PUBLIC ACTORS IN PRIVATE MARKETS: TOWARD A DEVELOPMENTAL FINANCE STATE

ROBERT C. HOCKETT
SAULE T. OMAROVA[*]

ABSTRACT

The recent financial crisis brought into sharp relief fundamental questions about the social function and purpose of the financial system, including its relation to the "real" economy. This Article argues that, to answer these questions, we must recapture a distinctively American view of the proper relations among state, financial market, and development. This programmatic vision—captured in what we call a "developmental finance state"—is based on three key propositions: (1) that economic and social development is not an "end-state" but a continuing national policy priority; (2) that the modalities of finance are the most potent means of fueling development; and (3) that the state, as the most potent financial actor, both must and often does pursue its developmental goals by acting endogenously—i.e., as a direct participant in private financial markets. In addition to articulating and elaborating the concept of the developmental finance state, this Article identifies and analyzes the principal modalities through which the modern American developmental finance state operates today. Finally, the Article proposes three broad strategic extensions of the existing modalities, with a view to enabling the emergence of a more ambitiously proactive and effective developmental finance state—and thus rediscovering a truly public-minded finance.

∗ Robert C. Hockett is the Edward Cornell Professor of Law at Cornell University School of Law. Saule T. Omarova is a Professor of Law at Cornell University School of Law. We would like to thank Hilary Allen, Fred Block, David Ellerman, Adam Levitin, Odette Lienau, Heidi Schooner, Aziz Rana, and Art Wilmarth, as well as participants in faculty workshops and seminars at Duke University, University of Minnesota, University of Southern California, and University of California-Berkeley. Special thanks to Ian Biggs and Abigail Cessna for research assistance.

TABLE OF CONTENTS

> *The spontaneous transition to new pursuits, in a community long habituated to different ones, may be expected to be attended with proportionally greater difficulty . . . . In many cases they would not happen . . . . To produce the desirable changes, as early as may be expedient, may therefore require the incitement and patronage of government.*[1]
>
> *[A] Bank is not a mere matter of private property, but a political machine of the greatest importance to the State.*[2]

INTRODUCTION

It is surprising that many Americans assume there to be only two, mutually exclusive and poetically French-named, options for defining governments' relations to markets: "*dirigisme*" and "*laissez faire*." Many academic and policy battles have been, and continue to be, fought on this uncompromisingly binary conceptual field. It is especially surprising because our polity never has been strictly "command-and-control" or "hands-off" in relation to our economy. Rather, we have always sought means of proactively fostering and furthering economic development and growth, and have done so through government instrumentalities that act in markets as much as they act on them. Our government is more than merely a market overseer and regulator—it is also a direct market participant, acting not only to correct market failures or to provide vital public goods but also to create, amplify, and guide private markets in ways that enhance these markets' potential to serve important long-term public interests.

This Article—part of a larger project—identifies, analyzes, and builds upon the distinctly American mode of mixing polity and economy, in hopes of recovering a policy approach that the nation once had and could use again now, after a major financial crisis.[3] The tradition we seek to recover traces its roots directly to ideas originally formulated by the country's first Treasury Secretary, Alexander Hamilton. We refer to that

---

1. Alexander Hamilton, *Report on the Subject of Manufactures*, *in* ALEXANDER HAMILTON: WRITINGS 647, 670–71 (Joanne B. Freeman ed., 2001) [hereinafter *Report on Manufactures*].

2. Alexander Hamilton, *Report on a National Bank*, *in* ALEXANDER HAMILTON: WRITINGS, *supra* note 1, at 575, 599 [hereinafter *Report on a National Bank*].

3. Of course, *distinctly* American does not mean *uniquely* American. As discussed below, in the nineteenth–twentieth centuries, many countries adopted this general approach to mixing polity and economy in pursuit of their own national goals. *See infra* notes 31–34 and accompanying text. Today, many countries continue to work on adapting it to their own needs. Here, we merely seek to remind our readers of the deeply American origins of this venerable policy tradition.

tradition under the conceptual heading of the "developmental finance state."

The developmental finance state bears three basic attributes. First, it treats national socio-economic development not as a particular end-state but as an ongoing process of conscious, forward-looking change against a backdrop of basic financial and macroeconomic stability. Second, it specifically targets financial markets and uses modalities of finance in pursuit of its developmental goals. Third, the developmental finance state operates as an integral part of private markets, deliberately bringing private and public actors together as partners in the ongoing national-development project. In so doing, it defies and blurs the categorical public-private divide so often assumed in debates on financial regulation.

By tentatively outlining the model of our modern American developmental finance state, this Article makes an original contribution to several well-established strands in legal and social science scholarship, while nevertheless claiming its own distinctive intellectual territory.[4] We examine the critically important nexus between the state, finance, and development from a unique perspective.[5] Rather than drawing broad institutional comparisons on a grand state-market-society canvas, we focus on the specific modalities of state action within, rather than upon, financial markets. In this vein, we start defining the concept of a developmental

4. Our project builds upon, and speaks to, a multidisciplinary set of literatures, including legal scholarship on various aspects of finance and financial services regulation, multiple literatures on public-private relations and dynamics, and social science research on institutional political economy, industrial policy, and the developmental state. For a sample of relevant recent social science research, see Karl Aiginger & Susanne Sieber, *The Matrix Approach to Industrial Policy*, 20 INT'L REV. APPLIED ECON. 573 (2006); Ben Clift & Cornelia Woll, *Economic Patriotism: Reinventing Control over Open Markets*, 19 J. EUR. PUB. POL'Y 307 (2012); Robert H. Wade, *Return of Industrial Policy?*, 26 INT'L REV. APPLIED ECON. 223 (2012). For classic expositions of the developmental state model, see ALICE H. AMSDEN, ASIA'S NEXT GIANT: SOUTH KOREA AND LATE INDUSTRIALIZATION (1989); PETER EVANS, EMBEDDED AUTONOMY: STATES AND INDUSTRIAL TRANSFORMATION (1995); CHALMERS JOHNSON, JAPAN: WHO GOVERNS?: THE RISE OF THE DEVELOPMENTAL STATE (1995); ROBERT WADE, GOVERNING THE MARKET: ECONOMIC THEORY AND THE ROLE OF GOVERNMENT IN EAST ASIAN INDUSTRIALIZATION (1990). For an overview of development theory and the current state of the developmental state scholarship, see Peter Evans, *The Developmental State: Divergent Responses to Modern Economic Theory and the Twenty-First-Century Economy*, *in* THE END OF THE DEVELOPMENTAL STATE? 220 (Michelle Williams ed., 2014).

5. Generally, much of the scholarly analysis of developmental policies in modern Europe and East Asia focused on the fundamental structure of individual countries' national finance. *See, e.g.*, Chalmers Johnson, *Political Institutions and Economic Performance: The Government-Business Relationship in Japan, South Korea, and Taiwan*, *in* THE POLITICAL ECONOMY OF THE NEW ASIAN INDUSTRIALISM 136 (Frederic C. Deyo ed., 1987); JUNG-EN WOO, RACE TO THE SWIFT: STATE AND FINANCE IN KOREAN INDUSTRIALIZATION (1991); JOHN ZYSMAN, GOVERNMENTS, MARKETS, AND GROWTH: FINANCIAL SYSTEMS AND THE POLITICS OF INDUSTRIAL CHANGE (1983).

finance state inductively, through description and analysis of its currently existing modalities.

We argue that the government is an important endogenous actor in today's financial markets and construct a provisional taxonomy of the roles the government plays in that capacity. We define these roles as market-*making*, market-*moving*, market-*levering*, and market-*preserving*.[6] The primary goal of our taxonomy-building exercise is to elucidate the hidden or under-appreciated threads of common meaning behind seemingly unrelated, and often all too familiar, phenomena. In effect, we reveal the face of the modern American developmental finance state. Importantly, our taxonomy provides a conceptual apparatus and operational vocabulary indispensable for a systematic recognition and examination of public instrumentalities' existing market-actor practices across a wide range of issues.[7]

We further argue that a functional taxonomy of present government-as-market-actor roles has potentially significant forward-looking public policy implications. It provides a conceptual framework for envisioning expansions of identified modalities beyond their current forms. To this end, we engage in an explicitly normative, prescriptive undertaking that aims to test both the public-policy relevance of our analysis and the conceptual reach of our provisional model of a developmental finance state. We argue that the normative justification for the government's action in private markets should go well beyond the traditional market-failure and public-goods arguments. Instead of acting only to correct some specific market failure or to supply some traditional public good, government instrumentalities should use their unique ability to harness the power of private financial markets for the purpose of promoting long-term national development and ensuring financial and macroeconomic stability.

We advance several proposals for expanding the scope and intensity of the government's financial market-actor functions, in pursuit of a more coherent, comprehensive, and normatively emboldened agenda. In particular, we propose adopting a broad asset-price stability maintenance

6. *See infra* Parts I.B.2, II.

7. In this respect, our argument complements and contributes to a broader emerging trend in social science research that explicitly recognizes and examines the central role of the state in creating markets for technological innovation and shaping knowledge-based growth. *See generally* MARIANA MAZZUCATO, THE ENTREPRENEURIAL STATE: DEBUNKING PUBLIC VS. PRIVATE SECTOR MYTHS (2014) (examining the entrepreneurial role of the state in knowledge-intensive industries); Fred Block, *Swimming Against the Current: The Rise of a Hidden Developmental State in the United States*, 36 POL. & SOC'Y 169 (2008) (analyzing the critical role of the US government's developmental intiatives in supporting scientific and technological advances).

program, establishing a public-private national investment and infrastructure-financing vehicle, and creating a special "golden share" regime for financial firms' internal governance.[8] In many ways, our proposals are unorthodox and ambitious thought experiments. We paint a broad picture, which inevitably glosses over a number of important issues related to institutional design, procedural framework, and broader political-economic substance of the proposed arrangements—issues we are planning to address in future work. The goal of this Article is not to offer a ready-to-use legislative blueprint but to push our collective imagination beyond the constraints of current discourse, to show how this new perspective on the role of public actors in private financial markets opens up new policy terrain, rich with possibility.

The Article proceeds as follows. Part I examines the historical origins of what we are calling the developmental finance state model and elaborates the key parameters of that concept. Part II constructs a basic taxonomy of market-actor roles that federal government instrumentalities have been playing since at least the New Deal era. Part III advances three separate sets of policy proposals aimed at extending the federal government's market-actor functions beyond their current forms, in order to enable the emergence of a more coherent and effective developmental finance state. The Conclusion offers brief closing remarks and looks forward to next steps in this project.

I. STATE, FINANCE, AND DEVELOPMENT: REDISCOVERING THE LINK

A. American Origins of the Developmental Finance State: The Forgotten Heritage

Contrary to today's dominant narrative, the concept of a strong centralized government actively pursuing a coherent national developmental strategy is very much an American idea. The first US Secretary of the Treasury, Alexander Hamilton, was the first modern statesman to put forward a comprehensive plan of state-led economic development as the basis for attaining and maintaining true national independence and prosperity.[9] In sharp contrast to Thomas Jefferson's

8. *See infra* Part III.

9. For detailed accounts of Alexander Hamilton's life and ideas, see generally RON CHERNOW, ALEXANDER HAMILTON (2004); STANLEY ELKINS & ERIC MCKITRICK, THE AGE OF FEDERALISM (1993); FORREST MCDONALD, ALEXANDER HAMILTON: A BIOGRAPHY (1979); BROADUS MITCHELL, ALEXANDER HAMILTON: A CONCISE BIOGRAPHY (1976); *see also* THOMAS K. MCCRAW, THE

ideal of America as an agrarian economy financed by small local banks and minimally overseen by small local government, Alexander Hamilton saw the young American nation's power in the future as riding on technical and financial prowess.[10] To Hamilton, a politically and economically independent American Republic required an "energetic"—not "imbecilic"—government, a well-developed system of finance, and a well-diversified productive capacity.[11] By fully articulating the intimate connection among these three elements, Hamilton effectively envisaged the United States as the first developmental state—with the emerging qualities of a developmental finance state.[12]

At the heart of Hamilton's development strategy was the creation of a strong public-private system of finance that would, on the one hand, underwrite federal monetary control and credit expansion and, on the other hand, aggregate and channel vital resources toward building American industry and trade. Hamilton proceeded with this program in a series of steps that fundamentally shaped the modern American economy. Pursuant to his program, the new national government assumed all of the separate States' revolutionary war debts and securitized them by issuing US Treasury instruments. To manage the emerging system of reliable national money and credit, Hamilton designed and pushed for establishing the first Bank of the United States (the "Bank")—in effect, the nation's first central bank.[13]

FOUNDERS AND FINANCE: HOW HAMILTON, GALLATIN, AND OTHER IMMIGRANTS FORGED A NEW ECONOMY (2012).

10. *See* sources cited *supra* note 9; *see also* Alexander Hamilton, *Report on Public Credit*, *in* ALEXANDER HAMILTON: WRITINGS, *supra* note 1, at 531; *Report on Manufactures*, *supra* note 1; *Report on a National Bank*, *supra* note 2. For more on Jefferson's contrasting vision, see ELKINS & MCKITRICK, *supra* note 9, at 195–208; *see also* LANCE BANNING, THE JEFFERSONIAN PERSUASION: EVOLUTION OF A PARTY IDEOLOGY (1978); DREW R. MCCOY, THE ELUSIVE REPUBLIC: POLITICAL ECONOMY IN JEFFERSONIAN AMERICA (1980).

11. *See* CHERNOW, *supra* note 9, at 1–6, 344–79; ELKINS & MCKITRICK, *supra* note 9, at 92–132, 258–62; MCDONALD, *supra* note 9, at 117–210.

12. It is worth noting that there have been competing interpretations of Hamilton's historical legacy ever since the time of Hamilton himself. *See, e.g.*, sources cited *supra* note 9. Some progressives and "states' rights" enthusiasts from Jefferson and Madison on down have demonized him as a champion of moneyed interests or of autocratic government, while other progressives and activist Republicans from Abraham Lincoln to Theodore Roosevelt have lionized him as a visionary champion of federally-orchestrated beneficial change. *See, e.g.*, Christian Parenti, *Reading Hamilton from the Left*, JACOBIN (Aug. 26, 2014), https://www.jacobinmag.com/2014/08/reading-hamilton-from-the-left/ (discussing various ideological interpretations of Hamilton's legacy). We do not purport to resolve this century-old dispute here. Our point is simply to emphasize that the idea of using the state as a tool to promote nation-wide economic change is as old and as American as the original architecture of our federal government and financial system themselves. Thanks to Aziz Rana for pressing us on this point.

13. *See generally Report on a National Bank*, *supra* note 2.

Two aspects of Hamilton's model of the Bank are particularly relevant for our purposes. First, it was explicitly designed as a public-private joint venture that "unite[d] public authority and faith with private credit."[14] The Bank was initially capitalized at $10 million—an enormous sum at the time—with subscriptions supplied by private parties and the federal government.[15] Although the government contributed 20% of the Bank's capital and accordingly held a minority equity stake,[16] it played an active role as the insider-guardian of the public interest.[17] Second, the Bank functioned in part as a national development bank. In this capacity, it made targeted investments in various development projects, primarily infrastructural in character.[18] Hamilton thought private investors more likely to make wise, economically sensible investment choices and, accordingly, arranged for "private" directors on the Bank's board to take the lead role in its investment decision-making.[19] The Bank's "public" directors, however, played a continuing oversight role even with respect to these decisions, and, crucially, were to withdraw the federal subscription from the Bank in the event that the private directors sought to make crony or otherwise profligate-looking project investments over the public directors' objections.[20] This further underscored the federal government's unique role as a "joint proprietor in th[e] undertaking."[21]

---

14. Alexander Hamilton, *To James Duane*, *in* ALEXANDER HAMILTON: WRITINGS, *supra* note 1, at 70, 83 [hereinafter *Letter to James Duane*]; *see also Report on a National Bank*, *supra* note 2, at 585 (emphasis added) ("[B]anks . . . enable honest and industrious men, of small or perhaps of no capital[,] to undertake and prosecute business, with advantage to themselves *and to the community* . . . .").

15. *See Report on a National Bank*, *supra* note 2, at 604. The $10-million initial capitalization was several times the combined capital of all then-existing US banks. *See* CHERNOW, *supra* note 9, at 349.

16. *See Report on a National Bank*, *supra* note 2, at 608.

17. Hamilton explained these provisions through explicit reference to the fundamental public interest in ensuring the properly prudent operation of the Bank:

> If the paper of a Bank is to be permitted to insinuate itself into all the revenues and receipts of a country; if it is even to be tolerated as the substitute for gold and silver, in all the transactions of business, it becomes in either view a national concern of the first magnitude.

Report on a National Bank, *supra* note 2, at 603.

18. Hamilton was keenly aware of the critical role infrastructure played in a nation's economy—even when the latter was considered already well "developed." *See Report on Manufactures*, *supra* note 1, at 707 ("There is perhaps scarcely any thing, which has been better calculated to assist the manufactures of Great Britain, than the ameliorations of the public roads of that Kingdom, and the great progress which has been of late made in opening canals. Of the former, the United States stand much in need; and for the latter they present uncommon facilities.").

19. *See Report on a National Bank*, *supra* note 2, at 602; *see also Letter to James Duane*, *supra* note 14, at 83 ("Paper credit never was long supported in any country, on a national scale, where it was not founded on the joint basis of public and private credit.").

20. *See, e.g.*, MCDONALD, *supra* note 9, at 189–210. In this sense, the Bank operated somewhat like a private equity fund whose "passive" partners in effect had a veto power because they were not required to "lock up" funds for set periods of time. Aspects of this arrangement will figure in our

The final element of Hamilton's program—in addition to the creation of a reliable national system of money and credit and the establishment of a central bank—directly concerned state-promoted industrialization of the United States. To this end, Hamilton planned yet another public-private partnership of sorts, organized as a combined "development corporation" and "enterprise zone."[22] This partnership took the form of an indirectly federally-funded, New Jersey-chartered corporation named the Society for Establishing Useful Manufactures ("S.U.M.").[23] The corporation was to be initially capitalized through private subscriptions (with US Treasury securities as paid-in capital); and its location between New York City and Philadelphia gave it access both to abundant cheap water power and to investors in the two largest financial centers of the day.[24] The corporation's aim was to develop efficient means of manufacturing various finished goods and to demonstrate the practicability and ready imitability of such means to the nation at large.[25] To Hamilton, this was a project of actively creating what we now know as a Ricardian comparative advantage, so as to render the nation not only juridically but also practically sovereign and self-sufficient.[26]

Hamilton's manufacturing plan was not fully completed in his lifetime. Nevertheless, his ideas fundamentally determined America's entire developmental trajectory. Remarkably, Thomas Jefferson, Hamilton's chief antagonist while in office, pursued explicitly Hamiltonian policies during his own presidential administration.[27] In the early to mid-nineteenth century, Henry Clay and John C. Calhoun's "American System" was

---

proposals below. For more on the operations of modern private equity firms and their significance to our project, see *infra* Part III.B.

21. Alexander Hamilton, *Opinion on the Constitutionality of a National Bank*, *in* ALEXANDER HAMILTON: WRITINGS, *supra* note 1, at 613, 632; *see also id.* at 646 (noting that the government would remain a "proprietor" and would "share in the profit, or loss, of the institution").

22. *See* CHERNOW, *supra* note 9 at 370–79; ELKINS & MCKITRICK, *supra* note 9, at 258–62; MCCRAW, *supra* note 9, at 122–36; MCDONALD, *supra* note 9, at 189–210.

23. *See* sources cited *supra* note 22.

24. *See* sources cited *supra* note 22. The town of Paterson that grew around it can be compared to a modern-day technology cluster zone like Silicon Valley.

25. *See Report on Manufactures*, *supra* note 1.

26. *See* sources cited *supra* note 22.

27. Jefferson pursued these policies through his own Treasury Secretary—Albert Gallatin—who began as a Hamilton antagonist in Congress, and ended up being arguably more Hamiltonian than even Hamilton. *See* MCCRAW, *supra* note 9, at 179–328; RAYMOND WALTERS, JR., ALBERT GALLATIN: JEFFERSONIAN FINANCIER AND DIPLOMAT 170–84 (1957); Carter Goodrich, *The Gallatin Plan After One Hundred and Fifty Years*, 102 PROC. AM. PHIL. SOC'Y 436, 436–41 (1958). *See generally* CARTER GOODRICH, GOVERNMENT PROMOTION OF AMERICAN CANALS AND RAILROADS 1800–1890 (1960) (describing various political and ideological factors that shaped early US economic policies).

