC was less fragmented than Martin's, but like in the thirties, a deteriorating macroeconomic environment meant that monetary politics escaped the confines of the Federal Reserve.

The final reason I end my empirical analysis in 1968 is the subsequent spike and then secular decline in ideological polarization among macroeconomists. In 1973, monetarist scholars established the Shadow Open Market Committee as a working group

⁷⁰⁰ Kettl 1986, 86.

devoted to advancing the goal of the U.S. adopting a fixed monetary growth rule. The St. Louis Fed pushed the system from within to take monetarist concerns into account in policy decisions.⁷⁰¹ Finally, in the wake of the rational expectations revolution and persistent inflation in the late 1970s, Keynesian scholars made many concessions to their monetarist critics. Polarization among economists gave way to increasing consensus.⁷⁰² As consensus emerged inside the Federal Reserve regarding the primacy of maintaining inflation-fighting credibility as the first order objective of monetary policy, the effects of fragmentation on slowing Federal Reserve policy adjustments subsided.⁷⁰³

A central theme of this project has been that fragmented institutions make the development and steady pursuit of long term goals difficult. As Theodore Lowi and others have argued, this is true at the macro-level level of the polity.⁷⁰⁴ It is equally true at the level of individual political institutions, however. I have focused on fixed exchange rates as an example of a strategic goal U.S. monetary authorities have pursued in the past. I am agnostic regarding the types of strategic goals central banks *should* pursue, but it seems uncontroversial to argue that central banks should have the capacity to pursue far-sighted goals. Since the Federal Reserve began operations a century ago, system insiders

⁷⁰¹ Wheelock 1998.

⁷⁰² De Long, J. Bradford. 2000. "The Triumph of Monetarism?" *The Journal of Economic Perspectives* 14 (1): 83-94.

⁷⁰³ Bailey, Andrew, and Cheryl Schonhardt-Bailey. 2008. "Does Deliberation Matter in FOMC Monetary Policymaking? The Volcker Revolution of 1979." *Political Analysis* 16 (4): 404-427. The Fed's foremost historian has argued that only in the early Volcker years has the Fed adopted a long-term approach to monetary policymaking. See Meltzer, Allan H. 2011. "Politics and the Fed." *Journal of Monetary Economics* 58 (1): 39-48.

⁷⁰⁴ Lowi 1967; Zakaria 1999.

have advanced reform proposals intended to root out endogenous sources of conflict. Here I will consider three of these strategic capacity-enhancing proposals. Increasing centralization among the Federal Reserve Banks, reducing the size of the Board of Governors, and streamlining the Federal Open Market Committee.

In this dissertation's opening empirical chapter, I discussed Paul Warburg's proposal to reduce the number of Federal Reserve Banks. Warburg's entrepreneurial efforts to bring about this change on the Board were ultimately vetoed by the attorney general. Consequently, the twelve bank structure has remained a durable feature of the Federal Reserve.⁷⁰⁵ The Banking Act of 1935 reduced the influence of the reserve banks over open market policy decisions. Thereafter, the twelve reserve banks shared five FOMC votes on a rotating basis. Despite their reduced voting power over open market policy decisions, analysts and the public continue to take reserve bank presidents' policy preferences more seriously than perhaps they should. In the past seven years when the system has maintained a zero interest rate policy, on several occasions dissenting reserve bank presidents have expressed opinions that interest rates should rise sooner than FOMC has signaled than they intend. Despite their relatively powerless position in the open market policymaking process, media outlets have seized on the asymmetries between certain reserve bank presidents' statements and FOMC signals to suggest that the Fed might abandon the zero interest rate policy earlier than it has signaled.⁷⁰⁶ Despite the

⁷⁰⁵ Binder and Spindel 2013.

⁷⁰⁶ See, for example, <http://www.washingtonpost.com/blogs/wonkblog/wp/2014/08/13/this-fed-hawk-could-signal-a-shift-in-the-opposition/>; <http://blogs.wsj.com/economics/2014/07/16/feds-fisher-raise-rates-in-early-2015-or-even-sooner/>

system's ongoing public information campaign to clarify its functioning and procedures, there remains considerable uncertainty in the media, among global investors, and especially among the American public regarding who hold actually controls policy within the system. One means of addressing this underlying uncertainty is by making the system's policymaking process simpler. Instead of having five rotating reserve bank votes, there could be made five *ex officio* reserve bank voting members, such as the Federal Reserve Bank of New York has been since 1942. Such a maneuver would entail the pooling of sovereignty among the separate reserve banks. The reserve banks other than New York are already divided into four groups among which the other four votes rotate. Each of these groups could be consolidated into a single, branched, reserve bank, or they could devise their own mechanisms for forming collective monetary policy preferences.