Hamiltonian in inspiration and design.[28] Later, Henry Carey, President Lincoln's chief economic advisor, also explicitly embraced the Hamiltonian mantle.[29] Finally, much of the most innovative governmental development activity during the Progressive era, Roosevelt's New Deal, and the post-war Eisenhower and Kennedy administrations, which bequeathed many of the institutions that we discuss below, took a straightforwardly Hamiltonian market-actor form.[30]

Furthermore, Hamilton's vision of a proactive, modernizing state deliberately altering the nation's "natural" comparative advantage was the original inspiration behind the best-known European and Asian economic "miracles."[31] Friedrich List, the chief architect of Germany's rapid industrialization, built his program on Hamiltonian principles.[32] In the late nineteenth century, List's, and hence Hamilton's, programs were explicitly adopted in Meiji Japan.[33] From there, Hamiltonian ideas spread to South Korea, Taiwan, and other late twentieth-century East Asian "tiger" economies that often are equated with the very concept of a modern developmental state.[34]

---

28. *See generally* GOODRICH, *supra* note 27; Michael J. Lacey, *Federalism and National Planning: The Nineteenth-Century Legacy*, *in* THE AMERICAN PLANNING TRADITION: CULTURE AND POLICY 89 (Robert Fishman ed., 2000); JOHN LAURITZ LARSON, INTERNAL IMPROVEMENT: NATIONAL PUBLIC WORKS AND THE PROMISE OF POPULAR GOVERNMENT IN THE EARLY UNITED STATES (2001); MICHAEL LIND, HAMILTON'S REPUBLIC: READINGS IN THE AMERICAN DEMOCRATIC NATIONALIST TRADITION (1997); CHARLES SELLERS, THE MARKET REVOLUTION: JACKSONIAN AMERICA, 1815–1846 (1991).

29. For an exposition of Carey's Hamiltonian views, see HENRY C. CAREY, THE HARMONY OF INTERESTS: AGRICULTURAL, MANUFACTURING & COMMERCIAL (Augustus M. Kelley 1967) (1851) (advocating the "American System" of developmental capitalism, in which government fosters domestic industry and national self-sufficiency, in contrast to the "British System" of *laissez faire* capitalism and free trade). *See also* PAUL K. CONKIN, PROPHETS OF PROSPERITY: AMERICA'S FIRST POLITICAL ECONOMISTS (1980) (devoting last two chapters of the book to discussion of Carey's views).

30. For more on these later programs and their Hamiltonian forms, see Robert Hockett, *A Jeffersonian Republic by Hamiltonian Means: Values, Constraints, and Finance in the Design of A Comprehensive and Contemporary American "Ownership Society,"* 79 S. CAL. L. REV. 45, 99–124 (2005) [hereinafter *A Jeffersonian Republic*].

31. *See generally* HA-JOON CHANG, KICKING AWAY THE LADDER: DEVELOPMENT STRATEGY IN HISTORICAL PERSPECTIVE (2002); IAN PATRICK AUSTIN, COMMON FOUNDATIONS OF AMERICAN AND EAST ASIAN MODERNISATION: FROM ALEXANDER HAMILTON TO JUNICHERO KOIZUMI (2009). *See also* LIND, *supra* note 28, at 330–35.

32. List's "National System" was even named in tandem with Clay's and Calhoun's "American System." *See generally* CHANG, *supra* note 31; FRIEDRICH LIST, THE NATIONAL SYSTEM OF POLITICAL ECONOMY (Sampson S. Lloyd trans., Augustus M. Kelley 1966) (1885); William Notz, *Frederick List in America*, 16 AM. ECON. REV. 249 (1926). *See also* AUSTIN, *supra* note 31, at 75–106; LIND, *supra* note 28, at 330–35.

33. *See, e.g.*, AUSTIN, *supra* note 31, at 261–318. *See also* LIND, *supra* note 28, at 330–35; PAUL LINEBARGER ET AL., FAR EASTERN GOVERNMENTS AND POLITICS: CHINA AND JAPAN 326 (1954).

34. *See* AUSTIN, *supra* note 31, at 261–318; LINEBARGER ET AL., *supra* note 33, at 326; *see also*

Tracing the lineage of the developmental state to Alexander Hamilton reveals the deep irony behind America's present self-image as a genetically-encoded laissez-faire state. The rise of neoliberal economics and free-market fundamentalism as the dominant American ideology supplied a skewed historical and political narrative that deliberately ignores Hamilton's influence and the decisive role of the state in this country's industrial development. This narrative presents the American economic model "as a page out of a neoclassical economics textbook," an unquestioned triumph of self-interested individuals acting rationally and autonomously in self-adjusting markets.[35] On this textbook page, the government is generally portrayed as an external, extra-economic force that imposes politically-derived—thus, presumptively "unnatural" and potentially inefficient—constraints on the market. The government is inherently incapable of entrepreneurship and innovation and, therefore, should stay out of the way of private market actors who alone can generate economic prosperity and human progress.[36] In short, the neoliberal doctrine draws a stark dividing line: governments act in the public, political sphere, while markets constitute the private, economic sphere.

Even in this elegantly sterile neoliberal narrative, however, the divide is not absolute, and the government is generally recognized as playing two market-supporting roles. First, governments intervene in the markets "from above" by imposing various legal and regulatory constraints on private parties' behavior to ensure order and civility, to prevent or limit socially undesirable outcomes, or to set standards for socially desirable ones. We call this a supervisory function.[37] Second, governments help to constitute markets "from below," by supplying some of the basic rules of the game—such as property and contract laws—necessary to enable frictionless operation of private markets. We call this a constitutive function.[38] Two theoretical justifications are typically used to accommodate these two forms of government interference in private

---

LIND, *supra* note 28, at 330–35; David Levi-Faur, *Friedrich List and the Political Economy of the Nation-State*, 4 REV. INT'L POL. ECON. 154 (1997).

35. Jonah D. Levy, Robert A. Kagan & John Zysman, *The Twin Restorations: The Political Economy of the Reagan and Thatcher "Revolutions," in* TEN PARADIGMS OF MARKET ECONOMIES AND LAND SYSTEMS 4 (Lee-Jay Cho & Yoon Hyung Kim eds., 1998).

36. President Ronald Reagan's famous quote sums up the basic sentiment behind this worldview: "[G]overnment is not the solution to our problem; government is the problem." Ronald W. Reagan, President of the United States, Inaugural Address (Jan. 20, 1981), *available at* http://www.reagan foundation.org/pdf/Inaugural_Address_012081.pdf.

37. Robert C. Hockett & Saule T. Omarova, *"Private" Means to "Public" Ends: Governments as Market Actors*, 15 THEORETICAL INQUIRIES L. 53, 55 (2014).

38. *Id.*

markets: correcting specific market failures and providing specific public goods.[39]

We argue that this dominant view of public-private, government-market dynamics is both descriptively incomplete and normatively weak. Descriptively, it overlooks a critically important third modality of government action in the private economic sphere—that of an endogenous market participant alongside its private partners and counterparties. Normatively, it is incapable of offering a programmatic vision for utilizing the government's unique strengths to unlock private markets' heretofore unrecognized potential to generate greater public benefits.[40]

Along both of these dimensions, the dominant narrative is also inconsistent with the fundamentally American tradition of a strong developmental state financed through a mix of public and private means, which goes back to Secretary Hamilton's program.[41] By contrast, we see our project as an attempt to reclaim and revive this part of the American national heritage. In keeping with Hamilton's original vision, our primary focus is on the crucial interaction between an energetic government, public-private finance, and continuous national development.

Of course, the dynamics of this interaction in the 21st century will be different from what they were in 1790. In the context of today's more complex financial system, the mechanisms through which the state asserts its market presence and exercises its market leadership will themselves be more complex. In this Article, we aim to elucidate some of these public-private dynamics and to identify some of these state-market interaction mechanisms, both as they currently operate and as they might be made to operate in the future. This effort is not as grand or as imbued with historical significance as was Hamilton's nation-building project, but it derives its inspiration from the same "moral ambition."[42]

---

39. For a more detailed discussion of these phenomena, see *infra* Part II.

40. As Mariana Mazzucato argues in connection with the entrepreneurial leadership of the state in technological innovation:

> Providing such leadership, the State makes things happen that otherwise would not have. But whether this role is justified given the characteristics of 'public good' and the role of 'externalities' (both critical to the market failure argument), or whether it is justified due to a broader understanding of the State as a courageous actor in the economic system makes all the difference. . . . Rather than analysing the State's active role through its correction of 'market failures' (emphasized by many 'progressive' economists who rightly see many failures), it is necessary to build a theory of the State's role in *shaping* and *creating* markets . . . .

MAZZUCATO, *supra* note 7, at 7–8.

41. *See supra* notes 13–26 and accompanying text.

42. Michael Loriaux, *The French Developmental State As Myth and Moral Ambition*, *in* THE DEVELOPMENTAL STATE 235, 237 (Meredith Woo-Cumings ed., 1999) (arguing that development is

B. The Developmental Finance State: Outlines of the Concept

1. Working Definition: Framing the Inquiry

Three propositions form the basis of our argument. First of all, we assert the utmost significance of pursuing socio-economic development as a continuous national project that does not end once a country is sufficiently industrialized and modernized to be considered a "developed" economy. Development is not a particular end-of-history state; it is an inherently dynamic phenomenon. Development is a conscious pursuit of qualitative (not merely quantitative) growth and adaptation to new environments; it is an evolutionary process of national self-definition and reinvention. In today's world, any "developed" nation that does not strive to develop risks losing its global competitive edge. In this sense, the United States is a developing country, whether or not Americans realize or admit it. We seek to re-introduce this critically important normative concept into the public discourse.

Secondly, we view this conscious pursuit of national development as a fundamentally public-private enterprise. As the ultimate public, collective actor, the federal government is well-positioned to formulate a national developmental strategy. But its successful implementation would require the government to utilize, deliberately and systematically, its ability to participate directly in private market transactions as an endogenous, rather than merely exogenous, actor. Via this explicitly participatory market-actor modality, the government can lead the market from within—thus becoming an integral part of the private market, altering some of the market's potentially undesirable internal dynamics, and empowering both the market and the nation.

Finally, we deliberately focus on the use of financial techniques and financial instruments as primary methods of the government's pursuit of developmental goals in its role as a market actor. Finance represents both the lifeblood of the economy and "the nerves of the state"—it is the principal link connecting the state and the market.[43] Finance is a universal productive input; it can be easily moved and re-deployed for a multitude of purposes.[44] Moreover, the increasing financialization of the American

---

fundamentally a nation's "moral ambition" and an aspiration to develop rather than a specific set of policies).

43. Meredith Woo-Cumings, *Introduction: Chalmers Johnson and the Politics of Nationalism and Development*, *in* THE DEVELOPMENTAL STATE, *supra* note 42, at 10 (quoting Jean Bodin).

44. *See* ZYSMAN, *supra* note 5, at 76–77 (discussing the "universality" of finance as a policy tool).

economy in recent decades makes finance a particularly potent lever of economic and political power. Therefore, we view financial markets as the strategic arena in which America's future developmental trajectory will be decided.

These three elements, inspired by and building upon Hamiltonian ideas, define the contours of what we tentatively call here a developmental finance state model. A "developmental finance state" can be defined as a state that pursues specific developmental goals through direct participation in private financial markets as an endogenous market actor.

Far from being a fully theorized construct, this working definition is merely a starting point in our inquiry into the nature of this complex phenomenon. Two basic questions frame this inquiry: What does this model look like in reality? And what could it look like if we had a better understanding of its transformative potential?

2. Descriptive Aspect: Developing a Taxonomy

Our focus is on government instrumentalities—public actors—that engage in typical forms of financial transactions in private markets as buyers, sellers, lenders, borrowers, and insurers. Yet, because they are public instrumentalities, their seemingly ordinary commercial activities can, and often do, have uniquely profound effects on the markets in which they operate. First of all, the government is a very big actor, potentially able to command enormous financial resources on the strength of its full faith and credit. Its size and significant funding advantages allow the government to affect the market much more forcefully than any individual private actor. Secondly, even as a market actor, the government is not driven—and thus constrained—by purely pecuniary motives. Government instrumentalities typically participate in private markets to achieve some public goal; they are not motivated by a single-minded pursuit of private gain. This fundamental difference enables public entities to counteract certain cumulatively irrational effects of private parties' individually rational short-term profit-seeking actions. In that sense, government instrumentalities are uniquely well-positioned to perform the critically important role of market contrarians. Finally, the government can use its regulatory powers to support and facilitate the fulfillment of its market objectives.[45]

45. Adam Levitin and Susan Wachter provide a thoughtful case study of direct government participation in the US housing finance market as a *regulatory* modality, which they call "public

This political side of the government, however, is also the perennial source of suspicion that accompanies state participation in economic activity. The main reasons for concern are well-known: we fear that the state will abuse its power to coerce; we worry that state bureaucrats may lack the expertise to carry out their proclaimed goals; we doubt that they are able to resist political pressure or the corrupting influence of money. These concerns are legitimate, but they tend to obscure the positive, constructive potential of the government's role as a market-actor.[46]

To elucidate this under-appreciated transformative potential, we develop a provisional taxonomy of the functions currently performed by various government instrumentalities directly participating in private financial markets. We identify and discuss four categories of such functions: market-making, market-moving, market-levering, and market-preserving.[47] Together, these four aspects of the government-as-market-actor modality can be viewed as constituting the current prototype of the modern American developmental finance state.

The "market-making" category encompasses those instances in which a government instrumentality assumes risks that private actors usually are unable or unwilling to bear and, by doing so, either establishes or directly and substantially facilitates the emergence of a particular publicly beneficial market. In this role, public actors actively *create* the space for previously non-existent, or only incipient, private exchange.

The "market-moving" category refers to instances in which government action affects certain market prices to produce public benefits that profit-driven private parties ordinarily are not motivated to produce. In this role, public actors *guide* private markets by altering price signals in a manner that counteracts such markets' tendency to under-supply publicly beneficial outcomes.

The "market-levering" category includes various forms of government action expanding, amplifying, or optimizing the functioning of existing

---

option" regulation. *See* Adam J. Levitin & Susan M. Wachter, *The Public Option in Housing Finance*, 46 U.C. DAVIS L. REV. 1111 (2013) [hereinafter *Public Option*].

46. In large part due to the dominance of neoliberal, market-fundamentalist ideology in US policy discourse in recent decades, the existing popular and academic literature criticizing the government for everything it does or does not do is simply too voluminous to cite here. For a recent example of a sweepingly critical take on government action, see PETER H. SCHUCK, WHY GOVERNMENT FAILS SO OFTEN: AND HOW IT CAN DO BETTER (2014). Our goal in this Article is not to refute these well-worn criticisms but to highlight what they either ignore or significantly understate: the fact that the government, despite its internally fragmented structure and complex dynamics, remains the most powerful tool of pursuing public interests in private markets.

47. *See infra* Part II.

private markets. In this role, public actors *magnify* private markets and boost their potential to produce public benefits.

Finally, the "market-preserving" category denotes a range of government actions—typically temporary and undertaken only in emergency situations—that prevent the collapse of a previously self-sustaining private market. In this role, public actors act as the ultimate market contrarians: they *save* a private market by halting its inherent self-destructive dynamics, in order to avoid a greater public harm.

The definitional boundaries within our proposed taxonomy of public roles in private markets are inherently fluid. The four categories we identify are not mutually exclusive, nor are they hard and fast. Any one of these roles can be, and often is, employed as a means of discharging the functions of one or more of the others in particular circumstances. In practice, it may be impossible to find a pure form of a particular government-as-market-actor role, as presented in our taxonomy. Nevertheless, categorizing and distinguishing these functions is a helpful analytical and expository tool that, on the one hand, helps to sharpen and enrich our understanding of the underlying logic and significance of past and present actions by government actors in private markets and, on the other hand, enables us to envisage future uses of public actors' market power for public ends. This taxonomy of functions, however fluid and intertwined, provides a vocabulary for a bolder and more pro-active approach to policy-making.[48]

Our provisional taxonomy of government roles in private markets is by no means exhaustive or all-encompassing, either theoretically or descriptively.[49] There are many ways in which public actors—government bureaucracies and quasi-government entities—intervene or participate in private market exchanges. For example, governments routinely act as buyers, sellers, lenders, and borrowers in numerous market transactions. In terms of what any particular government actor does in each such "normal" market exchange (e.g., buying or selling services or goods), its actions

48. *See* MAZZUCATO, *supra* note 7, at 8 ("[W]e must start using new words to describe the State.").

49. For example, sociologist Fred Block has developed a taxonomy of governmental roles in the markets for new technologies. According to Block, the US federal government directly shapes developmental outcomes in the high-tech sector by performing four overlapping functions: targeted resourcing, opening windows, business and technological brokering, and facilitating. Block, *supra* note 7, at 172–74. In each role, the government works directly and proactively with private firms and scientists to identify, fund, and nurture potentially promising technological innovations that private investors consider too risky. While reflecting the distinctive dynamics of the knowledge-based high-tech sector, Block's notion of a "developmental *network* state" is parallel to, and shares many fundamental similarities with, our concept of a developmental finance state. *Id.* (emphasis added).

may appear indistinguishable from those we label as forms of market-making or market-moving. Yet, for purposes of our discussion, it is important to draw a conceptual boundary between instances in which the government acts primarily in its capacity as a consumer or provider of specific services or goods, on the one hand, and instances in which the same government's primary *intent* in entering into a market transaction is to make, move, lever, or preserve the target market, on the other hand.

That is why our taxonomy of market-actor roles generally excludes such ubiquitous phenomena as government procurement and public utilities. Undoubtedly, the government may be the sole or the largest consumer of particular goods or services (e.g., in the market for military airplanes or submarines manufactured by private firms) who effectively creates and moves prices in the market. Yet, typically, any such market effect is merely collateral, an unpremeditated result rather than the primary purpose of the action intended to satisfy a particular need of the government *qua* government (e.g., as the monopoly provider of national military defense). Only where the relevant government actor consciously uses these second-order market effects to influence behavior of private counterparties outside the context of the primary transaction does it potentially assume an explicit market-actor role within the meaning of our taxonomy.[50]

Similarly, the mere fact of public ownership of an economic enterprise does not automatically render the government a market-actor within the meaning of our argument. Thus, public utilities may compete with private providers and, in that sense, act as "normal" market participants. Yet, their primary purpose may not extend as far as market-moving or market-levering, nor may they necessarily be able to exert sufficient market power to move the entire market in a particular way. Only to the extent public enterprise is deliberately used as a vehicle for causing an endogenous public-benefitting change in private markets can it be said to play a market-actor role.

The principal purpose of our taxonomy-building exercise is to uncover the face of the American developmental finance state, as it currently exists. It routinely performs various market-actor roles that are

50. One well-known example of this type of government action was the decision of the US Navy to switch from coal to oil as the source of fuel for its military ships in the early twentieth century. In that case, government procurement fundamentally changed, in a specifically intended manner, not only the market for military fuel but also the broader US energy market. *See* Richard Rhodes, *How Oil Became King*, HISTORY TODAY, Aug. 2012, *available at* http://www.historytoday.com/richard-rhodes/how-oil-became-king; *Petroleum and Sea Power*, AM. OIL & GAS HISTORICAL SOC'Y, http://aoghs.org/petroleum-in-war/petroleum-and-sea-power/ (last visited June 28, 2015).

simultaneously extremely familiar and fundamentally under-appreciated, in large part because of the lack of an effective conceptual apparatus for explaining their overall significance. In that sense, the modern American developmental finance state is "hidden" in plain sight.[51] Our taxonomy seeks to remedy this handicap.