A second insider proposal for increasing the system's strategic capacity has been to reduce the size of the Federal Reserve Board. This proposal has been advanced by Chairmen Marriner Eccles and William McChesney Martin, Jr., as well as the congressional Hoover commission.⁷⁰⁷ Reducing the Board's size would have two major benefits. The first of these is that openings on the Board would occur less frequently. Oftentimes in recent decades, vacancies on the Board have remained unfilled for extended periods of time. Because presidential appointments have to be confirmed by the Senate, divided government can pose barriers to the timely replacement of retiring (or expiring) governors. When the Board is not staffed to capacity, it loses its advantage vis-

⁷⁰⁷ For the Hoover commission's recommendations, see https://fraser.stlouisfed.org/docs/historical/eccles/008_09_0001.pdf

à-vis the reserve banks in shaping open market policy decisions. Less slots for governors would mean less frequent openings. The second benefit is related to the first. Because the best potential governors have extensive opportunities in the private sector or academia, it can be hard to recruit and retain the most qualified individuals for the positions. By reducing the number of governors, it elevates the prestige of the position. Similarly, the salaries of the eliminated governors could be redistributed among the smaller Board. Higher salaries would come at no added cost and could serve as a strong inducement to recruit and retain high-caliber governors.

Finally, and most closely tied to this study's theoretical underpinnings, the Federal Reserve's strategic capacity could be enhanced by reducing the fragmentation of the Federal Open Market Committee. Alan Blinder, a prominent academic economist and former Governor of the Federal Reserve Board, has recommended reducing the number of votes on the open market committee from twelve to five.⁷⁰⁸ This dissertation has argued that governance experiments within the Federal Reserve have leant empirical support to this hypothesis. It specifically argued that the five-member Open Market Investment Committee outperformed its twelve member Open Market Policy Conference successor in terms of maintaining policy flexibility. It similarly argued that the five-member Executive Committee of the Federal Open Market Committee would have maintained a more responsive monetary policy as economic conditions changed in the 1960s than the highly-fragmented FOMC crafted by Martin. The Arthur Burns-led FOMC which replaced Martin's did away with some of Martin's fragmentation-

⁷⁰⁸ Blinder, Alan S. 2004. *The Quiet Revolution: Central Banking Goes Modern*. New Haven: Yale University Press. The five member monetary policy committee structure is also endorsed in Sibert, Anne. 2006. "Central Banking by Committee." *International Finance* 9 (2): 145-168.

increasing devices (e.g. abdication of the chairman's agenda-setting authority, consensual decision-making procedures, and the policy go-round meeting procedure which encouraged all 19 FOMC members to weigh in with their policy preferences). Despite these centralizing reforms, the modern FOMC remains less centralized than some of its institutional predecessors. If Congress were to decide to restructure the FOMC to increase its strategic capacity, the Federal Reserve's history provides both good and bad institutional templates.

This dissertation has employed a process-tracing approach to evaluate its hypotheses regarding the determinants and consequences of institutional change in the Federal Reserve. I believe this approach has yielded empirical support for each of my hypotheses. A case study-based approach remains open to the critique that the relationships between variables of interest should be tested more directly and rigorously, however. I believe this critique is less relevant for my hypotheses regarding the sources of institutional change within the Federal Reserve System. It is very salient regarding my hypotheses concerning the effects of central bank structures, however. In the future, I would like to conduct a time-series analysis which directly measures the effect of central bank regime type on monetary policy and exchange rate stability outcomes. Data limitations have pushed this objective beyond this dissertation's scope, however. As many analysts of the Federal Reserve's historical policy mistakes have pointed out, the Federal Reserve has employed different policy frameworks and indicators across its history. Many analysts today use the effective Federal Funds Rate as their measure of open market policy. This data only goes back to June, 1954, however. I might be able to more directly test my hypothesis by constructing a measure of the U.S. dollar's real

exchange rate dating back to 1913. As far as I know, such data only presently exists dating back to the early 1960s.

This analytic problem might be easier to tackle at the international level using panel data. For example, if I build a comparative measure of central bank fragmentation, I could test my prediction that central bank fragmentation promotes currency instability across advanced countries in the post-Bretton Woods era. There is abundant cross-national data available for real exchange rate levels over this period. It might be more difficult to isolate the effect of central bank fragmentation over this time frame, however, due to changes in the level of central bank independence. At the start of the period, many central banks were legally subordinated to their respective governments, but subsequently gained greater independence. Consequently, I would also need to build a panel dataset incorporating dynamic measures of central bank independence.