3. Prescriptive Aspect: Testing the Outer Limits

Perhaps more importantly, our taxonomy of government-as-market-actor roles provides a conceptual framework for envisioning potential extensions of the identified modalities beyond their current forms. Inspired by the Hamiltonian vision, we advocate for a normatively emboldened and operationally expanded exercise of the government's power as a market actor. We argue that the normative justification for the government's action in private markets should go well beyond the traditional market-failure and public-goods arguments. Instead of acting only to correct specific instances of market failure (including the under-provision of traditional public goods), government instrumentalities should make a more strategic use of their unique ability to harness, from within, the power of private markets for the purpose of shaping and promoting the long-term development of the national economy.[52]

Historical experience shows, however, that defining substantive goals and criteria of national development is an inherently complex, context-specific, and deeply contested process.[53] In our public discourse, economic issues are generally not framed in terms of development or developmental policy, as if these concerns should be reserved only for the less developed, economically "backward" countries.[54] In the current US climate of extreme political and economic polarization, moreover, any attempt to

51. We borrow this term from Fred Block. *See* Block, *supra* note 7, at 170.

52. Writing about the government's central role in promoting scientific research and development, economist Mariana Mazzucato similarly argues that the traditional "market failure" framework cannot explain the state's "visionary" strategic investments in transformative technologies. *See* MAZZUCATO, *supra* note 7, at 21–22 ("Indeed, the discovery of the Internet or the emergence of the nanotechnology industry did not occur because the private sector wanted something but could not find the resources to invest in it. Both happened due to the vision that the government had in an area that had not yet been fathomed by the private sector . . . . It was—in these and many such cases—the State that appeared to have the most aggressive 'animal spirits.'").

53. There is a rich body of literature analyzing and evaluating various historical experiences with formulation and implementation of developmental strategies that inevitably have important distributional consequences. *See generally* sources cited *supra* note 4.

54. *See generally* ALEXANDER GERSCHENKRON, ECONOMIC BACKWARDNESS IN HISTORICAL PERSPECTIVE (1962) (discussing industrialization and economic development in "backward" countries).

design a national development policy is likely to generate particularly bitter conflicts. This Article does not purport to offer a particular template for such a policy or to advocate a specific plan for long-term national development. For our purposes, it is sufficient to emphasize that any successful strategy of national development must aim at ensuring sustainable long-term economic growth, creating a more stable and structurally-balanced economy, maintaining full employment, and achieving higher levels of socio-economic inclusion and cohesion.[55] Free-market exchange may be the best mechanism for promoting the innovation and entrepreneurship indispensable to economic growth but, contrary to market apologists' claims, it does not automatically generate sustainable, socially inclusive modes of national development. Even at a high level of generalization, it is clear that some of the broad developmental goals outlined above will often clash with the single-minded pursuit of private profit by self-interested individuals. In that sense, ongoing national development is the ultimate public good that private actors under-provide. It embodies a normative vision of the nation's future that seeks to balance various competing social and economic goals—a fundamentally political exercise.[56]

The difficulty of this exercise, however, should not preclude us from advocating the need for it. Nor should it discourage us from making at least a preliminary attempt to envisage some of the elements of a potentially workable developmental strategy. Delineating a few discrete measures may help to fill this abstract notion with a more concrete meaning—and suggest the general direction in which the American developmental finance state can potentially evolve.

---

55. Despite their generality and potential contestability, these broadly stated goals serve as important signposts marking the conceptual boundary separating development as a bona fide national project from other, narrower, and often misleading, formulations. An example of the latter is the current preoccupation with US "global competitiveness" that is erroneously equated with continuous deregulation and lower taxation of private businesses. This one-sided version of global competitiveness cannot serve as a proxy or a substitute for a program of national development. Development cannot and should not be equated with rising corporate profits or stock market prices; nor can it be measured solely in terms of GDP or similar output metrics. Financialization, outsourcing of domestic jobs, decline of entire sectors of the economy and geographic regions, increasing inequality, stagnant wages and mounting consumer debt—these are some of the factors that must also be given significant weight in the deliberations on the US developmental trajectory.

56. It is worth re-emphasizing here that we view a developmental finance state as a *mechanism*, a *tool* for achieving substantive policy goals—but the content and the desired socio-economic impact of such policies should be determined through political deliberation. The degree of real-life success (or failure) of the developmental finance state depends on these fundamentally political choices that, among other things, raise questions of democratic legitimacy and distributive justice. An examination of these complex factors is beyond the scope of this Article.

We outline three potential extensions of public instrumentalities' traditional market-making, market-moving, market-levering, and market-preserving functions: (1) adoption of a broad asset-price stability maintenance program; (2) establishment of a public-private national infrastructure-funding vehicle; and (3) creation of a special government share in privately owned financial institutions.[57] These proposals are likely to generate many questions we are not able to answer in this Article. Some may view them as an unacceptably radical departure from the existing economic and political "norm." As discussed earlier, this perception may, at least in part, reflect a skewed understanding of what the American "norm" really is. Rather than providing a complete blueprint for action, our primary goal is to conduct a thought experiment: to envisage what a developmental finance state might look like in a 21st-century America that fully embraces its Hamiltonian heritage.

II. PUBLIC ACTORS AS PARTICIPANTS IN FINANCIAL MARKETS: A TAXONOMY OF ROLES

As discussed above, our notion of a developmental finance state is based on an explicit recognition of the fact that states and markets are not "separate but equal"—they are inseparable and deeply interconnected parts of the nation's economic organism. Governments not only intervene in private economic activities from outside; they also directly conduct such activities as a means of achieving public policy goals. As a descriptive matter, this endogenous public participation in private markets in pursuit of explicitly public ends may take a wide variety of specific forms. For analytical purposes, we divide the universe of such forms into four main groups: "market-making," "market-moving," "market-levering," and "market-preserving."[58] This Part elaborates on each of these four archetypal roles that public actors play when they act as direct financial market participants.

A. Market-Making

Markets require counterparties willing and able to enter into an exchange. That trivial truth carries important implications for the very possibility of markets. It can be costly, for example, to "take one's goods

57. *See infra* Part III.

58. The discussion in this Part draws and expands on our earlier exploratory essay. *See* Hockett & Omarova, *supra* note 37.

to market." A prospective seller's decision to participate in a market exchange depends fundamentally on that person's expectation that (1) there will be people at a particular location who (2) desire what he or she is ready to sell and (3) are able to pay for the desired items with other goods, services, or currencies that the seller is prepared to accept. If a potential seller does not know in advance that all of these conditions are likely to be met, he or she might not "go to the market." Even if, in fact, there are willing and able prospective buyers for this hypothetical seller's goods, the seller's lack of knowledge of, or belief in, their availability will prevent a mutually beneficial exchange from taking place.

Functionally, market-making seeks to avoid this potentially wasteful outcome. The market-maker helps to create and maintain market exchange of specific assets—goods, services, financial instruments—by ensuring the continuous availability of, and thereby inducing confidence in, prospective counterparties to every trade. To fulfill this function, the market-maker agrees to bear two complementary types of risk. One is the risk that the product in question does not actually sell. The market-maker assumes this risk by agreeing to serve as something akin to a "buyer of last resort." In doing this, he or she engages in a form of underwriting—in this case, underwriting of a prospective seller's risk. On the flipside, the market-maker also assumes prospective buyers' risk that there might not be adequate supplies of the product they wish to purchase in the market. The market-maker assumes this risk by maintaining inventories of, or access to, the product in question, and committing to sell units of the item to anyone willing to pay a predetermined price. Thus, by assuming both the sellers' and the buyers' risks, the market-maker averts the tragedy of needlessly missed opportunities for socially beneficial exchanges of goods and services.

Perhaps the most readily recognizable form of the market-maker role exists in stock markets where designated professional intermediaries "make markets" in a particular security. Market-makers agree to do two things: (1) to purchase particular securities from anyone offering them at a stipulated "ask" price; and (2) to sell the same securities to anyone at a stipulated "bid" price. The difference between the bid and ask prices—the spread—is the market-maker's compensation for the two-way risk it assumes by making these promises to all other market participants. In a normally-functioning, sufficiently liquid market, the market-maker may be able to manage its risks and generate sizeable profits. However, a significant market turbulence—when either prospective buyers or prospective sellers of particular securities unilaterally flee or, conversely, flood the market—may put the market-maker's continuing ability to stand

by its promise to buy and sell those securities to a harsh and potentially fatal test.

Given the risks inherent in the role of a market-maker, especially in financial instruments notoriously prone to dramatic and sudden price fluctuations, it is not surprising that market-makers have traditionally been "big" market actors endowed with substantial resources.[59] In many instances, public instrumentalities have had to perform the market-making role, as private actors retreated from this unacceptably risky activity.[60]

Although market-making is not an inherently governmental function, there are important reasons to believe that public instrumentalities (including, but not limited to, central banks) are particularly well-suited to perform that role. Thus, to the extent that market-making represents a canonical public good, it is inherently prone to under-provision by private actors, especially in times of market stress.[61] Public instrumentalities, on the other hand, are instituted specifically to provide public goods. They are well-resourced and, as government actors, often able to tap into potentially significant additional financial capacity. Importantly, public instrumentalities are not driven by purely profit-making motives. In contrast to private market-makers, public entities' primary motivation is fundamentally aligned with the public interest in maintaining a healthy market. Freedom from the harsh dictates of short-term profit-generation and loss-avoidance enables public actors to continuously make markets, even in the face of deteriorating market conditions.

Several cases help to illustrate the importance of the government-as-market-maker role in modern finance. The most conspicuous recent case is the role played by the Federal Reserve and the US Treasury as "market-

59. One well-known example of an individual actor sometimes said to have been capable of performing the role of a heroic market-maker in the early twentieth century was John Pierpont Morgan. For an illuminating popular account of the role that Morgan played as a sort of private provider of public goods in the financial markets, particularly prior to the passage of the Federal Reserve Act in 1913, see RON CHERNOW, THE HOUSE OF MORGAN (2d ed. 2010); *see also* JEAN STROUSE, MORGAN: AMERICAN FINANCIER (1999). It should be noted that Morgan's role as savior of the American financial system might have been exaggerated, especially in light of the government's market-preserving efforts during the 1907 crisis. *See, e.g.*, PETER CONTI-BROWN, ULYSSES AND THE CHAPERONE: THE INDEPENDENCE, ACCOUNTABILITY, AND GOVERNANCE OF THE FEDERAL RESERVE (forthcoming 2015).

60. For informative accounts of how the Federal Reserve and the Bank of England have recently and historically played such roles, see PERRY MEHRLING, THE NEW LOMBARD STREET: HOW THE FED BECAME THE DEALER OF LAST RESORT (2011); Gerard Hertig, *Governments as Investors of Last Resort: Comparative Credit Crisis Case-Studies*, 13 THEORETICAL INQUIRIES L. 385 (2012).

61. For more on the familiar categories of market failure and public goods, see Francis M. Bator, *The Anatomy of Market Failure*, 72 Q. J. ECON. 351 (1958); Paul A. Samuelson, *The Pure Theory of Public Expenditure*, 36 REV. ECON. & STAT. 387 (1954). For more on market incompleteness, see 1 MICHAEL MAGILL & MARTINE QUINZII, THEORY OF INCOMPLETE MARKETS (1996).

makers of last resort" during the worst of the 2008–2009 financial market crisis. The Federal Reserve established a number of dedicated emergency facilities specifically for that purpose.[62] Treasury played its market-maker role through the legislatively authorized Troubled Asset Relief Program ("TARP").[63] The primary objective of these special facilities was to stave off a rapid panic-induced decline in the market price of certain financial assets—such as asset-backed securities ("ABSs") and collateralized debt obligations ("CDOs")—below what fundamentals appeared to warrant.[64] The Federal Reserve and Treasury publicly committed to purchase any such assets whose prices fell below a specified floor—that is, assets too toxic for any private buyers to touch.[65] By standing ready, in the midst of an unfolding crisis, to buy the worst of the troubled financial assets and to absorb the immediate loss of value, the Federal Reserve and the US Treasury, in effect, became the market for such assets.[66]

According to official reports, the government entities involved in these asset-purchase programs ultimately turned profits when, several years later, they sold off the purchased assets.[67] Although not entirely free of controversy, that outcome confirmed the government's original judgment that panic conditions had been the primary cause of severe under-valuations of the relevant financial assets by private market participants. More importantly for the purposes of our argument, it vindicated the

62. Perhaps the best known special facility of this kind was the Federal Reserve Bank of New York's "Maiden Lane Fund" operations. *See Maiden Lane Transactions*, FED. RESERVE BANK OF N.Y., http://newyorkfed.org/markets/maidenlane.html (last visited June 28, 2015).

63. Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343, 122 Stat. 3765 (codified as amended in scattered sections of 12 U.S.C. and 26 U.S.C.). For an official overview of the Credit Market Program under TARP, see *Credit Market Programs*, U.S. DEP'T OF THE TREASURY, http://www.treasury.gov/initiatives/financial-stability/TARP-Programs/credit-market-programs/Pages/default.aspx (last updated Aug. 13, 2015).

64. For a more detailed explanation of the specific mechanisms of this contagious and prophetically self-amplifying drop in value across entire classes of financial assets, see GARY B. GORTON, SLAPPED BY THE INVISIBLE HAND: THE PANIC OF 2007 (2010).

65. *See, e.g.*, Maya Jackson Randall & Michael R. Crittenden, *Treasury Unveils Toxic-Asset Plan, Citing 'Acute Pressure' on Banks*, WALL ST. J. (Mar. 24, 2009, 2:56 PM), http://www.wsj.com/articles/SB123780994825213465; *What Are the Federal Reserve's Large-Scale Asset Purchases?*, BD. OF GOVERNORS OF THE FED. RESERVE SYS., http://www.federalreserve.gov/faqs/what-are-the-federal-reserves-large-scale-asset-purchases.htm (last updated Oct. 28, 2015); *see also* Jose Gabilondo, *Financial Hospitals: Defending the Fed's Role as a Market Maker of Last Resort*, 36 SEATTLE U. L. REV. 731, 737–38 (2013) (arguing that the Federal Reserve has effectively constructed markets in moribund assets).

66. *See* Gabilondo, *supra* note 65.

67. According to the U.S. Treasury, as of September 2015, "cumulative collections under TARP, together with Treasury's additional proceeds from the sale of non-TARP shares of AIG, exceed[ed] total disbursements by more than $12 billion." *TARP Programs*, U.S. DEP'T OF THE TREASURY, http://www.treasury.gov/initiatives/financial-stability/TARP-Programs/Pages/default.aspx (last updated Oct. 14, 2015).

proposition that market-making can prevent transitory liquidity crises from morphing into avoidable—hence, classically "tragic"—permanent solvency crises. In this sense, the US government entities' direct market-making role doubled as a justifiable market-preserving role, discussed below.[68]

Indeed, this type of last-resort market-making, which could only be conducted by government entities, functioned as a substitute for, and an extension of, the classic last-resort lending role originally articulated by Walter Bagehot in describing Bank of England operations during the nineteenth century.[69] This evolution of central banks' traditional liquidity back-up function reflects and underscores a fundamental evolution in modern financial markets. Today's markets for capital are significantly disintermediated, so that lending is securitized to a much more significant degree than it was in Bagehot's day.[70] That explains why, in the twenty-first century, directly buying and selling financial instruments may be a more effective—perhaps even inevitable—method of government market-aiding intervention than the more familiar technique of extending emergency loans to banks.[71]

Government's role as a direct market-maker, however, is not confined to relatively short-lived emergency situations. A good example of public entities' long-term market-making role is the creation and maintenance of secondary markets in certain debt instruments—home mortgages and student loans—by government-sponsored enterprises ("GSEs"). The securitization of home mortgage lending in the United States effectively began *circa* 1938, with the establishment of the first-ever large-scale mortgage loan purchaser, the Federal National Mortgage Association ("Fannie Mae").[72] The ultimate purpose served by this pioneering government program, instituted in the midst of the Great Depression, was to make home mortgage lending more attractive to banking institutions by

68. *See infra* Part II.D.

69. *See* WALTER BAGEHOT, LOMBARD STREET: A DESCRIPTION OF THE MONEY MARKET viii–ix, 27, 255–57 (John Wiley & Sons 1999) (1873); *see generally* MEHRLING, *supra* note 60 (describing the role of a "lender of last resort").

70. For a basic definition of disintermediation, see DAVID L. SCOTT, WALL STREET WORDS: AN A TO Z GUIDE TO INVESTMENT TERMS FOR TODAY'S INVESTOR (2003).

71. For a recent discussion of the modern central banks' role as lenders of last resort, see Paul Tucker, *The Lender of Last Resort and Modern Central Banking: Principles and Reconstruction*, 79 BIS PAPERS 10 (2014), *available at* http://www.igmchicago.org/wp-content/uploads/2014/10/Tucker-P-2014-LOLR-and-modern-central-banking-BIS-Papers-No-79.pdf.

72. For more on securitization, see Kenneth C. Kettering, *Securitization and Its Discontents: The Dynamics of Financial Product Development*, 29 CARDOZO L. REV. 1553 (2008); Jonathan C. Lipson, *Re: Defining Securitization*, 85 S. CALIF. L. REV. 1229 (2012).

establishing a secondary market in which private banks unwilling to keep home loans on their balance sheets could quickly sell those loans (provided that the loans were of sufficiently high quality).[73] That would, in turn, lower the cost of home mortgage credit in the primary markets, ultimately jumpstarting the Depression-struck building industry in the short term and fostering broader, more stable home-ownership in the long term.[74]

Until the 1990s, this system worked well, boosting the domestic employment-inducing construction industry and converting the United States from a nation in which 46% of households owned their own homes to one in which nearly 20% more than that did.[75] Fannie Mae was so successful that, by the 1960s, it could be privatized, with the Federal Home Loan Mortgage Corporation ("Freddie Mac") and Government National Mortgage Association ("Ginnie Mae") established to act as its competitors.[76] In recent decades, however, this market became increasingly dysfunctional. A discussion of the numerous factors that contributed to the unhealthy dynamics and ultimate implosion of the US mortgage market in 2008 is beyond the scope of this Article.[77] For purposes of our argument, it is worth emphasizing that a critical factor in this respect was the massive inflow in the 1990s to the early 2000s of new types of unregulated or lightly regulated private market players—mortgage lenders and securitizers—aggressively pursuing speculative short-term

73. For an overview of the history and functions of Fannie Mae and other GSEs, see generally CONG. BUDGET OFFICE, CONG. OF THE UNITED STATES, FANNIE MAE, FREDDIE MAC, AND THE FEDERAL ROLE IN THE SECONDARY MORTGAGE MARKET (2010); TIMOTHY HOWARD, THE MORTGAGE WARS: INSIDE FANNIE MAE, BIG-MONEY POLITICS, AND THE COLLAPSE OF THE AMERICAN DREAM (2013); *see also A Jeffersonian Republic*, *supra* note 30, at 104–20. It should be noted that accounts differ on the question of whether the ultimate purposes that Fannie Mae came to serve were foreseen and intended from the outset, or only came to be fully appreciated later, after it had been established as an *ad hoc* response to a temporary exigency. For the more purposeful interpretation, see id. and sources cited therein. For a more "stumbled into it" account, see *Public Option*, *supra* note 45.

74. For more on this history, see *A Jeffersonian Republic*, *supra* note 30, at 104–20; *see also* David Min, *How Government Guarantees Promote Housing Finance Stability*, 50 HARV. J. ON LEGIS. 437 (2013) (examining the evolution of the US housing finance system).

75. *See supra* note 74. As noted in *A Jeffersonian Republic*, *supra* note 30, at 116–17, the figure had reached 63% by 1970. The peak was nearly 70% in 2004, while the 50-year average to now has been a bit over 65%. *See, e.g.*, Diana Olick, *Homeownership Rate Drops to 63.4%, Lowest Since 1967*, CNBC (July 28, 2015, 10:36 AM), http://www.cnbc.com/2015/07/28/.

76. For a fuller account of this history, see FIN. CRISIS INQUIRY COMM'N, THE FINANCIAL CRISIS INQUIRY REPORT: FINAL REPORT OF THE NATIONAL COMMISSION ON THE CAUSES OF THE FINANCIAL AND ECONOMIC CRISIS IN THE UNITED STATES 38–45 (2011) [hereinafter FCIC REPORT].

77. For an insightful analysis of these dysfunctions, see Adam J. Levitin & Susan M. Wachter, *Explaining the Housing Bubble*, 100 GEO. L.J. 1177 (2012).

profits to the detriment of mortgage loan quality.[78] Their originate-to-distribute model of mortgage lending was designed to exploit the presence of the still mammoth and implicitly publicly-backed GSEs.[79] Ironically, as privately-owned corporations, Fannie Mae and Freddie Mac proved unable to resist market pressure to join in the subprime mortgage game that eventually forced both of them into conservatorship.[80]

The key point for our purposes is not so much the recent failure of privatized GSEs but the undeniable success of the publicly-created secondary market in home loans over a long span of several decades after its creation. This model of public market-making was also expressly embraced as the blueprint for US federal higher education finance policy. Created in the early 1970s, the SLM Corporation ("Sallie Mae") is a GSE that makes a secondary market in student loans.[81] In direct parallel to Fannie Mae's experience, the fully publicly-owned Sallie Mae greatly increased Americans' access to higher education—while, since Sallie Mae's privatization in 2005, matters have taken a more ominous turn.[82]

This brief overview of public instrumentalities' market-making activities also highlights the special significance of government-induced standardization of market products and practices—a form of what we call market-levering, discussed below—in facilitating the task of market-

78. Unregulated mortgage lenders filled the vacuum left by the collapse of the savings-and-loan industry in the late 1980s. Similarly, private securitizers filled the market void when the accounting scandals of the early 2000s forced Fannie Mae and Freddie Mac to scale back their operations. *See* FCIC REPORT, *supra* note 76, at 102–26; *see also* Robert Hockett, *A Fixer-Upper for Finance*, 87 WASH. U. L. REV. 1213, 1255–62 (2010) [hereinafter *A Fixer-Upper for Finance*].

79. Pursuant to the "originate-to-distribute" model, mortgage lenders extended loans to homebuyers not with a view to holding the loans in their portfolios and collecting monthly mortgage payments thereafter, but with a view to selling the loans and associated payment-receipt rights to secondary investors. This practice, which grew rapidly over the course of the 1990s, rendered mortgage credit less expensive to homebuyers, but also rendered ultimate creditors more vulnerable to failures of due diligence on the part of loan originators. *See, e.g.*, Michael Simkovic, *Competition and Crisis in Mortgage Securitization*, 88 IND. L.J. 213 (2013) (arguing that the massive entry of private-label mortgage securitizers in the mid-2000s led to dramatic deterioration in underwriting standards and thus created perverse incentives for loan originators).

80. There is a plausible argument that privatizing the GSEs introduced a potentially fatal internal contradiction in their design as market-makers by fundamentally re-orienting them toward pursuit of private shareholder profits. *See Public Option*, *supra* note 45, at 1119. For a more general discussion of the positive and negative effects of delegating public functions to private actors, see FINANCIAL GATEKEEPERS: CAN THEY PROTECT INVESTORS? (Yasuyuki Fuchita & Robert E. Litan eds., 2006); Jody Freeman, *Private Parties, Public Functions and the New Administrative Law*, 52 ADMIN. L. REV. 813 (2000).

81. For more on Sallie Mae, see *History*, SALLIEMAE, https://www.salliemae.com/about/who-we-are/history/ (last visited July 6, 2015).

82. *See* ROBERT HOCKETT & RICHARD VAGUE, DEBT, DEFLATION, AND DEBACLE: OF PRIVATE DEBT WRITE-DOWN AND PUBLIC RECOVERY (2013), *available at* http://www.interdependence.org/wp-content/uploads/2013/04/Debt-Deflation-and-Debacle-RV-and-RH1.pdf.

making.[83] For example, one factor that enabled the development of secondary markets in both home and student loans was the government guarantee of primary market debt. In the case of housing finance, this has taken the form of mortgage default insurance provided by the Federal Housing Administration ("FHA") since 1934.[84] In the case of higher education finance, it has taken the form of express government guarantees of student loans since the late 1950s. As described below, these public guarantees *levered* primary markets into secondary markets, in great part, via the product standardization effect of conditioning the guarantee on specific eligibility criteria.[85] This example illustrates how individual market-actor roles identified in our taxonomy, in practice, may facilitate one another and constitute an integrated strategy.

B. Market-Moving

The ideal of the free, competitive private market rests on a fundamental assumption that no single market participant—acting either as a buyer or as a seller—is able to exercise sufficient power to move the price of a particular good. Individual market actors are meant to lack market power and act as "price-takers," not "price-makers:" they are meant to pay what the market requires and sell what the market will bear at the market price.[86] The notorious hand that governs the market is invisible only to the extent that no private market actor can single-handedly move it.

Implicit in this idealized picture is the view of the private market as an inherently democratic and distributively just form of value determination. Assuming rough equality of bargaining power—hence, of initial endowments—among participants, the price outputs of markets in which everyone is a price-taker can jointly constitute a "social cost" metric derived by just, democratic means. The price of an apple in terms of oranges under conditions of market equality will reflect both the comparative bounty of objective nature in respect of apples and oranges, and the comparative valuation of apples and oranges by subjective

83. *See infra* Part II.C.

84. *The Federal Housing Administration (FHA)*, U.S. DEPT. OF HOUS. & URBAN DEV., http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/fhahistory (last visited June 28, 2015); *see also A Jeffersonian Republic*, *supra* note 30, at 110–13; *Public Option*, *supra* note 45, at 1137–42.

85. *See infra* Part II.C.

86. For more on this ideal, see Robert Hockett, *The Deep Grammar of Distribution: A Meta-Theory of Justice*, 26 CARDOZO L. REV. 1179 (2005); Robert Hockett, *Whose Ownership? Which Society?*, 27 CARDOZO L. REV. 1 (2005).

individuals whose voluntary expenditure votes all count equally in determining relative prices.[87]

Although real-life markets depart from this picture, it is easy to appreciate both the attraction of the picture as an ideal and the sense in which market-moving capacity held by an individual, or a group of colluding individuals, might offend it. To use an extreme example, if one person accumulates control over half of the world's wealth and develops an eccentric taste for apples, his concentrated use of purchasing power in the apple market will distort the price of apples for everyone else. A single powerful individual, in effect, will disturb the proper order of things envisioned in the competitive market ideal by forcing us to subsidize satisfaction of his eccentric taste via the higher price we all pay for apples. Things look even worse if that same super-rich person employs his extraordinary market power, not because he craves apples, but because he seeks to influence the price of apples in order to manipulate prices of other goods or services in a way that increases the profitability of his operations in such related markets.[88] Fundamentally, market-moving actions of this sort appear suspect because they offend the democratic values from which we derive the competitive market ideal.

However, market-moving can also serve public, not narrowly private, purposes and provide socially-beneficial solutions to specific collective action problems plaguing the market. Indeed, government instrumentalities routinely engage in various forms of market-moving. Perhaps the most familiar example of such routine market-moving in modern financial markets is that of the so-called open market operations ("OMO") in which central banks or monetary authorities purchase or sell government debt securities.[89] The Federal Reserve Bank of New York ("FRBNY") conducts active open market operations by trading, on a daily basis, US Treasury bonds—the federal government's debt backed by the

87. This is the ethical intuition behind so-called Equal Division Walrasian Equilibria ("EDWE"), as these figure into the work of some thoughtful egalitarian economists and justice theorists. *See generally* Robert Hockett, *Taking Distribution Seriously* (Cornell Law Sch., Legal Studies Research Paper No. 08-004, 2008), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1108217; Robert Hockett & Mathias Risse, *Primary Goods Revisited: The "Political Problem" and Its Rawlsian Solution* (Cornell Law Sch., Legal Studies Research Paper No. 06-030, 2003), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=931048.

88. An analogy can be drawn between this folksy hypothetical and an actual possibility that some financial institutions might trade physical commodities to bend yield curves in commodity derivative markets in which the same institutions also hold positions. *See* Saule T. Omarova, *The Merchants of Wall Street: Banking, Commerce, and Commodities*, 98 MINN. L. REV. 265, 347–49 (2013).

89. *See* Hockett & Omarova, *supra* note 37, at 65.

full faith and credit of the United States.[90] Through massive purchases and sales, the central bank seeks to influence holdings of these key financial assets by private financial institutions and, accordingly, the supply of credit and money in the broader economy.[91] Monetary policy is the principal lever through which the government seeks to stabilize the pricing of consumer goods and services and employment levels economy-wide.[92]

During the recent financial crisis, central banks in the world's leading economies significantly expanded their traditional open market operations to amplify their market-moving capacity. Thus, under the so-called "quantitative easing" ("QE") program, the Federal Reserve (via FRBNY) commenced buying and selling a wider range of financial instruments, in addition to US Treasury bonds, for the purpose of shoring up the prices of particularly vulnerable or important asset classes—and shaping the overall credit conditions more forcefully.[93]

While this is no place for a comprehensive evaluation of QE, it is important to note that the example of QE shows how market-moving can operationally overlap with market-making: in both cases, the government actor commits to buying or selling as a means of influencing market behavior. Insofar as the government actor effectively becomes the only viable buyer of certain financial assets, its market-moving functions can also overlap with market-preserving, discussed below.

C. Market-Levering

In some situations, private markets operate in a less than socially optimal manner. Thus, a particular market may exist only in an underdeveloped or incipient form, unable to grow beyond a certain limit. Another market may be quite extensive and well-developed but capable of delivering still greater public benefits if augmented, altered, or supported in particular ways for particular purposes. Yet other markets or institutions may not be initially expected to produce certain public goods but, with some subtle alteration, may start doing so. In all such cases, public

90. For more information on the FRBNY's open market operations, see *Domestic Market Operations*, FED. RESERVE BANK OF N.Y., http://www.newyorkfed.org/markets/openmarket.html (last visited June 28, 2015).

91. For a description of the mechanism of open-market operations and the workings of monetary policy, see ANN-MARIE MEULENDYKE, U.S. MONETARY POLICY AND FINANCIAL MARKETS 163–88 (1998).

92. *See id.*

93. *See Federal Reserve Launches QE3*, CNNMONEY (Sept. 13, 2012, 3:57 PM), http://money.cnn.com/2012/09/13/news/economy/federal-reserve-qe3/index.html.

instrumentalities may unlock or amplify existing private markets' capacity to benefit the broader economy, by acting either directly within these target markets or in adjacent markets.

For instance, private financial markets might be able to provide access to relatively reliable and affordable banking services or deposit, flood, or loan default insurance. The availability of these financial products increases liquidity and growth in many sectors of the economy and, thus, constitutes an important public good. Nevertheless, it might be possible to enjoy these public benefits on a much larger scale and/or at much lower expense if there were but some form of secondary market or higher-order risk-pooling arrangement augmenting the primary market. The augmenting market or arrangement in question, however, might lie beyond the scope of private parties' capacities to provide at a given stage of economic development. Or it might, for some time at least, be widely believed to lie beyond those capacities. In such a case public provision or facilitation of the much-needed arrangement might "lever" the primary market into something more beneficial than it can otherwise be.

American economic history provides numerous examples of this phenomenon. For a long time, both home mortgage and student loan insurance were considered too risky to be underwritten by private parties. Active markets in these products emerged only when government instrumentalities, with their greater risk-bearing capacities, began providing these services directly: the FHA commenced underwriting mortgage default insurance in the 1930s, while the first government-guaranteed student loans ("GSLs") appeared in the 1950s.[94] The availability of these new risk-transfer channels was an enormous boost to primary markets for home and student loans: reducing lenders' risk lowered borrowing costs and brought rapid market expansion. The government intentionally levered these particular loan markets to enable a far greater flow of private money to fund growth in homeownership and educational advancement.

Another familiar example of the critical market-levering function performed by the government as the ultimate risk-bearer is the federal deposit insurance provided by the Federal Deposit Insurance Corporation

94. *See History of Federal Student Loan Programs*, NEW AM. FOUND., http://febp.newamerica.net/background-analysis/federal-student-loan-programs-history (last updated July 7, 2015) (noting that in 1958, the "First federal student loan program [was] established by the National Defense Education Act").

("FDIC") since 1933.[95] The first modern deposit-guarantee scheme of its kind, federal deposit insurance was designed as a solution to the systemic vulnerability of the US banking sector to potentially catastrophic creditor runs.[96] As the public risk-bearer of last resort, the FDIC guarantees private banks' liabilities to their depositors, effectively substituting the US government's full faith and credit for individual banks' credit.[97] For decades now, the FDIC insurance has been functioning to ensure a steady flow of low-cost depositor funds into the banking system, thus levering the national market for bank deposits.[98]

As these examples show, the market-levering role often closely resembles the market-making role in its risk-resolving, public good-providing, capital-expanding characteristics. In some cases, however, the levering role takes a slightly different, more subtle form. For example, public instrumentalities frequently perform important standard-setting or related coordination problem-solving functions by creating specific criteria for private goods they favor in their capacity as influential market participants. This type of market-wide standardization optimizes pre-existing private market infrastructure in a manner that increases the availability of public goods at a lower cost than is otherwise possible.

For instance, before the FHA began its operations in 1934, the standard industry practice in the United States was the extension of home loans with a maturity of two to three years.[99] Forced continuously to refinance their short-term mortgages, many American homeowners had to live under a constant threat of losing their homes due to the lack of affordable re-financing options. The newly established FHA generated a revolutionary shift in market practice by encouraging the adoption of a 30-year fixed-

95. For an overview of the history of the FDIC, see *History of the FDIC*, FED. DEPOSIT INS. CORP., https://www.fdic.gov/about/history/index.html (last updated Dec. 16, 2014).

96. *See generally* Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401 (1983) (analyzing the general dynamics of bank runs).

97. Since 2010, the FDIC insurance covers the first $250,000 of deposited funds, per depositor, per account. 12 U.S.C. § 1821(a)(1)(E) (2014).

98. It is worth acknowledging that the FDIC insurance also has potentially negative effects on financial markets, for example, by creating significant moral hazard problems. The pervasive nature of these problems and the difficulty of estimating the market-distorting effects of the public subsidy became intensely debated academic and policy issues in the wake of the recent financial crisis. *See, e.g.*, Franklin Allen et al., *Government Guarantees and Financial Stability* (Ctr. for Econ. Pol'y Research, Discussion Paper No. DP10560, 2015), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2599552##; John Crawford, *The Moral Hazard Paradox of Financial Safety Nets*, 25 CORNELL J.L. & PUB. POL. (forthcoming 2015), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2580062; Steven L. Schwarcz, *Too Big To Fail?: Recasting the Financial Safety Net*, *in* THE PANIC OF 2008: CAUSES, CONSEQUENCES, AND IMPLICATIONS FOR REFORM 94 (Lawrence E. Mitchell & Arthur E. Wilmarth, Jr. eds., 2010).

99. *See A Jeffersonian Republic*, *supra* note 30, at 105. *See also* HOWARD, *supra* note 73, at 19.

rate mortgage loan as the new industry standard. The FHA successfully used its power as the national provider of mortgage default insurance to create a new standardized loan product that greatly increased the demand for home loans. Moreover, the agency's standard-setting actions played a critical role in facilitating the subsequent creation of the national secondary market for home loans—an example of the government's market-making role discussed above.[100] The Federal GSL program that begun in 1965 (and was later renamed the Stafford Loan program) played a similar role in setting standards for student loans.[101] In both cases, the government-led product standardization and creation of vibrant secondary markets significantly reduced risk to private lenders and costs to borrowers, thus, unlocking these primary markets' full growth potential.[102] This ability of large public actors to set market-wide standards in a way that increases the benefits to society of private actors' profit-seeking behavior is a potentially powerful market-levering tool.

D. Market-Preserving

Private markets driven by the fundamental logic of supply-and-demand are inherently prone to destabilizing boom-and-bust cycles. Financial markets are especially fragile in this respect.[103] Liquidity is the oxygen that keeps financial markets alive.[104] It is also the first thing that evaporates when asset price bubbles reach outer limits and markets begin showing their first signs of distress. As prices of distressed financial assets fall, often with frightening speed, and prices of "safe" replacement assets skyrocket, markets for both "bad" and "good" asset types can seize up. Massive runs on, and emergency fire sales of, distressed assets can lead to the complete disappearance of markets for such assets. Absent some breathing room offered by temporary liquidity provision, liquidity shocks can quickly morph into full-on solvency crises, followed by protracted periods of credit contraction and depression of economic activity. The

100. *See supra* Part II.A.

101. *See History of Federal Student Loan Programs*, *supra* note 94.

102. There are numerous additional examples of public actors' success in changing industry standards, enumerating which is beyond the scope of this Article.

103. For insightful analyses of financial booms and busts throughout human history, see ERIK F. GERDING, LAW, BUBBLES, AND FINANCIAL REGULATION (2014); CHARLES P. KINDLEBERGER & ROBERT Z. ALIBER, MANIAS, PANICS, AND CRASHES: A HISTORY OF FINANCIAL CRISES (2011).

104. *See* Timothy F. Geithner, President & Chief Exec. Officer, Fed. Reserve Bank of N.Y., Keynote Address at the 8th Annual Risk Convention and Exhibition: Liquidity and Financial Markets (Feb. 28, 2007), *available at* http://www.newyorkfed.org/newsevents/speeches/2007/gei070228.html ("Liquidity plays a central role in the functioning of financial markets.").

dramatic events of 2008–2009 in the US and European financial markets aptly revealed these dynamics.

Temporary injection of liquidity can potentially forestall the movement from liquidity crisis to solvency crisis because, fundamentally, financial panics represent what may be called "recursive collective action problems."[105] Generally, a collective action problem is a situation in which multiple individually rational decisions lead to collectively self-defeating outcomes.[106] The problem is recursive when it bears feedback properties, such that movement in a particular direction tends to induce further movement in the same direction, ending at no satisfactory equilibrium.[107]

Asset price bubbles and busts are true recursive collective action problems in this sense. When credit is abundant and borrowing costs are correspondingly low, it can be individually rational to borrow in order to buy assets whose prices are rising. The aggregate effect of such individually rational behavior, however, is irrational and unsustainable: investors drive prices even higher, inducing more borrowing, more buying, more price rises, in a continuous spiral of excessive risk and leverage accumulation. When credit finally dries up, the process moves into reverse: rational individuals simultaneously rush to sell assets whose prices are falling, which pushes those prices even lower, leading to defaults on borrowings, further contraction of credit, and more asset sales.[108]

It is at this point that temporary provision of liquidity can break the downward spiraling of asset prices. Essentially, busts constitute collective undershooting—just as booms constitute collective overshooting—of fundamental asset value.[109] If, during a panic, undershooting can be arrested in its tracks until heads cool, value can be salvaged, harm can be minimized, and credit can be expected to flow again sooner. The problem is that no individual market participant typically can afford to wait to find

---

105. This phenomenon is identified and examined in depth in Robert Hockett, *Recursive Collective Action Problems: The Structure of Procyclicality in Financial and Monetary Markets, Macroeconomies, and Formally Similar Contexts*, 3 J. FIN. PERSP. (forthcoming 2015) [hereinafter *Recursive Collective Action Problems*].

106. *See generally* MANCUR OLSON, THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS (1965) (expounding a theory of group behavior).

107. *See Recursive Collective Action Problems*, *supra* note 105.

108. *See* KINDLEBERGER & ALIBER, *supra* note 103, at 26–38 (describing the process); Robert Hockett, *Bailouts, Buy-Ins, and Ballyhoo*, 52 CHALLENGE 36, 47 (2009) (same); Robert Hockett, *Bubbles, Busts, and Blame?*, CORNELL L.F., Spring 2011, at 14 (same).

109. "Fundamental" asset value generally refers to value that is sustainable in the long-term. For more on how it can be estimated, see *infra* Part III.A.1.

out whether he or she is undershooting: he or she must sell before others' sales drive asset prices yet lower.[110]

A public instrumentality performing a market-preserving (or market-backstopping) role—in this case, a specific variation on the market-making theme—can slow down the panic and minimize collective undershooting. A public entity commanding sufficient resources and unconstrained by the single-minded logic of individual-investor rationality can credibly commit to act as a lender or purchaser of last resort, notwithstanding prevailing market sentiment. By doing so, the entity in question will be acting as a collective agent solving a recursive—and thus particularly destructive and destabilizing—collective action problem.

Some recent examples of public actors' market-preserving role were already mentioned in the preceding discussion of market-making.[111] Both Treasury's actions under TARP and the Federal Reserve's emergency liquidity provision and market-making operations in 2008–2009 represented a concerted campaign by the federal government to backstop financial markets.[112] There are also other examples of public instrumentalities' market-preserving actions. For instance, Fannie Mae, with some help from FHA and the other mortgage finance GSEs, is presently nearly the sole secondary purchaser of (qualifying) new home mortgage loans.[113] The virtual disappearance of the private secondary market since our most recent crisis means that Fannie Mae is the principal underwriter of the continued existence of the primary mortgage market itself. Another example is the third round of the Federal Reserve's quantitative easing policy ("QE3") that was announced in September 2012 partly with a view to assisting the GSEs in their mortgage-market preservation effort.[114] An example less reminiscent of market-making and market-moving is the role played by the US government in preserving the US automobile manufacturing sector during 2008–2009.[115] By extending temporary credit and affording time for necessary restructuring when no private actor was able to do so, the federal government preserved, from the supply side, the market for domestically manufactured automobiles.