REFERENCES CITED

- Andrews, David M. 2008. "Kennedy's Gold Pledge and the Return of Central Bank Collaboration: the Origins of the Kennedy System, 1959 – 1962." In *Orderly Change: International Monetary Relations since Bretton Woods*, ed. David Andrews. Ithaca: Cornell University Press, 100-119.
- Bacchetta, Philippe, and Eric Van Wincoop. 2000. "Does Exchange-Rate Stability Increase Trade and Welfare?" *American Economic Review* 90 (December): 1093-1109.
- Bailey, Andrew, and Cheryl Schonhardt-Bailey. 2008. "Does Deliberation Matter in FOMC Monetary Policymaking? The Volcker Revolution of 1979." *Political Analysis* 16 (4): 404-427.
- Bearce, David H. and Mark Hallerberg. 2011. "Democracy and de facto Exchange Rate Regimes." *Economics & Politics* 23 (2): 172-194.
- Beckhart, Benjamin Haggott. 1972. *Federal Reserve System*. New York: American Institute of Banking.
- Berk, Gerald, Dennis C. Galvan, and Victoria Hattam, eds. 2013. *Political Creativity: Reconfiguring Institutional Order and Change*. Philadelphia: University of Pennsylvania Press.
- Bensel, Richard. 2000. *The Political Economy of American Industrialization, 1877-1900*. New York: Cambridge University Press.
- Bensel, Richard. 1990. *Yankee Leviathan: the Origins of Central State Authority in America, 1859-1877*. New York: Cambridge University Press.
- Bensel, Richard. 1984. *Sectionalism and American Political Development, 1880-1980*. Madison: University of Wisconsin Press.
- Binder, Sarah and Mark Spindel. 2013. "Monetary Politics: Origins of the Federal Reserve." *Studies in American Political Development* 27 (1): 1-13.
- Blinder, Alan S. 2004. *The Quiet Revolution: Central Banking Goes Modern*. New Haven: Yale University Press.
- Blyth, Mark. 2002. *Great Transformations: Economic Ideas and Institutional Change in the Twentieth Century*. New York: Cambridge University Press.

- Bodenhorn, Howard. 2000. *A History of Banking in Antebellum America: Financial Markets and Economic Development in an Era of Nation-Building*. New York: Cambridge University Press.
- Bordo, Michael D. and Athanasios Orphanides, eds. 2013. *The Great Inflation: The Rebirth of Modern Central Banking*. Chicago: University of Chicago Press.
- Bordo, Michael D. and Barry Eichengreen. 2013. "Bretton Woods and the Great Inflation." In *The Great Inflation: The Rebirth of Modern Central Banking*, eds. Bordo and Orphanides. Chicago: University of Chicago Press, 449-489.
- Bordo, Michael D. and William Roberds, eds. 2013. *The Origins, History, and Future of the Federal Reserve: A Return to Jekyll Island*. New York: Cambridge University Press.
- Bordo, Michael D. 2012. "Could the United States Have Had a Better Central Bank? An Historical Counterfactual Speculation." *Journal of Macroeconomics* 34 (3): 597-607.
- Bordo, Michael, Hugh Rockoff, and Angela Redish. 1994. "The US Banking System from a Northern Exposure: Stability versus Efficiency." *The Journal of Economic History* 54 (02): 325-341.
- Bremner, Robert P. 2004. *Chairman of the Fed: William McChesney Martin Jr., and the Creation of the Modern American Financial System*. New Haven: Yale University Press.
- Block, Fred L. 1977. *The Origins of International Economic Disorder: a Study of United States International Monetary Policy from World War II to the Present*. Berkeley: University of California Press.
- Broz, J. Lawrence. 1997. *The International Origins of the Federal Reserve System*. Ithaca: Cornell University Press.
- Broz, J. Lawrence. 1998. "The Origins of Central Banking: Solutions to the Free-Rider Problem." *International Organization* 52 (2): 231-268.
- Bruner, Robert F. and Sean D. Carr. 2008. *The Panic of 1907: Lessons Learned from the Market's Perfect Storm*. Hoboken: John Wiley & Sons.
- Brunner, Karl, and Allan H. Meltzer. 1968. "What Did we Learn from the Monetary Experience of the United States in the Great Depression?" *The Canadian Journal of Economics* 1 (2): 334-348.