---

110. *See, e.g.*, JOHN MAYNARD KEYNES, THE GENERAL THEORY OF EMPLOYMENT, INTEREST, AND MONEY 147–64 (Palgrave Macmillan 2007) (1936) (describing the psychology of manic buying and panic selling in asset markets afflicted by radical uncertainty).

111. *See supra* Part II.A.

112. *See supra* notes 62–66 and accompanying text.

113. *See* CONG. BUDGET OFFICE, *supra* note 73, at 7; Min, *supra* note 74.

114. *See supra* note 93 and accompanying text.

115. *See, e.g.*, David E. Sanger et al., *Bush Aids Detroit, but Hard Choices Wait for Obama*, N.Y. TIMES (Dec. 19, 2008), http://www.nytimes.com/2008/12/20/business/20auto.html?_r=3&hp&.

This last example highlights a deeply controversial aspect of the government's market-preserving role: the fact that, in practice, the act of backstopping a particular market often involves bailing out specific private actors whose reckless profit-seeking behavior brought the market to the verge of collapse. Massive bailouts of private Wall Street firms during the recent financial crisis generated a lot of criticism, from both sides of the political spectrum.[116] The controversy raises important normative questions about the proper design, execution, and limits of crisis-driven market interventions by the government.[117] For our purposes, however, it is critical to emphasize that market-preserving is a necessary function of private markets' own operative logic and, as such, cannot and should not be reduced only to politically salient—and often rushed—crisis-time bailouts and nationalizations.

Taking a conceptual view of market-preserving as a legitimate category in the taxonomy of government roles as a direct market participant allows us to place the debate on private-firm bailouts in a broader context. Once we understand the purpose and place of market-preserving as a market-actor function of the government, we can envision new ways for the government to perform that function, which go beyond the familiar—and controversial—crisis-driven emergency measures.[118] In that sense, a taxonomy of government market-actor roles provides an analytical framework for potentially expanding the existing toolkit of public action in private markets. Such purposeful, deliberate expansion would potentially move us closer toward the new model of a more far-reaching and ambitious developmental finance state.

III. THE FUTURE DEVELOPMENTAL FINANCE STATE: EXTENDING THE ROLE OF PUBLIC ACTORS IN FINANCIAL MARKETS

As the preceding Part shows, government instrumentalities actively participate in private markets as endogenous actors performing a variety of roles. On the surface, government actions are indistinguishable from actions of private market participants: they buy, sell, lend, borrow, insure, and securitize. Fundamentally, however, what sets these public actors apart is their express orientation toward using private market operations primarily in order to achieve public policy goals. Government instrumentalities are, among other things, indispensable market contrarians

116. *See infra* notes 203–12 and accompanying text.
117. *Id.*
118. *See infra* Part III.C.

capable of acting counter-cyclically when no private actor can afford to do so. These public actors use their built-in advantages—size, funding, long-term investment horizon, legal privileges, etc.—to overcome various instances of what economists refer to as market failure and to provide so-called public goods under-provided by private actors, while also affording benefits not easily captured by those orthodox welfare-economic categories.[119]

As noted earlier, our provisional taxonomy of government-as-market-actor roles does not purport to be all-encompassing. In constructing it, we focused on the few most conspicuous and familiar examples of public action in financial markets and almost certainly left out important examples of public actors playing one or more of the identified market-actor roles—or additional ones—both in the sphere of finance and outside of it. In part, the difficulty of compiling a complete list of all such examples may result from the lack of a clear conceptual framework recognizing the commonalities among disparate, and often insufficiently individuated, practices of various public actors. Government entities themselves may be reluctant to define their actions in terms of any single, concerted market-actor strategy, to avoid accusations of illegitimately interfering in free markets.[120] It is a sad reflection on the current state of our polity that the government's activities as a direct market participant are simultaneously taken for granted and feared. As a result, the government's potentially transformative role as an endogenous market participant remains, to a great extent, both hidden and significantly constrained.[121]

Our hope is that providing an analytical framework and operational vocabulary will enable a more systematic study and recognition of existing practices. More importantly, however, our goal is to lay the conceptual groundwork for a more proactive, assertive, and creative use of the government-as-market-actor modality in pursuit of a broader set of public policy objectives.

---

119. *See supra* note 52 and accompanying text.

120. This statement, of course, does not apply to emergency crisis-containment measures, when governments openly act in their market-preserving capacity and often portray their actions as part of a deliberate strategy. It is telling, however, that even in the midst of the latest financial crisis, when the US government had to take equity stakes in failing private firms, it took pains to emphasize its deep reluctance to continue such direct interference in private enterprise beyond the minimum time horizon.

121. Fred Block has described the role of ideological and political factors in explaining the similarly "hidden" nature of the federal government's evolving capacity to finance and support private entrepreneurs' efforts to commercialize new technologies. *See* Block, *supra* note 7, at 182–86.

Again, our primary focus is on financial markets and instruments. As discussed earlier, finance is both a critical area and a powerful tool of national development.[122] The potentially transformative power of finance is especially evident in the United States, with its modern industrialized economy, deep pools of investors, well-developed markets, and stable legal institutions supporting them. As Part II shows, at least since the New Deal era, public entities have been active participants in US financial markets. In this Part, we will build upon this experience to suggest how government instrumentalities' powers as endogenous market actors can be used in a more deliberate and expansive fashion, to channel private financial resources toward more ambitious public ends: continuous, sustainable development against a backdrop of financial and broader macroeconomic stability.[123]

In the aftermath of the latest global financial crisis, it is evident that ensuring financial and broader macroeconomic stability is a critically important public policy priority and a prerequisite for successful long-term development.[124] The crisis demonstrated how extreme financial instability can destroy vast amounts of wealth and lead to protracted economic recession (hence, lost output), both nationally and globally. Accordingly, we argue that using the state's market-actor capacity in a way that actively seeks to minimize financial and macro-economic instability is an integral part of an effective development strategy. Rather than merely correcting specific instances of market failure, the purpose of government intervention in financial markets should be defined in terms of proactive prevention of systemic instability.

In this Part, we outline three potential extensions of public instrumentalities' traditional market-making, market-moving, market-levering, and market-preserving functions: (1) adoption of a broader asset-price stability maintenance program; (2) establishment of a public-private national infrastructure-funding vehicle; and (3) creation of a special government share in privately owned financial institutions. As thought experiments, these proposals inevitably lack in organizational detail and are likely to generate at least as many questions as answers. The principal purpose of this intellectual exercise, however, is not to offer blueprints but

122. *See supra* Part I.

123. For a discussion of the significance of national development as a continuous project, see *supra* Part I.B.

124. We use the term "stability" broadly, to refer generally to smoothing out market cycles and avoiding excessive price fluctuations.

to test the policy-shaping potential of our provisional model of a developmental finance state.

A. Market-Making and Market-Moving: "OMO Plus"

We start by discussing potential extensions of public actors' traditional market-making and market-moving functions. As noted earlier, the FRBNY's open market operations, or OMO, offer a classic example of the government actor making and, more importantly, moving the market for borrowed funds.[125] Generally, public instrumentalities seek to move market prices when both (1) the prices in question bear special systemic significance to the economy at large, and (2) certain market dysfunctions impair the ability of individual private actors to generate stable prices within the range that is considered publicly desirable.[126] In the context of OMO, the price being moved by the FRBNY—the prevailing money rental (i.e., "interest") rate—has critical economy-wide importance. Private actors are not able to keep that rate consistently and reliably within acceptable ranges, in large part due to recursive collective action problems known as credit-fueled asset price bubbles and busts.[127] Importantly, the FRBNY turns over all profits generated through OMO to the US Treasury.[128]

However, there are at least two additional types of prices that are of critical significance for the national economy: (1) prices of financial assets (other than US Treasury securities) and (2) prevailing wage and salary rates (the price of labor). Keeping these two types of prices within a publicly desirable range can have an enormous macroeconomic effect, both in terms of smoothing boom-and-bust cycles and in terms of ensuring a more sustainable and socially inclusive pattern of national development. In this section, we try to envision an OMO-like market-making and market-moving regime targeting each of these two prices—financial asset prices and labor prices—and to draw broad principles that could potentially inform these approaches.

---

125. *See supra* notes 90–93 and accompanying text.

126. For a discussion of the reasons why we generally allow public, as opposed to private, actors to move market prices, see *supra* notes 86–88 and accompanying text.

127. *See Recursive Collective Action Problems*, *supra* note 105.

128. *See* BD. OF GOVERNORS OF THE FED. RESERVE SYSTEM, THE FEDERAL RESERVE SYSTEM: PURPOSES & FUNCTIONS 11 (2005), *available at* http://www.federalreserve.gov/pf/pdf/pf_complete.pdf.

1. Open Market Operations in Financial Assets: Why Not?

Extending the FRBNY's existing OMO mandate to cover market-making in a wider variety of financial instruments seems a logical and operationally straightforward possibility. The FRBNY already runs a well-oiled Treasury bond-trading machine: the Federal Open Market Committee ("FOMC") periodically determines broad monetary-policy targets based on the macroeconomic data at its disposal, and the FRBNY staff devises and implements its trading strategy in line with these targets.[129] In the wake of the latest crisis, the FRBNY also began conducting OMO in certain mortgage-backed securities ("MBS").[130] There seems to be no principled reason why the same FRBNY trading desk could not start purchasing and selling, pursuant to the same general principles, other financial instruments whose prices both significantly affect macroeconomic trends and are subject to dysfunctional, macroeconomically destabilizing cycle dynamics.

What might these new Open Financial Asset Market Operations ("OFAMO") look like? In parallel to its existing Treasury bond-trading, the FRBNY would establish a separate trading portfolio replicating the market portfolio. In effect, this would be an index fund reflecting the proportional values of all financial asset classes constituting the financial market as a whole.[131] There is potentially a range of choices in constructing this portfolio. For example, it might be easier to start with making market in publicly-traded securities, in which case the prototype market portfolio could be a broad stock index, such as S&P 5000 or Wilshire 5000. However, this version of an OFAMO fund might leave systemically important asset classes out of the FRBNY's market-moving reach. Thus, it is preferable to seek to replicate the entire market portfolio as closely as possible.[132]

---

129. *See generally Permanent Open Market Operations*, FED. RESERVE BANK OF N.Y., http://www.newyorkfed.org/markets/pomo_landing.html (last visited June 29, 2015).

130. Under its QE3 program, announced in September 2012, the Federal Reserve committed to purchase additional agency MBS at a pace of $40 billion per month, in order to maintain a stable secondary mortgage market. FED. RESERVE BANK OF N.Y., DOMESTIC OPEN MARKET OPERATIONS DURING 2012 9 (2013), *available at* http://www.newyorkfed.org/markets/omo/omo2012.pdf. By the end of 2012, the FRBNY held a total of $1 trillion in face value of agency MBSs. *Id.*

131. The OFAMO portfolio could be constituted synthetically, rather than through the purchase of actual assets. This option would impose fewer upfront costs. In the case of a non-synthetic portfolio, however, the level of initial capitalization becomes particularly important, because the FRBNY's market-moving capacity would ride on its relative market power.

132. The composition of the market portfolio can be estimated on the basis of a number of distinct databases and calculating methodologies. For a state-of-the-art treatment, see Ronald Doeswijk et al.,

Once the OFAMO fund is established, the FOMC will conduct its current daily tracking of the nation's financial markets not only pursuant to its macroprudential oversight mandate but also as part of its newly expanded market intervention mandate. If, for example, a particular asset class—such as MBS or technology stocks—rises in market value at rates suggestive of a bubble trend, the FOMC will instruct the FRBNY trading desk to short these securities, in order to put downward pressure on their prices.[133] Conversely, the FOMC will instruct the FRBNY to go long on particular asset classes when they appear to be artificially undervalued. The same process would apply with respect to broader market price fluctuations.

In essence, the OFAMO mechanism would function as a market-actor alternative and a complement to the currently evolving role of the Federal Reserve as a macroprudential regulator.[134] There are important potential synergies between these two methods of bubble-and-bust preemption. The ongoing regulatory efforts to develop effective macroprudential risk metrics could be used to determine OFAMO trading strategy. By the same token, the market intelligence derived in the course of asset trading would inform the macroprudential regulators' choices.

This point bears particular emphasis in light of objections that we anticipate to the effect that there is no way to distinguish between bona fide asset price changes rooted in underlying "fundamentals," on the one hand, and price changes that amount to "mere bubbles," on the other.[135]

The Global Multi-Asset Market Portfolio, 1959–2012, 70 FIN. ANALYSTS J. 26 (2014), *available at* http://www.cfapubs.org/doi/pdf/10.2469/faj.v70.n2.1.

133. Acting in this manner would tend to tighten the flow of speculative credit to the asset class in question, both because (a) speculative profit prospects would be diminished by the price drop and (b) the Federal Reserve's engineering the drop would signal to the market its determination that current prices of the asset in question are artificially inflated and accordingly best suppressed.

134. For more on macroprudential regulatory policy, see generally BANK OF ENG., INSTRUMENTS OF MACROPRUDENTIAL POLICY: A DISCUSSION PAPER (2011), *available at* http://www.bankofengland.co.uk/publications/Documents/other/financialstability/discussionpaper111220.pdf; Bank for Int'l Settlements, *Models and Tools for Macroprudential Analysis* (Basel Comm. on Banking Superv., Working Paper No. 21, 2012), *available at* http://www.bis.org/publ/bcbs_wp21.pdf; FIN. STABILITY BD., OVERVIEW OF PROGRESS IN THE IMPLEMENTATION OF THE G20 RECOMMENDATIONS FOR STRENGTHENING FINANCIAL STABILITY: REPORT OF THE FINANCIAL STABILITY BOARD TO G20 LEADERS (2012), *available at* http://www.financialstabilityboard.org/wp-content/uploads/r_120619a.pdf?page_moved=1; INT'L MONETARY FUND, POLICIES FOR MACROFINANCIAL STABILITY: HOW TO DEAL WITH CREDIT BOOMS (2012), *available at* www.imf.org/external/pubs/ft/sdn/2012/sdn1206.pdf; Paolo Angelini et al., *Monetary and Macroprudential Policies* (Macroprudential Research Network, Working Paper No. 1449, 2012), *available at* http://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1449.pdf.

135. Such arguments amount to claims that the "macroprudential turn" now underway among central bankers and financial regulators is an exercise in futility. For more on this "turn" and the new regulatory strategies that constitute it, see generally sources cited *supra* note 134. For a full synthesis

This familiar view, long associated with former Fed Chairman Alan Greenspan, used to prompt some to argue that central banks and other macroprudential regulators cannot effectively "lean," ex ante, against the "winds" that blow bubbles, but must instead aim to "clean," ex post, the mess left by bubbles after they have burst.[136] While many authorities on central banking and financial regulation argued forcefully against the Greenspan position even before the most recent financial crisis, the crisis itself seems to have finally settled debate in favor of the "leaners," whose view traces back to another distinguished past Chairman of the Federal Reserve, William McChesney Martin.[137] It is now widely recognized among financial theorists, central bankers, and other macroprudential regulators (including now Greenspan himself) that certain proxies for fundamental value—e.g., building costs in the case of housing, or price-to-equity ratios in the case of securities—can be used to identify potentially destabilizing, transitory price rises fueled mainly by excess credit availability.[138] It is likewise now widely understood that sudden growth in credit aggregates can serve as an important indicator of unsustainable, leverage-driven price rises of the kind associated with bubbles.[139]

---

of the issues involved, see Robert Hockett, *The Macroprudential Turn: From Institutional 'Safety and Soundness' to Systematic 'Financial Stability' in Financial Supervision*, 9 VA. L. & BUS. REV. 201 (2015). For brief, summary treatment, see Robert Hockett, *Leaning, Cleaning, and Macroprudence*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (Mar. 27, 2013), http://blogs.law.harvard.edu/corpgov/2013/03/27/leaning-cleaning-and-macroprudence/.

136. Scott Hamilton, *Greenspan Says He Would Pre-Empt Asset Bubbles Financed by Debt*, BLOOMBERG BUS. (Dec. 4, 2014, 3:14 PM), http://www.bloomberg.com/news/articles/2014-12-04/greenspan-says-he-would-pre-empt-asset-bubbles-financed-by-debt ("Greenspan . . . argued in office that it was better to clean up after an asset bubble had burst rather than artificially prick it . . . .").

137. For a sample of recent studies in this tradition, see ROBERT SHILLER, IRRATIONAL EXUBERANCE (3d ed., 2015); Claudio Borio & Philip Lowe, *Asset Prices, Financial and Monetary Stability: Exploring the Nexus* (Bank for Int'l Settlements, Working Paper No. 114, 2002), *available at* http://www.bis.org/publ/work114.pdf; John Geanakoplos, *Promises Promises* (Cowles Found., Working Paper No. 1057, 2003); William R. White, *Is Price Stability Enough?* (Bank for Int'l Settlements, Working Paper No. 205, 2006), *available at* http://www.bis.org/publ/work205.pdf. For more on Martin—the one Chairman of the Federal Reserve to have served longer than Greenspan—and his views, see ROBERT P. BREMNER, CHAIRMAN OF THE FED: WILLIAM MCCHESNEY MARTIN JR. AND THE CREATION OF THE MODERN AMERICAN FINANCIAL SYSTEM (2004).

138. *See, e.g.*, sources cited *supra* notes 134–35; *see also* Janet Yellen, President & CEO, Fed. Reserve Bank of S.F., Presentation to the 18th Annual Hyman P. Minsky Conference on the State of the U.S. and World Economies—"Meeting the Challenges of the Financial Crisis": A Minsky Meltdown: Lessons for Central Bankers (Apr. 16, 2009), *available at* http://www.frbsf.org/our-district/press/presidents-speeches/yellen-speeches/2009/april/yellen-minsky-meltdown-central-bankers/. On Greenspan's changed view, see Hamilton, *supra* note 136. On proxies for fundamental value, *see* SHILLER, *supra* note 137; ROBERT J. SHILLER, THE SUBPRIME SOLUTION: HOW TODAY'S GLOBAL FINANCIAL CRISIS HAPPENED, AND WHAT TO DO ABOUT IT (2008); *A Fixer-Upper for Finance*, *supra* note 78.

139. *See generally* Geanakoplos, *supra* note 137; Hamilton, *supra* note 136. This view was first systematically articulated by the great early twentieth century economist Irving Fisher. *See generally*

It should also be noted that the task of distinguishing "artificial" asset price inflation or deflation from "fundamental" appreciation or depreciation is not qualitatively more difficult than what the FOMC already does and has long done in charting monetary policy. The latter task, after all, requires regularly estimating "natural" potential growth paths for the "real" economy and then targeting "appropriate" monetary aggregates accordingly—i.e., ensuring that an "artificial" value (that of currency in terms of goods and services) is in sync with a "fundamental" one (that of the goods and services themselves). In sum, our proposed OFAMO should be seen as a straightforward extension, a complement, and a fine-tuning of what already is done and has long been done by the Federal Reserve.

2. Open Market Operations in the Labor Market: What If?

While extending OMO to modulate price swings in financial assets would be a natural extension of the Federal Reserve's current trading activities, applying the same logic of government action to modulating price swings in the national labor market raises very different, and potentially more difficult, operational issues. In contrast to financial instruments, one does not "buy and hold" or "sell" labor. Nevertheless, is it possible to imagine a system of functionally similar, macroeconomic stability-enhancing Open Labor Market Operations ("OLMO") operating much like more traditional OMO?

In theory, OLMO could stabilize labor markets by operating with respect to wage and salary rates under the same principles as OMO currently does with respect to interest rates. The federal government—perhaps through the Department of Labor ("DOL")—could commit to acting as an "employer of last resort" ("ELR"), as proposed by several economists since the 1950s.[140] It would stand willing to hire, at or slightly below the current federal minimum wage,[141] anyone laid off from a private sector job during an economic recession.[142] As unemployment rates rose,

---

IRVING FISHER, BOOMS AND DEPRESSIONS: SOME FIRST PRINCIPLES (1932).

140. *See, e.g.*, L. RANDALL WRAY, UNDERSTANDING MODERN MONEY: THE KEY TO FULL EMPLOYMENT AND PRICE STABILITY 122–54 (1998); Pavlina R. Tcherneva, *Permanent on-the-Spot Job Creation—The Missing Keynes Plan for Full Employment and Economic Transformation*, 70 REV. SOC. ECON. 57, 76 (2012). *See also* HYMAN P. MINSKY, ENDING POVERTY: JOBS, NOT WELFARE (2013).

141. It might be advisable to keep the ELR wage slightly below the federal minimum prescribed for the private sector, in order to mitigate possible moral hazard concerns that we address below.

142. While this has obvious appeal as a matter of justice, its "countercyclical," "automatic stabilizer" function is what is most relevant here. The National Bureau for Economic Research defines

the government would absorb excess labor, maintain consumer purchasing power, and thereby place a floor under the downward spiral. Once macroeconomic growth resumed, the government would shed labor through attrition as private-sector employers bid wages and benefits back up.[143]

This type of ELR action resembles what we have called market-making activity. Just like a market-maker in securities, the government here offers wages at a "bid" price and "makes" a market for labor by standing ready to pay this price for qualifying labor.[144] In addition, an ELR program would serve as a market-moving device in at least two respects. First, the bid price would effectively function as a labor price target rate, similar to the inflation target currently used in OMO. Second, the ELR program could offer benefits and establish workplace safety standards that would effectively function as benchmarks economy-wide.[145]

It must be acknowledged, however, that certain practical and administrative difficulties would have to be addressed before any such program could be feasible. First is the question of eligibility. To ensure that the ELR program is functioning as an automatic stabilizer, it would be important to admit into the program only people able to show that they have held jobs prior to the economic downturn, to which their current unemployment is attributable.[146] Second is the question of matching up eligible workers with tasks actually in need of being accomplished and to which they are suited.[147] The program will have to include effective means

---

an economic recession as a "significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales." *US Business Cycle Expansions and Contractions*, NAT'L BUREAU OF ECON. RESEARCH, http://www.nber.org/cycles/cyclesmain.html (last visited June 30, 2015).

143. In effect, the ELR program would operate similarly to federal price support programs for agricultural products or the Keynesian "buffer stock" program for commodities advocated in the late 1940s. *See Price Support*, U.S. DEP'T OF AGRIC., http://www.usda.gov/wps/portal/usda/ usdahome?navid=PRICING_SUPPORT (last updated Sept. 25, 2012). For more on Keynes's proposals for postwar commodity price stabilization by means of buffer stock maintenance, see Robert W. Dimand & Mary A. Dimand, *J.M. Keynes on Buffer Stocks and Commodity Price Stabilization*, 22 HIST. POL. ECON. 113 (1990), *available at* http://www.researchgate.net/publication/247814707_ J._M._Keynes_ on_Buffer_Stocks_and_Commodity_Price_Stabilization. *See also* WRAY, *supra* note 140, at 122–54; MINSKY, *supra* note 140.

144. *See supra* Part II.A.

145. In this capacity, the "market-moving" ELR program would function similarly to the FHA mortgage insurance standards, discussed above. *See supra* Part II.C.

146. Besides keeping the focus of the program on the stabilization function, this would offer the further advantage that beneficiaries would be known to be employable.

147. To ensure political support for this program, it must fulfill real needs for labor rather than "make work" artificially. *See* Thomas I. Palley, *Government as Employer of Last Resort: Can it Work?*, *in* INDUSTRIAL RELATIONS RESEARCH ASSOCIATION, 53RD ANNUAL PROCEEDINGS 269–74

of sorting along these lines. It would also be desirable for the program to include a training component, which would offer a collateral benefit—greater employability of beneficiaries in the private sector.

Third will be difficult questions concerning just where and by whom beneficiaries will be employed—not only in terms of physical locations, but also in terms of institutional affiliations. Will beneficiaries in Tennessee, for example, have to move to California for some positions, or will there be some means of ensuring that no one need move? Relatedly, will these beneficiaries all work within federal government agencies—e.g., some newly created government enterprise administered by DOL—or will the DOL operate as a sort of "temp service" broker farming out labor to states, municipalities, and/or private employers? The first option raises concerns about how quickly and efficiently the federal government could establish a new enterprise pursuing worthwhile projects dischargeable by mostly temporary labor. The second option avoids those concerns but raises new ones—e.g., the prospect of private firms' laying off more of their own workers to capitalize on cheaper federally-supplied ones. This is a critical tradeoff that may not be possible to resolve in the abstract.

A fourth question is whether beneficiaries would be treated as regular, albeit temporary, federal employees entitled to the same benefits as more permanent ones. If not, then some care will have to be taken in defining these beneficiaries' status, in order to avoid stigmatization. A related question concerns moral hazard: will an ELR program induce or encourage complacency and poor work habits among beneficiaries? In theory, this risk could be addressed through a combination of (1) keeping the ELR wage and benefits package slightly less, or at the very least no more, attractive than the least attractive private-sector alternative,[148] and (2) terminating the ELR employment of anyone who proves repeatedly problematic as an employee.[149]

Finally, a fifth question concerns funding. Generally, this could be accomplished through garden-variety countercyclical financing, whereby the federal government discharges its slack-absorbing role during macroeconomic slumps through loose monetary and debt-financed fiscal

---

(2001), *available at* http://www.thomaspalley.com/docs/articles/macro_policy/government_employer.pdf.

148. This might mean keeping the legislated federal minimum wage on the books, and keeping the ELR wage just below it.

149. "Problematic" might mean not turning up, making the workplace environment "hostile," etc. Perhaps some type of "three strikes" rule would be in order. *See* WRAY, *supra* note 140, at 122–54. Implementing these controls, however, may create additional administrative complexities.

policy. Once private-sector growth is restored, excess money is mopped back up, while debt is retired via the restored tax revenues.[150]

Ultimately, these types of issues may render OLMO too politically toxic and/or difficult to implement in practice. Yet, if it were feasible, OLMO could greatly increase the national economy's resilience, stability, and long-term growth potential. Thus, it is worthwhile to have an open-minded and detail-oriented discussion of its potential benefits and shortcomings. This Article, however, pursues a far more modest goal of illustrating how this kind of a program would fit into the broader universe of the government's market-actor roles.

B. Market-Levering: Financing National Infrastructure

The transformative—market-levering, in the broadest sense—potential of the modern developmental finance state is especially evident in the realm of national infrastructure.

1. Infrastructure as a Developmental Challenge

It is no secret that America's basic infrastructure—roads, bridges, tunnels, railways, airports, drinking water and waste water facilities, energy grids, and public schools and transportation—is outdated, worn, and generally unable to meet the country's growing needs.[151] Over the last decade, the American Society of Civil Engineers ("ASCE") has consistently graded American transport, water, school, and other infrastructures with marks of "D+" or lower.[152] Rebuilding this system is a necessary pre-condition for future increases in productivity, economic

150. Countercyclical stabilization policy in both its fiscal and monetary dimensions figures prominently in most macroeconomics textbooks. *See, e.g.*, WILLIAM J. BAUMOL & ALAN S. BLINDER, MACROECONOMICS: PRINCIPLES & POLICY 213–76 (12th ed. 2012).

151. *See* HEIDI CREBO-REDIKER & DOUGLAS REDIKER, FINANCING AMERICA'S INFRASTRUCTURE: PUTTING GLOBAL CAPITAL TO WORK (2008), *available at* http://www.voltairenet.org/IMG/pdf/Financing_America_Infrastructure.pdf; MICHAEL LIKOSKY, OBAMA'S BANK: FINANCING A DURABLE NEW DEAL (2010); OFFICE OF MANHATTAN BOROUGH PRESIDENT SCOTT M. STRINGER, BANKING ON THE FUTURE: A NEW PARADIGM FOR REBUILDING OUR NATION'S INFRASTRUCTURE (2011) [hereinafter STRINGER], *available at* http://www.baruch.cuny.edu/realestate/pdf/H7656_BaruchBankingFutureWhtPaper.pdf.

152. *See 2013 Report Card for America's Infrastructure*, AM. SOC'Y OF CIVIL ENG'RS, http://www.infrastructurereportcard.org/ ("D+") (last visited June 30, 2015); *2009 Report Card for America's Infrastructure*, AM. SOC'Y OF CIVIL ENG'RS, http://www.infrastructurereportcard.org/2009/sites/default/files/RC2009_exsummary.pdf ("D") (last visited June 30, 2015); *2005 Report Card for America's Infrastructure*, AM. SOC'Y OF CIVIL ENG'RS, http://ascelibrary.org/doi/pdf/10.1061/9780784478851 ("D") (last visited June 30, 2015).

growth, stronger communities, and better quality of life. In that sense, it is a classic national-development project.

It is also an expensive one. According to the ASCE's estimates, the necessary improvements in infrastructure quality would require investment ranging from $1.6 to $3.6 trillion.[153] Financing infrastructure projects tends to be a capital-intensive and risky activity. Not surprisingly, governments—be they state, local, or even national—often are too financially strapped to undertake significant infrastructure repair and expansion projects on their own.[154] Private investors, on the other hand, often lack simple or straightforward means by which to channel their surplus capital toward infrastructure projects that promise returns compatible with their risk and liquidity preferences. Two main reasons, both of which will likely ring familiar to economists, are typically cited to explain the difficulty with attracting much-needed private capital investment in infrastructure projects.

The first cited reason that private investment opportunity is limited is that public infrastructure generally either takes the form of a non-excludable good (meaning that private parties are not able fully to recoup their investments via privately assessed user fees)[155] or is better provided directly by governments or regulated monopolies than via competitive markets due to grid effects and/or increasing returns to scale.[156] Thus,

153. *See* sources cited *supra* note 152. While the ASCE might not be altogether financially disinterested in the "grades" it assigns American infrastructure, its assessments appear to be widely endorsed or complemented by other assessments and reports.

154. *See* CREBO-REDIKER & REDIKER, *supra* note 151, at 9.

155. An example of a non-excludable good is an air traffic control system. It is neither the sort of thing that would be safe to have operating in parallel with other, competing systems, nor the sort of thing that could easily and safely exclude flyers who had not helped pay for that system, absent significant government involvement. Strictly speaking, a good is a "public" good only when it is both non-excludable and non-rivalrous, while rivalrous non-excludable goods—e.g., fish stocks, timber, commons areas—are separately classified as "common pool" resources. For present purposes it is non-excludability that matters most. "Privately" assessed user fees refer to fees that would be levied by a private builder or owner of the infrastructure in question, then passed along in the form of dividends, capital gains, or interest payments to owners of and/or other investors in the private firm in question.

156. Where an industry requires large up-front costs of production, so that costs per unit of production steadily diminish as quantities produced increase, a single provider is, all else equal, more efficient than are multiple providers in aggregate. In this case, the industry in question is said to lend itself to "natural monopoly." Closely related but analytically distinct is the phenomenon of a "grid" technology, such as a railroad, fiber-optic cable, or electrical powerline network, which typically not only involves high upfront costs and consequent increasing returns to scale, but also threatens excessive and congestive physical capacity—e.g., multiple competing parallel highways or powerlines—in the absence of monopoly. Formally, see William J. Baumol, *On the Proper Cost Tests for Natural Monopoly in a Multiproduct Industry*, 67 AM. ECON. REV. 809 (1977); *see also* WILLIAM J. BAUMOL ET AL., CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE (1982) (expounding a general theory of contestable markets).

dams, levees, power grids, roads, rail, bridges, systems of waste disposal, sewage and water supply, and many other utilities are all canonical public goods[157] that are most efficiently supplied by a canonical natural monopoly, which means that some government instrumentality either will directly supply the system in question or will be closely bound up with whatever "private" provider receives the monopoly privilege.[158]

The second reason that private capital is not able to channel sufficient funds to finance public infrastructure is the absence of deep secondary market capacity.[159] State and local governments typically borrow large sums upfront to fund significant infrastructure projects—by issuing general or project-specific revenue bonds—and then use their tax revenues or user fees to repay ensuing debt obligations over time.[160] However, this mode of finance raises a specific difficulty against the backdrop of our disaggregated and localized system of government: bond issuances by relatively small individual administrative units are inevitably small in comparison to competing investments like Treasury bonds or blue-chip corporate securities.[161] Markets in such instruments tend to be thinner and less liquid than markets for competing investments, which discourages risk-averse private capital from flowing to them on optimally favorable terms.[162]

Thus, there is a strong argument that the lack of an active secondary market keeps states' and municipalities' infrastructural borrowing costs needlessly high, as private investors demand risk and liquidity premia on their illiquid, thinly traded bonds. And so trillions of dollars of private (and even some public) capital which could finance localized public infrastructure—including pension fund, insurance company, mutual fund, sovereign wealth fund, and even foreign central bank capital—remain

157. For sources discussing the categories of public goods and market failure, see *supra* note 61.

158. Health insurance and other species of "social" insurance also fall into this category. *See generally* Robert Hockett, *Making Sense of the Healthcare Reform Debate*, 53 CHALLENGE 28 (2010) (showing that canonical forms of social insurance constitute natural monopolies best publicly provided or tightly regulated).

159. *See* CREBO-REDIKER & REDIKER, *supra* note 151, at 4.

160. *See id.* at 6; *see also* KPMG, INFRASTRUCTURE INVESTMENT: BRIDGING THE GAP (2012), *available at* https://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/insight-magazine/Documents/insight-investmentv3.pdf; SCOTT RAWLINS & JIM RAY, KPMG, FINDING A NEW WAY TO FUND HIGHWAY INFRASTRUCTURE (2014), https://home.kpmg.com/content/dam/kpmg/pdf/2014/04/foresight-22.pdf; L. Owen Kirkpatrick & Michael P. Smith, *The Infrastructural Limits to Growth: Rethinking the Urban Growth Machine in Times of Fiscal Crisis*, 35 INT'L J. URB. & REGIONAL RES. 477 (2011).

161. *See, e.g.*, CREBO-REDIKER & REDIKER, *supra* note 151, at 4.

162. *See id*.

under- or untapped.[163] In this sense, the market for large-scale institutional investments in American infrastructure represents an incipient or incomplete market that could potentially be "levered" into doing much more. Indeed, the situation is strikingly reminiscent of what we described earlier in connection with national mortgage markets prior to the New Deal.[164]

This analogy has not been lost on policy-makers. In recent years, there have been several attempts to propose reforms of public infrastructure finance in the United States.[165] While differing in specific details, these proposals generally seek to institute a new federal instrumentality—sometimes labeled a National Infrastructure Bank ("NIB")—charged with facilitating public infrastructure finance, mainly through some combination of direct federal grants, loan guarantees, and insurance.[166] Building on some of the existing proposals, however, it is possible to envisage an NIB that goes beyond these familiar methods and performs the government's role as a market actor in a more explicit and proactive way.

2. Basic Proposal: National Infrastructure Bank

In its basic form, an NIB would seek to amplify and optimize the currently sub-optimal system of public-private cooperation in the area of

---

163. *See* sources cited *supra* note 160. The availability of this capital is made evident by both the contents and the very existence of cheerful Wiley Publishing Company investor titles including NEIL S. GRIGG, INFRASTRUCTURE FINANCE: THE BUSINESS OF INFRASTRUCTURE FOR A SUSTAINABLE FUTURE (2010); MICHAEL D. UNDERHILL, THE HANDBOOK OF INFRASTRUCTURE INVESTING (2010); and BARBARA WEBER & HANS WILHELM ALFEN, INFRASTRUCTURE AS AN ASSET CLASS: INVESTMENT STRATEGIES, PROJECT FINANCE, AND PPP (2010). The existence of these investor-catering books is not the sole testament to the hunger of private investors for infrastructure investments. *See* KPMG, *supra* note 160; RAWLINS & RAY, *supra* note 160; Greg Roumeliotis & Mike Stone, *Exclusive: Infrastructure Investors Line Up for Indiana Toll Road*, REUTERS (Oct. 15, 2014, 4:48 AM), http://in.reuters.com/article/2014/10/14/us-indianatollroad-m-a-idINKCN0I32T720141014.

164. *See supra* Part II.A.

165. *See, e.g.*, Nation Building Here at Home Act of 2012, H.R. 4352, 112th Cong. (2012), *available at* https://www.congress.gov/112/bills/hr4352/BILLS-112hr4352ih.pdf; National Infrastructure Bank Act of 2007, S. 1926, 110th Cong. (2007), *available at* https://www.congress.gov/110/bills/s1926/BILLS-110s1926is.pdf; National Infrastructure Bank Act of 2007, H.R. 3401, 110th Cong. (2007), *available at* http://www.gpo.gov/fdsys/pkg/BILLS-110hr3401ih/pdf/BILLS-110hr3401ih.pdf; National Infrastructure Development Act of 2007, H.R. 3896, 110th Cong. (2007), *available at* https://www.congress.gov/110/bills/hr3896/BILLS-110hr3896ih.pdf; *Fiscal Year 2016 Budget Overview*, OFFICE OF MGMT. & BUDGET, http://www.whitehouse.gov/omb/overview (last visited July 5, 2015); Joseph Weber, *Obama to Propose $50B in Infrastructure Projects*, WASH. TIMES (Sept. 6, 2010), http://www.washingtontimes.com/news/2010/sep/6/obama-propose-50b-infrastructure-projects/.

166. *See* sources cited *supra* note 165; *see also* EDWARD D. KLEINBARD, WE ARE BETTER THAN THIS: HOW GOVERNMENT SHOULD SPEND OUR MONEY 287–89 (2015) (discussing the idea of an NIB).

infrastructure finance. In terms of our taxonomy, NIB operations would most immediately fit within the market-levering category.[167] From that perspective, an NIB can be viewed as an infrastructure-specific analogue to the home finance GSEs, as well as to various other forms of "public-private partnership" ("P3").[168]

The GSE experience is particularly instructive here because of the strikingly similar nature of the problems currently plaguing the US market for infrastructure finance and those that plagued US home loan markets before the creation of Fannie Mae.[169] As discussed earlier, pre-New Deal mortgage markets were localized, small-scale, and illiquid, which raised borrowing costs for homebuyers and prevented the emergence of a well-functioning national market for mortgage finance.[170] Fannie Mae remedied these inefficiencies by making a secondary market in FHA-standardized mortgage instruments and thereby lowering both private lenders' risks and borrowers' costs.[171] Moreover, by creating a nation-wide market and leaning upon the full faith and credit of the United States as a backstop, Fannie Mae was able to pool and ensure risk on a much larger scale than could any primary lender-bank at the time.

---

167. Proponents of infrastructure banks sometimes refer explicitly to these institutions' capacity to "leverage" private capital. *See, e.g.*, STRINGER, *supra* note 151, at 1 (advocating "using small amounts of government money to leverage substantial sums of private sector money to achieve important social objectives").

168. In today's discourse, the term "public-private partnership"—P3 or PPP—refers to a broad universe of diverse and context-specific arrangements. For summaries and assessments of recent P3 arrangements in Europe and elsewhere, see JEFFREY DELMON, PUBLIC-PRIVATE PARTNERSHIP PROJECTS IN INFRASTRUCTURE: AN ESSENTIAL GUIDE FOR POLICY MAKERS (2011); EDUARDO ENGEL ET AL., THE ECONOMICS OF PUBLIC-PRIVATE PARTNERSHIPS: A BASIC GUIDE (2014); DARRIN GRIMSEY & MERVYN K. LEWIS, PUBLIC PRIVATE PARTNERSHIPS: THE WORLDWIDE REVOLUTION IN INFRASTRUCTURE PROVISION AND PROJECT FINANCE (2004); LIKOSKY, *supra* note 151; E. R. YESCOMBE, PUBLIC-PRIVATE PARTNERSHIPS: PRINCIPLES OF POLICY AND FINANCE (2007). In the United States, P3 models for infrastructure financing are used mainly by individual states and municipalities. *See, e.g.*, GEORGE CAROLLO ET AL., PUBLIC-PRIVATE PARTNERSHIPS FOR INFRASTRUCTURE DELIVERY (2012), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2149313; U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-10-728, WASTEWATER INFRASTRUCTURE FINANCING: STAKEHOLDER VIEWS ON A NATIONAL INFRASTRUCTURE BANK AND PUBLIC-PRIVATE PARTNERSHIPS (2010), *available at* http://www.gao.gov/assets/310/306947.pdf. The nature and policy impact of individual P3s differ greatly. Many P3 infrastructure projects involve little more than government outsourcing of various project-related functions to private parties, which raises familiar problems. P3s may also involve loan guarantees and/or direct public financing alongside private lenders. While cognizant of this variety, for purposes of this Article, we focus specifically on mechanisms explicitly operating via the government-as-market-actor modality.

169. *See* CREBO-REDIKER & REDIKER, *supra* note 151, at 9–10 (making a similar GSE analogy). Their policy recommendations directly build upon the Fannie Mae model, as it would apply to infrastructure finance. Our version of an NIB as a market-levering government actor incorporates many of their insights.