- Calomiris, Charles W. 2010. "The Political Lessons of Depression-era Banking Reform." *Oxford Review of Economic Policy* 26 (3): 540-560.
- Carlson, Mark A. and David C. Wheelock. 2014. "Navigating Constraints: The Evolution of Federal Reserve Monetary Policy, 1935-59." *Federal Reserve Bank of St. Louis Working Paper Series* 2014-013.
- Chappell Jr, Henry W., Rob Roy McGregor, and Todd A. Vermilyea. 2005. *Committee Decisions on Monetary Policy: Evidence from Historical Records of the Federal Open Market Committee*. Cambridge: MIT Press Books.
- Chandler, Lester V. 1971. *American Monetary Policy, 1928-1941*. New York: Harper & Row.
- Chandler, Lester V. 1958. *Benjamin Strong, Central Banker*. Washington, D.C.: The Brookings Institution.
- Clarke, Stephen V. 1967. *Central Bank Cooperation: 1924-31*. Federal Reserve Bank of New York, 1967.
- Cohen, Benjamin. 2006. "The Macrofoundations of Monetary Power." In *International Monetary Power*, ed. David M. Andrews. Ithaca: Cornell University Press, 2006: 31-50.
- Cohen, Benjamin J. 2004. *The Future of Money*. Princeton: Princeton University Press.
- Corder, Kevin. 1998. *Central Bank Autonomy: The Federal Reserve System in American Politics*. New York: Garland Publishing.
- Corwin, Edwin. 1975. *The President, Office and Powers, 1787-1957: History and Analysis of Practice and Opinion*. New York: New York University Press.
- Clark, William R. and Vincent Arel- Bundock. 2013. "Independent but not Indifferent: Partisan Bias in Monetary Policy at the Fed." *Economics & Politics* 25 (1): 1-26.
- Clifford, Albert. 1965. *The Independence of the Federal Reserve System*. Philadelphia: University of Pennsylvania Press.
- Davis, Lance E. 1965. "The Investment Market, 1870-1914: The Evolution of a National Market." *The Journal of Economic History* 25 (3): 355-399.
- Degen, Robert A. 1987. *The American Monetary System: a Concise Survey of its Evolution since 1896*. Lexington: Lexington Books.

- De Long, J. Bradford. 2000. "The Triumph of Monetarism?" *The Journal of Economic Perspectives* 14 (1): 83-94.
- Destler, Irving M. and C. Randall Henning. 1989. *Dollar Politics: Exchange Rate Policymaking in the United States*. Washington, D.C.: Institute for International Economics.
- Diamond, Douglas W. and Philip H. Dybvig. 1983. "Bank Runs, Deposit Insurance, and Liquidity." *The Journal of Political Economy* 91 (3): 401-419.
- Drazen, Allan. 2001. "The Political Business Cycle after 25 Years." *NBER Macroeconomics Annual 2000, Volume 15*. Cambridge: MIT Press, 75-138.
- Eichengreen, Barry. 2015. *Hall of Mirrors: The Great Depression, the Great Recession, and the Uses-and Misuses-of History*. New York: Oxford University Press.
- Eichengreen, Barry. 2011. *Exorbitant Privilege: The Rise and Fall of the Dollar and the Future of the International Monetary System*. New York: Oxford University Press.
- Eichengreen, Barry and Marc Flandreau. 2012. "The Federal Reserve, the Bank of England, and the Rise of the Dollar as an International Currency, 1914–1939." *Open Economies Review* 23 (1): 57-87.
- Eichengreen, Barry. 2000. *From Benign Neglect to Malignant Preoccupation: US Balance-of-Payments Policy in the 1960s*. No. w7630. National Bureau of Economic Research.
- Eichengreen, Barry. 1996. *Globalizing Capital: a History of the International Monetary System*. Princeton: Princeton University Press.
- Eichengreen, Barry. 1992. *Golden Fetters: the Gold Standard and the Great Depression, 1919-1939*. New York: Oxford University Press.
- Epstein, Gerald and Thomas Ferguson. 1984. "Monetary Policy, Loan Liquidation, and Industrial Conflict: the Federal Reserve and the Open Market Operations of 1932." *The Journal of Economic History* 44 (4): 957-983.
- Epstein, Gerald A. and Juliet B. Schor. 1995. "The Federal Reserve-Treasury Accord and the Construction of the Postwar Monetary Regime." *Social Concept* 7 (1): 7-48.
- Feis, Herbert. 1950. *The Diplomacy of the Dollar: First Era, 1919-1932*. Baltimore: John Hopkins University Press.