170. *See supra* Part II.A.

171. *See supra* Part II.A.

This experience suggests that today's fragmented and illiquid market for infrastructure finance needs an institution—a large public instrumentality—that would pool municipal bonds and their associated default and liquidity risks.[172] Like the early Fannie Mae, an NIB would be initially capitalized by the federal government.[173] State or municipal contributions might also, but need not, be required or solicited. To leverage public money, the NIB would issue bonds (or some mix of debt and equity) and commit to pay out returns associated with particular issuances on the strength of (1) user fees and dedicated revenues that could feasibly be levied for the purpose; (2) dedicated pools of collateral, in the manner of the European-style covered bonds; and (3) the ultimate full faith and credit of the United States.[174]

The federal government's "full faith and credit" backup is a particularly potent factor in this respect. Explicitly backed by the US government, the NIB is likely to be a much larger and more powerful market actor than any private municipal-bond-pooling entity, in the same way as Fannie Mae has always dwarfed all non-federal competitors in the secondary home mortgage markets. It is reasonable to expect that NIB bonds will attract great interest from large institutional investors—pension funds, investment companies, investment banks, foreign central banks, and sovereign wealth funds—who would view these bonds as close substitutes for US Treasury bonds and agency securities issued by the GSEs.

It is hard to over-estimate the significance of this factor, not only for purposes of financing infrastructure projects but, importantly, from the perspective of systemic financial stability. Large, globally active institutional investors seem to be constantly searching for instruments that are nearly as low-risk as US Treasury bonds but offer higher returns.[175]

---

172. *See* CREBO-REDIKER & REDIKER, *supra* note 151, at 8; *see also* sources cited *supra* note 165.

173. All of the current proposals require initial congressional capitalization of an NIB-type entity, although the precise levels of such proposed capitalization vary. *See* CREBO-REDIKER & REDIKER, *supra* note 151, at 2. Current proposals generally do not require state or municipal capital contributions.

174. *See* proposals cited *supra* note 165. "Covered bonds" are a form of collateralized bond instrument, similar to US asset-backed securities, except that the collateral in question is typically guaranteed by a government entity. First developed in Prussia and Denmark during the late 18th century and reminiscent of first US Treasury Secretary Hamilton's "sinking fund" model of public finance, covered bonds have become increasingly popular in Europe over the past several decades as modes of public finance. *See generally* EUR. COVERED BOND COUNCIL, 2015 ECBC EUR. COVERED BOND FACT BOOK (2015), *available at* http://ecbc.hypo.org/Content/Default.asp?PageID=501 (providing a comprehensive overview of covered bonds as an asset class).

175. *See, e.g.*, Ben S. Bernanke et al., *International Capital Flows and the Returns to Safe Assets in the United States, 2003-2007* (Bd. of Governors of the Fed. Reserve Sys., International Finance Discussion Paper No. 1014, 2011), *available at* http://www.federalreserve.gov/pubs/ifdp/2011/1014/

This search for yield creates potentially destabilizing demand for complex financial instruments structured to generate high returns, while hiding the true extent of underlying risk.[176] Creating a brand new asset class that serves as a legitimately "safe" alternative to US Treasury bonds, while offering a potentially higher yield, would allow the channeling of this demand away from the riskier and more speculative assets.[177] To enhance the appeal of this new asset class to institutional investors, it would be desirable to grant NIB bonds the same regulatory and discount window treatment as US Treasury bonds, agency securities, and some forms of commercial paper currently receive under the applicable risk-based capital adequacy and the Federal Reserve's discounting regimes, respectively.[178]

The NIB would use the funds raised through its bond issuances to purchase and pool revenue bonds and project bonds issued by municipalities, public utilities, and other government instrumentalities seeking financing to fund infrastructure projects.[179] It is important that the NIB impose certain eligibility criteria on prospective securities, in order to ensure commercial viability of the model. If the NIB adheres strictly to these criteria, it would help to ensure continuously high demand for NIB bonds from large institutional investors.[180]

---

ifdp1014.pdf (examining the effects of the growing demand from foreign investors for US government debt); Arvind Krishnamurthy & Annette Vissing-Jorgensen, *The Aggregate Demand for Treasury Debt* (2010), *available at* http://www.treasury.gov/about/organizational-structure/ offices/RoundTable/ 2011%20session%204%20vissing_tsy%20demand%20PAPER.pdf (documenting investors' preferences for US Treasury bonds); Zoltan Pozsar, *Institutional Cash Pools and the Triffin Dilemma of the U.S. Banking System* (Int'l Monetary Fund, Working Paper No. 11/190, 2011), *available at* http://www.imf.org/external/pubs/ft/wp/2011/wp11190.pdf (analyzing the dynamics and implications of investor demand for safe, high-quality assets).

176. *See* sources cited *supra* note 175. This search for yield fueled the junk-bond craze of the 1980s, interest in loan participations during the 1990s, and the mortgage-backed securities bubble in the early to mid-2000s. During that last episode, high-risk MBSs and related products were structured specifically to get the highest credit ratings indicating their supposedly "riskless" status, while paying interest at rates higher than US government bonds.

177. For more on the desirability of creating such assets, see Pozsar, *supra* note 175, at 21–24.

178. The Federal Reserve's discounting regime, pursuant to which the central bank "monetizes" certain eligible forms of commercial paper, is embodied at 12 U.S.C. § 372 (2014). The FDIC-administered capital-regulatory regime, pursuant to which some forms of safe and/or favored assets are risk-weighted at less than 100%, is embodied at 12 C.F.R. pt. 325 (2015).

179. *See* sources cited *supra* note 165.

180. Advocates of current NIB proposals point out that the European Investment Bank ("EIB") operates much in the manner described above and attracts plentiful private capital to fund European infrastructure projects. The EIB was established in 1958 and is owned and operated by the EU member-states. Its mission is to foster, through a variety of public-private investment partnerships, the continued infrastructural development and economic integration of the European Union. For more, see EUR. INV. BANK, http://www.eib.org/ (last visited July 6, 2015). The EIB has proved quite effective in tapping the global capital markets, selling its bonds to the same pension funds, sovereign wealth funds, and other financial intermediaries that routinely buy US Treasury bonds and other global "blue-chip"

In the future, the NIB might develop the capacity not only to pool municipal and other public utility bonds as a secondary purchaser but also to originate infrastructure loans for particular projects. For instance, it might start by extending loans to federal agencies charged with infrastructure-provision—e.g., the Federal Highway Administration—and then add direct lending to states or municipalities in need of further infrastructure funding. Although current proposals do not articulate this goal, it may be desirable to require the NIB to target and prioritize projects that have some national socio-economic significance. Developing its capacities along these lines, the NIB might ultimately become a full-service project- and infrastructure-finance institution.

The NIB we describe above would be a classic market-making and market-levering actor, along the lines of the original Fannie Mae model. This basic version of an NIB is not entirely novel: it explicitly incorporates many elements of existing policy proposals. Perhaps more importantly, this basic version of an NIB remains fundamentally grounded in the familiar justifications and macroeconomic categories of public goods, market failure, and market incompleteness. This frame of reference, however, may be too narrow, and confining the debate to its conceptual limits may prevent the emergence of a more ambitious and normatively compelling version of an NIB as a principal vehicle through which to pursue a continuous and sustainable national development strategy. Moving beyond the limits of the current debate on infrastructure finance, we can start outlining the general contours of this new and more ambitious version of an NIB.

3. Advanced Proposal: National Capital Management Corporation

An NIB based on our understanding should be seen as a permanent instrumentality that proactively facilitates and promotes not only the restoration or extension of currently inadequate physical infrastructure but also more transformative projects aimed at "leapfrogging" America along a progressive developmental trajectory. We envision an NIB providing infrastructure that leads or revolutionizes markets, in ways that the polity deems desirable, rather than merely follows existing markets' immediate dictates. For example, a proactive NIB might not merely seek to ensure

securities—while steering clear of US municipal bonds. *See* CREBO-REDIKER & REDIKER, *supra* note 151, at 4–5.

that petroleum is available nationwide but could act systematically to convert our energy system from petro- to hydrogen-based.[181]

An NIB reconceived along these lines would require a different approach to structuring and financing its activities than the GSE-inspired models entail. Because its mission is potentially more ambitious, it should not rely entirely on debt financing but should tap into additional sources of funding—mezzanine and even equity capital.[182] This strategy would serve, in part, to attract more capital and, in part, to attract more ambitious, less risk-averse capital of the sort that typically comes from equity investors. How might this be done?

In our model, this next-generation infrastructure-development entity—which we call the National Capital Management Corporation ("NCMC" or, perhaps, "Nicky Mac")—would operate very much like an investment management company sponsoring and running one or more private equity funds.[183] Some of these funds would be set up to invest in individual infrastructure projects, while others would hold broader portfolios of projects with particular risk-return profiles sought by the target investors. In direct parallel to private equity ("PE") firms, NCMC would act as the sponsor and general partner of each individual fund it sets up. In its capacity as the fund's general partner, NCMC would contribute some capital of its own, but the majority of the fund's capital would come from private investors that become passive limited partners in the same fund. NCMC would manage the resultant pool of assets much as any private fund manager would do, assembling a portfolio of promising investment projects which, while involving some risk of not panning out in some cases, would be sufficiently diversified as substantially to lay-off appreciable quanta of risk.[184] Individual investments in the fund's portfolio

181. Something similar is behind the 2008 Clean Energy Bank proposals of Senators Bingaman and Domenici and Representatives Inslee and Israel. *See* 21st Century Energy Technology Deployment Act, H.R. 2212, 111th Cong. (2009), *available at* http://www.gpo.gov/fdsys/pkg/BILLS-111hr2212ih/pdf/BILLS-111hr2212ih.pdf; 21st Century Energy Technology Deployment Act, S. 3233, 110th Cong. (2008), *available at* http://www.gpo.gov/fdsys/pkg/BILLS-110s3233is/pdf/BILLS-110s3233is.pdf; Clean Energy Investment Bank Act of 2008, S. 2730, 110th Cong. (2008), *available at* http://www.gpo.gov/fdsys/pkg/BILLS-110s2730is/pdf/BILLS-110s2730is.pdf.

182. Others have argued that, in order to finance large-scale infrastructure projects, traditional forms of debt must be supplemented with other capital instruments. *See, e.g.*, KPMG, *supra* note 160, at 10–11. "Mezzanine capital" refers, generally, to preferred stock, subordinated debt, and other hybrid instruments combining the elements of both debt and equity.

183. For more on private equity funds in general, see EILEEN APPELBAUM & ROSEMARY BATT, PRIVATE EQUITY AT WORK: WHEN WALL STREET MANAGES MAIN STREET (2014); HARRY CENDROWSKI ET AL., PRIVATE EQUITY: HISTORY, GOVERNANCE, AND OPERATIONS (2d ed. 2012).

184. *See supra* note 180. As mentioned earlier, some of the NCMC funds may be set up and marketed as single-project investment vehicles. The composition of each fund's assets, its investment

may be structured in various ways, depending on the nature of selected projects and NCMC's managerial judgment. As with many private funds, NCMC would require that limited partners agree to lock up all or some part of their investment dollars with the fund for some set minimum period of time.[185]

The compensation and profit-sharing structure of the NCMC funds would also track the traditional PE model.[186] Like any fund manager, NCMC would charge an annual management fee and a contingent performance fee—"carried interest," or "carry."[187] To enhance the attractiveness of the NCMC funds as a new asset class, however, it might be desirable to offer some additional incentives to private investors. The US government backup is a particularly strong potential sweetener in this respect. Thus, the government could potentially guarantee the return of all or a substantial part of private investors' principal upon the expiration of a specified lock-up period. The government could also guarantee a certain minimum rate of return on private parties' investments—either for the duration of the lock-up period, for some shorter period of time, or even for as long as the investor keeps its interest in the fund.

Furthermore, in some cases the profit-sharing component could potentially be structured in layers. For example, the NCMC, in its capacity as the manager of a particular fund, could relinquish all carry due to it on the first tier of the fund's net profits. Carry charged on profits above that threshold could also vary, gradually increasing to 20%. If the fund's profits exceed some relatively high threshold, however, it may be desirable to increase the NCMC's carry to capture all of such top-tier super-gains. In effect, this model would present private investors with new investment opportunities that would (1) replicate bonds in their guarantee of principal and possibly some modest rate of return, (2) then offer carry-free equity bands, essentially entitling them to all net profits, and (3) then offer one or more traditional PE-like equity bands entitling them to

strategy, and its profit-sharing and fee structure would ultimately depend on the economics of the underlying projects and the risk appetites of the targeted private investors. The NCMC would, in effect, tailor its products to reflect both the public's needs and the private investors' preferences.

185. *See* sources cited *supra* note 183.

186. For an overview of compensation arrangements in PE firms, see CENDRWOSKI ET AL., *supra* note 183.

187. Typically, the management fee equals 2% of (private) assets under management, while carry equals 20% of the fund's net profits. *See, e.g.*, Victor Fleischer, *Two and Twenty: Taxing Partnership Profits in Private Equity Funds*, 83 N.Y.U. L. REV. 1, 1 (2008).

predetermined percentages of net profits, possibly capped by specified ceilings.[188]

Of course, offering these risk-minimizing benefits might not be necessary with respect to each individual NCMC fund, especially where the fund invests in projects with strong revenue-generating potential and/or targets investors with high risk tolerance. The NCMC should not simply socialize the risk of infrastructure investments while generating gratuitous windfalls for its private partners. At the same time, however, additional government guarantees and profit-sharing benefits could be effective in attracting certain types of relatively risk-averse capital or funding certain types of projects. Our brief outline of potentially useful asset enhancement techniques is merely suggestive, as each individual NCMC fund's risk- and profit-sharing structure would need to be determined on a case-by-case basis.

The key point is that, if properly structured and priced, NCMC funds should be an attractive new asset class available to current private equity and hedge fund investors, as well as to broader swaths of large institutional investors searching for yield.[189] As noted earlier, it is difficult to over-estimate the significance of creating this new asset class for protecting systemic financial stability: by channeling the flow of yield-hungry capital away from complex, high-risk financial instruments, it would help to minimize the danger of another financial market bubble.[190]

The sources of the returns generated by the NCMC-managed funds would vary depending on the specific projects in which they invest.[191] However, it is also important not to overlook the fact that infrastructural optimization would enable the federal government to reap the full benefits of scale economies and recapture positive externalities associated with the nation-wide provision of public goods.[192] These gains would bolster the government's ability to offer or guarantee stipulated returns to private investors in NCMC funds. This is particularly true in light of the potential

188. The viability of such a tiered profit-sharing model and its precise structure would have to be determined through financial cost-benefit analysis, taking into account all relevant considerations.

189. For a discussion of the importance of this factor, see sources cited *supra* notes 176–78 and accompanying text.

190. *Id.*

191. For example, a project of intercity light rail construction or a network of hydrogen- or electrically-powered vehicle refueling or recharging stations could generate returns through user fees or targeted taxes.

192. *See* KLEINBARD, *supra* note 166, at 283–85 (discussing substantial productivity returns to public investments in infrastructure).

positive effects of the NCMC-financed infrastructure projects on employment and, hence, income tax revenues.[193]

Structuring and operating the NCMC along these lines would potentially broaden the range of projects it can undertake and, more generally, enhance its capacity to act in a truly entrepreneurial, forward-looking manner, as befits a PE-like market actor—but with an explicit view to important socially beneficial ends, as befits a public market actor.[194] Again, for example, if a national consensus were to emerge that a massive shift to hydrogen- or electrically-powered automobiles would be desirable in the long run, but the near-term private establishment of broad networks of hydrogen or electrical refueling stations is stymied by familiar collective action problems, NCMC would be well-positioned to take the lead in effecting the needed change. The same logic could apply to a much broader range of development-oriented strategic decisions. For instance, were we to decide as a society that the current global distribution of Ricardian comparative advantage operates to the unnecessary disadvantage of our manufacturing capacity, NCMC could lead a concerted effort to rectify the resulting structural imbalances, in part by channeling funds into new technology or other innovative ventures.[195] In effect, the NCMC model would merge our vision of a developmental finance state with what other social scientists have termed a "developmental network state"—an evolving institutionalized pattern of

193. Even very conservative macroeconomic models indicate that the positive employment, GDP-growth, and consequent income tax revenue increases generated by significant infrastructure investment would largely, if not wholly, offset project costs in the current low interest-rate environment. *See* Robert C. Hockett & Robert H. Frank, *Public Infrastructure Investment, Renewed Economic Growth, and the U.S. Fiscal Position* 17 (Cornell Law Sch., Legal Studies Research Paper No. 12-04, 2012), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1987656; Robert C. Hockett, *White Paper in Support of the Nation Building Here at Home Act of 2012* 15 (Cornell Law Sch., Legal Studies Research Paper No. 12-10, 2012), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2029239.

194. By putting the NCMC team in charge of managing the public-private capital, our proposed model effectively reverses the familiar P3 pattern, in which private actors manage the money and make investment decisions. Placing a public actor in charge of managing infrastructure investments would also help to avoid the well-known and widely-criticized P3 dynamic, whereby the government bears disproportionately high implicit costs of financing certain projects by virtue of redirecting large future revenue streams to private partners. *See* KLEINBARD, *supra* note 166, at 287.

195. For instance, if cheaper foreign labor is what drives manufacturing capacity overseas, the United States might use NCMC to subsidize the wholesale adoption of robotic and 3D-printing technologies throughout the economy, while requiring recipient firms to issue new shares in themselves to the citizenry in return. For more on Ricardian comparative advantage and associated premises that figure into orthodox trade theory, see, e.g., ANDREA MANESCHI, COMPARATIVE ADVANTAGE IN INTERNATIONAL TRADE: A HISTORICAL PERSPECTIVE 10–18 (1998). The *locus classicus* is DAVID RICARDO, PRINCIPLES OF POLITICAL ECONOMY AND TAXATION (Prometheus Books 1996) (1817).

government intervention aimed at resolving network failures that hinder commercialization of technological and scientific advances.[196]

From this perspective, one might imagine numerous possibilities for a more seamlessly integrated developmental strategy.[197] Undoubtedly, identifying and operationalizing potential synergies is a complex task that raises various economic, legal, and organizational issues.[198] Our present goal is merely to suggest some possibilities for building a proactive, entrepreneurial, and development-oriented national infrastructure-financing body. As discussed above, the operations of this new public actor—both in its basic NIB version and in its more advanced NCMC version—represent a direct expansion of the government's market-levering function. However, it could also play significant market-making, market-moving, and market-backstopping roles. The NCMC model is particularly likely to act as a market-maker, by actively inducing infrastructural change that would not otherwise happen and thus creating new markets for financial instruments. Both the NIB and NCMC models could also perform the market-moving and market-backstopping functions. For example, if there were signs that demand for state or local infrastructure-related bonds was becoming either too overheated or too lackluster, making local borrowing either too easy or too expensive, an NIB/NCMC could modulate the price swings through open market operations. Alternatively, if the value of infrastructure bonds suddenly plummeted as a result of a broader market panic, an NIB/NCMC might stabilize these markets by temporarily acting as a "buyer of last resort."

---

196. For discussions of this phenomenon, see SEÁN Ó RIAIN, THE POLITICS OF HIGH-TECH GROWTH: DEVELOPMENTAL NETWORK STATES IN THE GLOBAL ECONOMY 5 (2004) (drawing a conceptual distinction between a "developmental network state" and a "developmental bureaucratic state"); Block, *supra* note 7, at 172; Matthew R. Keller & Fred Block, *Explaining the Transformation in the US Innovation System: The Impact of a Small Government Program*, 11 SOCIO-ECONOMIC REV. 629, 650 (2012).

197. For instance, it might be possible to integrate the proposed NCMC with the existing Small Business Administration ("SBA"), established in 1953, to facilitate small business formation and growth via the so-called "three Cs" of capital, contracting, and counseling. *See About the SBA*, U.S. SMALL BUS. ADMIN., https://www.sba.gov/category/navigation-structure/about-sba (last visited July 1, 2015). This combined federal instrumentality—which we tentatively call a National Investment Authority ("NIA")—would facilitate integration of both infrastructure and SBA "start-up" funding policy and programs into a more comprehensive and coherent national development strategy. We plan to examine this institutional possibility in a separate project.