- Ferguson, Thomas. 1984. "From Normalcy to New Deal: Industrial Structure, Party Competition, and American Public Policy in the Great Depression." *International Organization* 38 (1): 41-94.
- Fleming, J. Marcus. 1962. "Domestic Financial Policies under Fixed and under Floating Exchange Rates." *Staff Papers-International Monetary Fund*: 369-380.
- Fischer, Stanley. 1995. "Central-Bank Independence Revisited." *The American Economic Review*: 201-206.
- Frankel, Jeffrey and George Saravelos. 2012. "Can Leading Indicators Assess Country Vulnerability? Evidence from the 2008–09 Global Financial Crisis." *Journal of International Economics* 87 (2): 216-231.
- Frieden, Jeffry. 1996. "Economic Integration and the Politics of Monetary Policy in the United States." In *Internationalization and Domestic Politics*, eds. Keohane and Milner. Cambridge University Press, New York, 108-136.
- Frieden, Jeffry. 1991. "Invested Interests: the Politics of National Economic Policies in a World of Global Finance." *International Organization* 45 (4): 425-451.
- Frieden, Jeffry. 1988. "Sectoral Conflict and Foreign Economic Policy, 1914–1940." *International Organization* 42 (1): 59-90.
- Friedman, Milton and Anna J. Schwartz. 1963. *A Monetary History of the United States, 1867-1960*. Princeton: Princeton University Press.
- Garber, Peter M. and Vittorio U. Grilli. 1986. "The Belmont-Morgan Syndicate as an Optimal Investment Banking Contract." *European Economic Review* 30 (3): 649-677.
- Gavin, Francis J. 2004. *Gold, Dollars, and Power: the Politics of International Monetary Relations, 1958-1971*. Chapel Hill: University of North Carolina Press.
- Glass, Carter. 1927. *An Adventure in Constructive Finance*. Garden City: Doubleday, Page & Company.
- Gilbert, R. Alton. 1986. "Requiem for Regulation Q: What it Did and Why it Passed Away." *Federal Reserve Bank of St. Louis Review*. (February): 22-37.
- Gorton, Gary. 1985. "Clearinghouses and the Origin of Central Banking in the United States." *The Journal of Economic History* 45 (2): 277-283.
- Gourevitch, Peter. 1986. *Politics in Hard Times: Comparative Responses to International Economic Crises*. Ithaca: Cornell University Press.

- Gowa, Joanne. 1983. *Closing the Gold Window: Domestic Politics and the End of Bretton Woods*. Ithaca: Cornell University Press.
- Kettl, Donald. 1986. *Leadership at the Fed*. New Haven: Yale University Press.
- Keynes, John Maynard. 1925. *The Economic Consequences of Mr. Churchill*. London: L. and V. Woolf.
- Keynes, John Maynard. 1923. *A Tract on Monetary Reform*. London: Macmillan.
- Keynes, John Maynard. 1920. *The Economic Consequences of the Peace*. New York: Harcourt, Brace and Howe.
- Kindleberger, Charles. 1973. *The World in Depression, 1929-1939*. Berkeley: University of California Press.
- Kolko, Gabriel. 1963. *The Triumph of Conservatism: a Reinterpretation of American History, 1900-1918*. New York: Free Press of Glencoe.
- Harding, William. 1925. *The Formative Period of the Federal Reserve System*. London: Constable.
- Helleiner, Eric. 2008. "Political Determinants of International Currencies: What Future for the US Dollar?" *Review of International Political Economy* 15 (3): 354-378.
- Hetzel, Robert. 2008. *The Monetary Policy of the Federal Reserve: A History*. New York: Cambridge University Press.
- Hetzel, Robert L. and Ralph Leach. 2001. "The Treasury-Fed Accord: A New Narrative Account." *FRB Richmond Economic Quarterly* 87 (1): 33-56.
- Hetzel, Robert L. and Ralph Leach. 2001. "After the Accord: Reminiscences on the Birth of the Modern Fed." *FRB Richmond Economic Quarterly* 87 (1): 57-64.
- Kirshner, Jonathan. 2007. *Appeasing Bankers: Financial Caution on the Road to War*. Princeton: Princeton University Press.
- Konings, Martijn. 2011. *The Development of American Finance*. New York: Cambridge University Press.
- Henning, C. Randall. 2006. "The Exchange Rate Weapon and Macroeconomic Conflict." In *International Monetary Power*, ed. David M. Andrews. Ithaca: Cornell University Press, 117-138.

- Henning, C. Randall. 1999. *The Exchange Stabilization Fund: Slush Money or War Chest?* Washington, D.C.: Peterson Institute.
- Henning, C. Randall. 1998. "Systemic Conflict and Regional Monetary Integration: The Case of Europe." *International Organization* 52 (3): 537-573.
- Henning, C. Randall. 1994. *Currencies and Politics in the United States, Germany, and Japan*. Washington, D.C.: Peterson Institute.
- Hoffmann, Susan. 2001. *Politics and Banking: Ideas, Public Policy, and the Creation of Financial Institutions*. Baltimore: John Hopkins University Press.
- Huntington, Samuel P. 1981. *American Politics: The Promise of Disharmony*. Cambridge: Harvard University Press.
- Huntington, Samuel P. 1968. *Political Order in Changing Societies*. New Haven: Yale University Press.
- Ikenberry, G. John. 2000. *After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order after Major Wars*. Princeton: Princeton University Press.
- James, Harold. 1996. *International Monetary Cooperation since Bretton Woods*. New York: Oxford University Press.
- James, Scott C. 2000. *Presidents, Parties, and the State: A Party System Perspective on Democratic Regulatory Choice, 1884-1936*. New York: Cambridge University Press.
- Jeong, Gyung-Ho, Gary Miller, and Andrew Sobel. 2009. "Political Compromise and Bureaucratic Structure: the Political Origins of the Federal Reserve System." *Journal of Law, Economics, and Organization* 25 (2): 472-498.
- Johnson, Roger T. and Marilyn Rutland. 1977. *Historical Beginnings, the Federal Reserve*. Boston: Federal Reserve Bank of Boston.
- Johnson, Simon and James Kwak. 2012. *White House Burning: The Founding Fathers, Our National Debt, and Why It Matters to You*. New York: Pantheon Books.
- Katznelson, Ira and Martin Shefter, eds. 2002. *Shaped by War and Trade: International Influences on American Political Development*. Princeton: Princeton University Press.
- Kydland, Finn E. and Edward C. Prescott. 1977. "Rules Rather than Discretion: The Inconsistency of Optimal Plans." *The Journal of Political Economy* 85 (3): 473-491.

- Polanyi, Karl. *The Great Transformation: The Political and Economic Origins of our Time*. Boston: Beacon Press, 1944.
- Lake, David A. 1993. "Leadership, Hegemony, and the International Economy: Naked Emperor or Tattered Monarch with Potential?" *International Studies Quarterly* 37 (4): 459-489.
- Lamoreaux, Naomi R. 1988. *The Great Merger Movement in American Business, 1895-1904*. New York: Cambridge University Press.
- Laughlin, James L. 1933. *The Federal Reserve Act: Its Origin and Problems*. New York: The Macmillan Company.
- Link, Arthur S. 1956. *The New Freedom*. Princeton: Princeton University Press.
- Link, Arthur S. 1954. *Woodrow Wilson and the Progressive Era*. New York: Harper & Row.
- Livingston, James. 1986. *Origins of the Federal Reserve System: Money, Class, and Corporate Capitalism, 1890-1913*. Ithaca: Cornell University Press.
- Lowi, Theodore J. 1967. "Making Democracy Safe for the World," In *Domestic Sources of Foreign Policy*, ed. James N. Rosenau. New York: The Free Press.
- Mahoney, James and Kathleen Thelen, eds. 2009. *Explaining Institutional Change: Ambiguity, Agency, and Power*. New York: Cambridge University Press.
- Maier, Charles S. 1977. "The Politics of Productivity: Foundations of American International Economic Policy after World War II." *International Organization*. 31 (4): 607-633.
- Mastanduno, Michael. 2009. "System Maker and Privilege Taker: U.S. Power and the International Political Economy." *World Politics* 61 (1): 121-154.
- Mayhew, David. 2005. "Wars and American Politics." *Perspectives on Politics* 3 (3): 473-493.
- McCulley, Richard T. 1992. *Banks and Politics During the Progressive Era*. New York: Garland Publishing.
- McKinnon, Ronald I. 2013. *The Unloved Dollar Standard: From Bretton Woods to the Rise of China*. New York: Oxford University Press.
- Meltzer, Allan H. 2011. "Politics and the Fed." *Journal of Monetary Economics* 58 (1): 39-48.

- Meltzer, Allan H. 2009. *A History of the Federal Reserve, Volume 2*. Chicago: University of Chicago Press.
- Meltzer, Allan H. 2003. *A History of the Federal Reserve, Volume 1*. Chicago: University of Chicago Press.
- Moen, Jon and Ellis W. Tallman. 1992. "The Bank Panic of 1907: The Role of Trust Companies." *The Journal of Economic History* 52 (3): 611-630.
- Moen, Jon R. and Ellis W. Tallman. 2003. "New York and the Politics of Central Banks, 1781 to the Federal Reserve Act." Working Paper 2003-42. Atlanta: Federal Reserve Bank of Atlanta.
- Moggridge, Donald E. 1969. *Return to Gold, 1925: The Formation of Economic Policy and Its Critics*. London: Cambridge University Press.
- Morone, James A. 1991. *The Democratic Wish: Popular Participation and the Limits of American Government*. New Haven: Yale University Press.
- Myers, Margaret Good. 1931. *The New York Money Market: Volume I: Origins and Development*. New York: Columbia University Press.
- Nurkse, Ragnar. 1944. *International Currency Experience: Lessons of the Interwar Period*. No. 4. Geneva: League of Nations.
- Obstfeld, Maurice. 1996. "Models of Currency Crises with Self-fulfilling Features." *European Economic Review* 40 (3): 1037-1047.
- Odell, John S. 1982. *US International Monetary Policy: Markets, Power, and Ideas as Sources of Change*. Princeton: Princeton University Press.
- Orren, Karen and Stephen Skowronek. 1994. "Beyond the Iconography of Order: Notes for a New Institutionalism." In *The Dynamics of American Politics: Approaches and Interpretations*, eds., Lawrence C. Dodd and Calvin Jillson. Boulder: Westview Press, 311-30.
- Pauly, Louis W. 2006. "Monetary Statecraft in Follower States." In *International Monetary Power*, ed. David M. Andrews. Ithaca: Cornell University Press, 184-207.
- Plotke, David. 2006. *Building a Democratic Political Order: Reshaping American Liberalism in the 1930s and 1940s*. New York: Cambridge University Press.
- Pollack, Sheldon D. 2009. *War, Revenue, and State Building: Financing the Development of the American State*. Ithaca: Cornell University Press.

- Polsky, Andrew J. 2012. "Partisan Regimes in American Politics." *Polity* 44 (1): 51-80.
- Primm, James N. 1989. *A Foregone Conclusion: The Founding of the Federal Reserve Bank of St. Louis*. St. Louis: Federal Reserve Bank of St. Louis.
- Richardson, James D., ed. 1899. *Messages and Papers of the Presidents, Volume 3*. Washington D.C.: U.S. Government Printing Office.
- Ritter, Gretchen. 1999. *Goldbugs and Greenbacks: The Antimonopoly Tradition and the Politics of Finance in America, 1865-1896*. New York: Cambridge University Press.
- Ritter, Lawrence S. ed. 1980. *Selected Papers of Allan Sproul*. New York: Federal Reserve Bank of New York.
- Rogoff, Kenneth. 1985. "The Optimal Degree of Commitment to an Intermediate Monetary Target." *The Quarterly Journal of Economics* 100 (4): 1169-1189.
- Romer, Christina D. and David H. Romer. 2013. "The Most Dangerous Idea in Federal Reserve History: Monetary Policy Doesn't Matter." *The American Economic Review* 103 (3): 55-60.
- Romer, Christina D. and David H. Romer. 2004. "Choosing the Federal Reserve Chair: Lessons from History." *The Journal of Economic Perspectives* 18 (1): 129-162.
- Romer, Christina D. and David H. Romer. 2002. "A Rehabilitation of Monetary Policy in the 1950's." *American Economic Review* 92 (2): 121-127.
- Romer, Christina D., and David H. Romer. 1989. "Does Monetary Policy Matter? A New Test in the Spirit of Friedman and Schwartz." *NBER Macroeconomics Annual, Volume 4*. Cambridge: MIT Press, 121-184.
- Richardson, Gary and William Troost. 2009. "Monetary Intervention Mitigated Banking Panics during the Great Depression: Quasi- Experimental Evidence from a Federal Reserve District Border, 1929–1933." *Journal of Political Economy* 117 (6): 1031-1073.
- Ruggie, John Gerard. 1982. "International Regimes, Transactions, and Change: Embedded Liberalism in the Postwar Economic Order." *International Organization* 36 (2): 379-415.
- Saldin, Robert P. 2010. *War, the American State, and Politics since 1898*. New York: Cambridge University Press.

- Sandel, Michael J. 1996. *Democracy's Discontent: America in Search of a Public Philosophy*. Cambridge: Belknap Press.
- Sanders, Elizabeth. 1999. *Roots of Reform: Farmers, Workers, and the American State, 1877-1917*. Chicago: University of Chicago Press.
- Salant, W. A. 1963. "Competitiveness and the US Balance of Payments." *The US Balance of Payments in 1968*. The Brookings Institution Washington.
- Schickler, Eric. 2001. *Disjointed Pluralism: Institutional Innovation and the Development of the US Congress*. Princeton: Princeton University Press.
- Sibert, Anne. 2006. "Central Banking by Committee." *International Finance* 9 (2): 145-168.
- Silber, William L. 2007. *When Washington Shut Down Wall Street: The Great Financial Crisis of 1914 and the Origins of America's Monetary Supremacy*. Princeton: Princeton University Press.
- Simmons, Beth A. 1997. *Who Adjusts? Domestic Sources of Foreign Economic Policy during the Interwar Years*. Princeton: Princeton University Press.
- Skowronek, Stephen. 1982. *Building a New American State: The Expansion of National Administrative Capacities, 1877-1920*. New York: Cambridge University Press.
- Shull, Bernard. 2005. *The Fourth Branch: The Federal Reserve's Unlikely Rise to Power and Influence*. Westport: Praeger Publishers.
- Sparrow, Bartholomew H. 2014. *From the Outside in: World War II and the American State*. Princeton: Princeton University Press.
- Sprague, Oliver M. 1903. "Branch Banking in the United States." *The Quarterly Journal of Economics* 17 (2): 242-260.
- Sylla, Richard. 1969. "Federal Policy, Banking Market Structure, and Capital Mobilization in the United States, 1863-1913." *The Journal of Economic History* 29 (4): 657-686.
- Tallman, Ellis W. and Jon R. Moen. 1990. "Lessons from the Panic of 1907." *Economic Review* 75: 2-13.
- Tilly, Charles. 1992. *Coercion, Capital, and European States, AD 990-1992*. Oxford: Blackwell.

- Timberlake, Richard H. 1984. "The Central Banking Role of Clearinghouse Associations." *Journal of Money, Credit and Banking* 16 (1): 1-15.
- Timberlake, Richard H. 1963. "Mr. Shaw and his Critics: Monetary Policy in the Golden Era Reviewed." *The Quarterly Journal of Economics* 77 (1): 40-54.
- Tippetts, Charles. 1929. *State Banks and the Federal Reserve System*. New York: D. Van Nostrand Co.
- Toma, Mark. 2013. *Monetary Policy and the Onset of the Great Depression: The Myth of Benjamin Strong as Decisive Leader*. New York: Palgrave Macmillan.
- Toma, Mark. 1997. *Competition and Monopoly in the Federal Reserve System, 1914-1951: a Microeconomic Approach to Monetary History*. New York: Cambridge University Press.
- Toniolo, Gianni. 2005. *Central Bank Cooperation at the Bank for International Settlements, 1930-1973*. New York: Cambridge University Press.
- Tsebelis, George. 1995. "Decision Making in Political Systems: Veto Players in Presidentialism, Parliamentarism, Multicameralism and Multipartyism." *British Journal of Political Science* 25 (3): 289-325.
- Toqueville, Alexis de. [1835] 1990. *Democracy in America: Volume I*. New York: Vintage Books.
- Triffin, Robert. 1960. *Gold and the Dollar Crisis: the Future of Convertibility*. New Haven: Yale University Press.
- Trubowitz, Peter. 1998. *Defining the National Interest: Conflict and Change in American Foreign Policy*. Chicago: University of Chicago Press.
- Volcker, Paul A. and Toyoo Gyohten. 1992. *Changing Fortunes: The World's Money and the Threat to American Leadership*. New York: Times Books.
- Walter, Andrew. 2006. "Domestic Sources of International Monetary Leadership," In *International Monetary Power*, ed. David M. Andrews. Ithaca: Cornell University Press, 2006: 51-71.
- Warburg, Paul M. 1930. *Federal Reserve System, its Origin and Growth*. New York: Macmillan.
- Warburg, Paul M. 1913. "The Owen-Glass Bill as Submitted to the Democratic Caucus: Some Criticisms and Suggestions." *The North American Review* 198 (695): 527-555.

- Warburg, Paul M. 1914. "Defects and Needs of Our Banking System." *Proceedings of the Academy of Political Science in the City of New York* 4 (4): 7-22.
- Warburg, Paul M. 1911. "A United Reserve Bank of the United States." *Proceedings of the Academy of Political Science in the City of New York* 1 (2): 302-342.
- Ware, Alan. 2006. *The Democratic Party Heads North, 1877-1962*. New York: Cambridge University Press.
- Wells, Donald R. *The Federal Reserve System: A History*. Jefferson: McFarland, 2004.
- West, Robert C. 1977. *Banking Reform and the Federal Reserve, 1863-1923*. Ithaca: Cornell University Press.
- Weyforth, William O. 1933. *Federal Reserve Board: A Study of Federal Reserve Structure and Credit Control*. Baltimore: John Hopkins University Press.
- Wheelock, David C. 1998. "National Monetary Policy by Regional Design: The Evolving Role of the Federal Reserve Banks in Federal Reserve System Policy." *Federal Reserve Bank of St. Louis Working Paper Series* 1998-010.
- Wheelock, David C. 1991. *The Strategy and Consistency of Federal Reserve Monetary Policy, 1924-1933*. New York: Cambridge University Press.
- White, Eugene Nelson. 1983. *The Regulation and Reform of the American Banking System, 1900-1929*. Princeton: Princeton University Press.
- Wood, John H. 2005. *A History of Central Banking in Great Britain and the United States*. New York: Cambridge University Press.
- Wicker, Elmus. 2005. *The Great Debate on Banking Reform: Nelson Aldrich and the Origins of the Fed*. Columbus: Ohio State University Press.
- Wicker, Elmus. 1996. *The Banking Panics of the Great Depression*. New York: Cambridge University Press.
- Wicker, Elmus. 1966. *Federal Reserve Monetary Policy, 1917-1933*. New York: Random House.
- Zakaria, Fareed. 1999. *From Wealth to Power: the Unusual Origins of America's World Role*. Princeton: Princeton University Press.