198. Generally, the degree of practical feasibility and potential efficacy of the proposed NCMC structure would ultimately depend on numerous factors we did not discuss in detail here: how the NCMC is set up and integrated within the federal government's structure, what substantive and procedural rules apply to its operations, how exactly the relationship between NCMC and private investors in its funds is governed, and so on. These questions, however, are properly a subject of a separate research project.

The government's market-backstopping—or market-preserving—function, however, presents a separate set of problems, for which a separate solution may be necessary. The next section discusses one such potential solution.

C. Market-Preserving: Reinventing the "Golden Share" Mechanism

As discussed above, one of the federal government's critical functions is what we call market-preserving. Typical examples of this function include temporary, emergency-driven injections of liquidity in private markets as a last-resort mechanism for preventing such markets' imminent collapse.[199] Sometimes, however, market-preserving efforts go beyond the traditional lender or market-maker of last resort operations and involve direct capital injections into private firms whose failure is considered too potentially costly or destabilizing for the market.[200] In this capacity, the government acts as an "investor of last resort."[201] These extraordinary actions are inevitably controversial and politicized, as they make explicit the reallocation of risk and loss from specific private parties to the taxpaying public in general.[202] Bailouts are often seen as a public act of socializing losses from socially detrimental market activities that generated significant private gains for those who recklessly pursued them.

1. Bailouts, Banks, and the Public Interest

During the global financial crisis of 2008, this familiar scenario was replayed on a new scale. To prevent unravelling of the complex global network of interconnected financial markets in the fall of 2008, the US government embarked on a wide-ranging program of liquidity provision and capital support for privately-owned financial institutions.[203] As a result, the US Treasury became a self-professed "reluctant shareholder"—often a controlling one—in several private companies, including American

199. *See supra* Part II.D.

200. *See, e.g.*, William K. Sjostrom, Jr., *The AIG Bailout*, 66 WASH. & LEE L. REV. 943 (2009) (detailing the dynamics of the federal bailout of American International Group).

201. *See* Jeffrey Manns, *Building Better Bailouts: The Case for a Long-Term Investment Approach*, 63 FLA. L. REV. 1349, 1383–97 (2011) (arguing for the need to institutionalize the federal government's role as an "investor of last resort").

202. For an insightful discussion of this phenomenon, see Anna Gelpern, *Financial Crisis Containment*, 41 CONN. L. REV. 1051, 1071–76 (2009).

203. *See supra* notes 62–67 and accompanying text.

International Group (AIG), Citigroup, and General Motors.[204] From the outset, the Administration was eager to assure the American public that it did not intend to interfere in the management of the rescued companies and planned to dispose of the shares as soon as possible.[205] By the end of 2014, Treasury had exited most of its TARP equity investments.[206]

Exiting TARP investments, however, did not end the controversy around the federal government's bailout strategy. Most commentators criticized the federal government for negotiating individual deals with troubled firms on an *ad hoc* basis, which led to inconsistencies and a lack of transparency in the process and often made bailout terms economically sub-optimal from taxpayers' perspective.[207] The Great Bailout of 2008 is often characterized as an ultimate political victory for "too big to fail" financial institutions, which institutionalized their immunity from market discipline.[208] The federal government's emergency acquisition of controlling ownership stakes in private firms also raised difficult doctrinal and practical questions under US corporate laws ill-equipped to deal with the sovereign shareholder.[209] In this connection, some scholars' principal concern is with protecting minority shareholders' rights vis-à-vis the government, while others call for a more assertive exercise by the government of its shareholder rights in order to protect American taxpayers' interests.[210]

---

204. *See* OFFICE OF FIN. STABILITY, U.S. DEP'T OF THE TREASURY, AGENCY FINANCIAL REPORT: FISCAL YEAR 2009 42 (2009), *available at* http://www.treasury.gov/initiatives/financial-stability/reports/Documents/OFS%20AFR%2009.pdf.

205. *Id*.

206. *See* OFFICE OF FIN. STABILITY, U.S. DEP'T OF THE TREASURY, AGENCY FINANCIAL REPORT: FISCAL YEAR 2014 vii–ix, 12–13 (2014) *available at* http://www.treasury.gov/initiatives/financial-stability/reports/Documents/FY2014%20OFS%20AFR%20FINAL%20-%20Nov%206%202014.pdf. According to the Treasury's report, by the end of 2014, the government had fully disposed of its stakes in AIG, Citigroup, and GM, among others. *Id.*

207. *See, e.g.*, Barbara Black, *The U.S. as "Reluctant Shareholder": Government, Business and the Law*, 5 ENTREPRENEURIAL BUS. L.J. 561, 593 (2010); Lissa L. Broome, *Government Investment in Banks: Creeping Nationalization or Prudent, Temporary Aid?*, 4 FLA. INT'L U. L. REV. 409 (2009); Steven M. Davidoff & David Zaring, *Regulation by Deal: The Government's Response to the Financial Crisis*, 61 ADMIN. L. REV. 463 (2009).

208. *See, e.g.*, SIMON JOHNSON & JAMES KWAK, 13 BANKERS: THE WALL STREET TAKEOVER AND THE NEXT FINANCIAL MELTDOWN (2010); DAVID SKEEL, THE NEW FINANCIAL DEAL: UNDERSTANDING THE DODD-FRANK ACT AND ITS (*UNINTENDED*) CONSEQUENCES (2011).

209. For insightful discussions of such doctrinal and practical difficutlies, see Steven M. Davidoff, *Uncomfortable Embrace: Federal Corporate Ownership in the Midst of the Financial Crisis*, 95 MINN. L. REV. 1733 (2011); Steven Davidoff Solomon & David Zaring, *After the Deal: Fannie, Freddie, and the Financial Crisis Aftermath*, 95 B.U. L. REV. 371 (2015); Marcel Kahan & Edward Rock, *When the Government Is the Controlling Shareholder: Implications for Delaware*, 35 DEL. J. CORP. L. 409 (2010).

210. For analyses of government ownership from the shareholder perspective, see Marcel Kahan & Edward B. Rock, *When the Government is the Controlling Shareholder*, 89 TEX. L. REV. 1293

In short, in the aftermath of the latest crisis, public bailouts of private firms are widely viewed as a deeply flawed method of market-preserving. Unfortunately, they also appear to be inevitable, at least in the financial services sector in which explicitly publicly-backed banks occupy the center stage.[211] Despite policy-makers' public assurances to the contrary, there is hardly any doubt that the current regulatory framework will not prevent the next systemic crisis and that, when that crisis happens, many banks—and numerous other financial institutions inextricably connected to banks—will likely be bailed out.[212]

Banks are special in that they perform important public functions—such as providing transactional accounts, operating payments system, and serving as channels for transmission of monetary policy—and are inherently vulnerable to creditor runs.[213] But banks are also very "special" entities in a deeper, constitutive sense: though organized as privately-owned corporations, banks are quintessential public-private partnerships.[214] Unlike regular business corporations, US banks receive an expressly conditioned governmental grant of authority to conduct only the legislatively defined business of banking.[215] In effect, the government authorizes banks to perform vital public functions—creation of money and allocation of credit—for private gain.[216] Thus, banking is not a purely private economic enterprise: it is also a delegated public-policy responsibility.[217]

(2011); J.W. Verret, *Treasury Inc.: How the Bailout Reshapes Corporate Theory and Practice*, 27 YALE J. ON REG. 283 (2010). For a more taxpayer-oriented approach, see generally Black, *supra* note 207; Cheryl D. Block, *Measuring the True Cost of Government Bailout*, 88 WASH. U. L. REV. 149 (2010); Manns, *supra* note 201.

211. *See* Adam J. Levitin, *In Defense of Bailouts*, 99 GEO. L.J. 435 (2011) (arguing that it is impossible to eliminate the possibility of bailing out financial institutions posing systemic risk).

212. *See id*. at 483–84.

213. For a classic articulation of this argument, see FED. RESERVE BANK OF MINNEAPOLIS, ANNUAL REPORT 1982: ARE BANKS SPECIAL? (1982).

214. Political scientist David Ciepley makes a broader argument that all modern business corporations are properly understood as hybrid, public-private entities that are fundamentally *constituted* by the governments chartering them. David Ciepley, *Beyond Public and Private: Toward a Political Theory of the Corporation*, 107 AM. POL. SCI. REV. 139 (2013). We find this argument very persuasive and seek to emphasize, further, that financial institutions display an even deeper and more salient form of such "constitutive" hybridity inherent in the corporate form.

215. *See* 12 U.S.C. § 24 (2014) (setting forth statutory limits on the "business of banking").

216. *See* Morgan Ricks, *Money and (Shadow) Banking: A Thought Experiment*, 31 REV. BANKING & FIN. L. 731 (2012) (explaining the role of banks in money creation).

217. *Id.* at 739 ("[D]epository banks, then, are engaged in a joint venture with the government: a public-private partnership. They are licensed agents of the state, chartered for the efficient distribution of the money supply.").

The government subjects banks to relatively intrusive regulation and supervision and retains the right to revoke any bank's charter for failure to comply with its rules.[218] The federal government also explicitly guarantees privately-owned banks' debt to their depositors and commits to support banks experiencing temporary liquidity problems.[219] This explicit public guarantee inevitably "leaks" to their non-bank affiliates and trading counterparties, so that all of the major financial intermediaries in today's interconnected marketplace effectively enjoy an implicit public subsidy.[220] This subsidy is very difficult to measure and price in any individual case, partly because it is so widespread and deeply embedded in complex financial inter-linkages that it becomes almost invisible.[221] But it is not difficult to see that, in the final analysis, the government—as a representative of the taxpaying public—stands behind private financial firms' balance sheets. In fact, an individual banking institution's entire balance sheet can be viewed as a "thick bundle of contingent claims on the government."[222]

This insufficiently appreciated but fundamental fact creates a puzzling inconsistency in our commonly accepted view of the business world. Corporate law generally identifies stockholders' equity with residual risk-bearing and accepts the intuitively just principle of reserving voting and management rights in a particular enterprise to the shareholders most exposed to the risk of its failure. The intuition behind this principle is that shareholders should be able to take preventative measures lowering their risk of loss. However, when it comes to banks, it is the government—the public—that ultimately bears the most residual risk of bank failure. Yet,

---

218. *See* 12 U.S.C. § 93 (2014) (containing provisions governing termination of the rights and privileges of a national bank that commits certain violations of the National Bank Act).

219. *See, e.g.*, RICHARD S. CARNELL ET AL., THE LAW OF FINANCIAL INSTITUTIONS 60–63 (5th ed. 2013) (briefly describing the role of the Federal Reserve as the lender of last resort and the FDIC's role as the insurer of bank deposits).

220. For a discussion of certain legal aspects of this phenomenon, see Saule T. Omarova, *From Gramm-Leach-Bliley to Dodd-Frank: The Unfulfilled Promise of Section 23A of the Federal Reserve Act*, 89 N.C. L. REV. 1683 (2011).

221. For one recent estimate of this implicit subsidy, see VIRAL V. ACHARYA ET AL., THE END OF MARKET DISCIPLINE? INVESTOR EXPECTATIONS OF IMPLICIT GOVERNMENT GUARANTEES (2014), *available at* http://pages.stern.nyu.edu/~sternfin/vacharya/public_html/pdfs/endofmarketdiscipline06242014.pdf.

222. Anna Gelpern, *Common Capital: A Thought Experiment in Cross-Border Resolution*, 49 TEX. INT'L L.J. 355, 356 (2014). According to Gelpern:

> Like the public-policy functions, government commitments permeate the bank balance sheet. Central-bank liquidity support, deposit insurance, regulatory valuation of assets and liabilities, and resolution procedures all represent government commitments that shape the way in which a bank does business.

Id.

notwithstanding this most basic determinant of ownership and control rights, the government does not have any such rights in privately-owned financial institutions. Perhaps, this is so because the risk is presumed to be too remote, or because there is no specific number on the bank's balance sheet showing the exact amount of the public subsidy, or because the taxpaying public is presumed to be sufficiently protected through government regulation. In light of our post-crisis wisdom, however, these assumptions do not appear credible. The American public is inevitably and continuously exposed to risks generated by publicly-subsidized, privately-owned financial institutions: simply because it is difficult to put a single number on the amount of such subsidy or such risk does not mean they are not real.

From that perspective, a conceptually coherent way to prevent the pernicious combination of socialized losses and privatized gains in the financial sector would be to restore the natural connection between risk and control. Since it is unrealistic to expect private financial firms to internalize the systemic risks they pose, the logical solution is to formalize the public's residual risk-bearing role by granting it direct control rights in such firms.

Recognizing the public's *de facto* equity-like stake on financial firms' balance sheets can open up new possibilities for systemic crisis prevention. Instead of debating how to structure better bailouts, we can start imagining how the government can use its internal firm-management rights to prevent bailouts. In essence, this approach would reinvent the government as a "*manager* of last resort" whose goal is to avoid having to perform all other "last-resort" roles. This shift in the posture of the government—from an external source of command-and-control to an internal stakeholder—can potentially lead to greater internalization by private firms' owners, directors, and managers of a more explicitly public perspective in decision-making. This may be a difficult and gradual process but, if successful, it could serve as an effective *ex ante* alternative to bailouts and other *ex post* market-preserving measures.

2. Traditional "Golden Share" Model

The mechanism of a "special" or "golden" share in a private firm held by the government is a potentially promising precedent for operationalizing this new market-preserving, stability-enhancing technique. There is no single, legally precise definition of the golden share as a type of financial instrument. The term denotes a wide range of legal arrangements granting the government special, exclusive and non-

transferable, governance rights in privately-owned enterprises.[223] Golden shares gained popularity during the worldwide wave of privatizations of state-owned companies in the 1980s. Thus, when Margaret Thatcher's conservative government privatized large and economically significant British enterprises—including Britoil, Aerospace, British Telecom, and Jaguar—it retained a special "golden share" in each of these newly private companies, which allowed the government to out-vote other shareholders.[224] The governments of France, Turkey, Israel, and numerous post-communist countries in Eastern and Central Europe followed the British example by reserving a variety of special corporate governance and super-voting rights in privatized firms.[225]

Typically, this mechanism was used to ensure continuing national, as opposed to foreign, control over privatized companies deemed to be strategically important.[226] Governments also retained golden shares in enterprises in order to avoid or minimize the post-privatization social dislocation or political unrest.[227] The golden share was a flexible mechanism that could be adjusted to fit particular circumstances, often on a company-by-company basis.[228] The golden share gave the government disproportionate voting power with respect to the election of the company's directors and various strategic decisions affecting the operation of the company (e.g., decisions to merge, dispose of material assets, or

---

223. According to one definition:

> Golden shares can be defined as a power to veto certain changes in the corporate charter. More specifically, the term refers either to a particular class of stock or a regulatory system that gives the state a continuing power over certain fundamental corporate decisions especially with respect to formerly state owned enterprises that have been privatized.

Larry Catá Backer, *The Private Law of Public Law: Public Authorities as Shareholders, Golden Shares, Sovereign Wealth Funds, and the Public Law Element in Private Choice of Law*, 82 TUL. L. REV. 1801, 1806 n.12 (2008).

224. *See* Andrei A. Baev, *Is There a Niche for the State in Corporate Governance? Securitization of State-Owned Enterprises and New Forms of State Ownership*, 18 HOUS. J. INT'L L. 1, 20 (1995); Alice Pezard, *The Golden Share of Privatized Companies*, 21 BROOK. J. INT'L L. 85, 85 (1995).

225. *See* Baev, *supra* note 224, at 21–22 (describing the use of "golden shares" in various countries).

226. *See* Pezard, *supra* note 224, at 86–87. The "national interest" in these cases typically covered activities linked to national security (defense industry), economic protection (energy supplies), and transportation and infrastructure (airlines, railroads, etc.). *Id.* In most European countries, the golden share allowed the government to block foreign acquisitions of corporate control in nationally important companies. *Id.*

227. *See* Baev, *supra* note 224, at 36–38 (describing the "politically sensitive" rationale).

228. *See* Stefan Grundmann & Florian Möslein, *Golden Shares: State Control in Privatised Companies: Comparative Law, European Law and Policy Aspects*, 2001 EUR. BANKING & FIN. L.J. 623.

enter or discontinue a particular line of business).[229] According to one commentator:

> Applying this technique, governments can effectively monitor privatized enterprises without retaining a controlling equity stake in them. Contrary to conventional shares, the golden share provides governments with the power to monitor the ordinary *commercial* activity of a corporation in addition to the standard power of corporate governance.[230]

The government's ability to affect directly a private firm's substantive business decisions—while not necessarily holding a majority (or even any) economic equity stake—is a particularly promising feature of the golden share as a potential model for designing a new mechanism for preventing systemic financial crises. The latest financial crisis demonstrated the danger of relying on private financial institutions' internal risk management and individually rational decision-making to ensure systemic stability. Formal regulatory oversight of financial institutions' activities, at least in its current form, also has significant limitations, especially given the pervasiveness of regulatory arbitrage and the increasing complexity and opacity of financial products and transactions.[231] As market "outsiders," financial regulators perennially lag behind private market participants in their ability to access and process vital market information, and their ability to act is inherently limited by various jurisdictional constraints.[232]

By contrast, giving the government a direct equity stake with special management rights in financial-service firms—that is, making the government a firm insider—would remove many of these legal and informational obstacles. As a special shareholder with uniquely tailored rights, the government would acquire the new capacity to take speedy and effective action necessary to counteract socially harmful and thus irrational effects of pure market rationality. In that sense, this arrangement would operate as an explicitly proactive and preventative form of the government's traditional market-preserving role.

---

229. *See* Baev, *supra* note 224, at 23–27 (enumerating key characteristics of the golden share).

230. *Id*. at 27.

231. For a discussion of the role complexity plays in reducing the efficacy of the current regulatory regime, see Saule T. Omarova, *License To Deal: Mandatory Approval of Complex Financial Products*, 90 WASH. U. L. REV. 63, 68–78 (2012).

232. *See* Saule T. Omarova, *Wall Street as Community of Fate: Toward Financial Industry Self-Regulation*, 159 U. PA. L. REV. 411, 431–38 (2011).

To many, the very idea of making the federal government a direct equity owner in private financial firms may appear too radical, unworkable, or even dangerous. As is true for any novel proposal, it raises potentially difficult questions of legal doctrine, administrative design, and economic practicality. This Article does not seek to offer answers to all of those questions. Our more modest goal is to sketch out a broad outline for re-purposing the golden share as a new tool of ensuring systemic financial stability and minimizing the likelihood of financial crises. How might this new mechanism work?

3. SGS Mechanism: Outline of the Proposal

The creation of the golden share mechanism would require an act of Congress. The main operative provision of the enabling statute would mandate issuance by each "Covered Entity" of a single share of a special class—"State Golden Share" or "Special Government Share" ("SGS")—to be beneficially and legally owned, exclusively and at all times, by the federal government in its capacity as the "SGS Holder."

The definition of "Covered Entity" could include all financial institutions, by referencing either their regulatory status (broker-dealers, FDIC-insured depository institutions, etc.) or the predominantly financial nature of their business activities.[233] Alternatively, Congress may limit the definition to systemically important financial institutions ("SIFIs").[234] This approach would allow the government to concentrate its efforts only on the firms determined to pose risks to systemic stability, but its practical efficacy depends on the accuracy of that notoriously difficult judgment.[235] With respect to financial conglomerates, it is critical that the government hold the golden share in the top-level holding company, where all strategic group-wide decisions are typically made and all group-wide data are

233. There are numerous legal formulations of the nature-of-activities requirement ("substantially" financial, "predominantly" financial, etc.) and the criteria for determining whether a firm meets it. Typically, the rules focus on the composition of the company's total consolidated assets, revenues, and/or income. *See, e.g.*, 12 U.S.C. § 5311(a) (2014).

234. The statute could incorporate by reference a particular definition of SIFI under existing regulations. *See* Financial Stability Oversight Council, 77 Fed. Reg. 21,637 (Apr. 11, 2012) (to be codified at 12 C.F.R. pt. 1310).

235. Under the Dodd-Frank Act, the newly created Financial Stability Oversight Committee ("FSOC") is charged with determining whether a particular non-banking financial company is systemically important enough to be regulated by the Federal Reserve. To date, the FSOC has made only a few such official determinations, some of which have been challenged by the affected companies. *See, e.g.*, Warren S. Hersch, *MetLife Objects to SIFI Designation by FSOC*, LIFEHEALTHPRO (Dec. 18, 2014), http://www.lifehealthpro.com/2014/12/18/metlife-objects-to-sifi-designation-by-fsoc.

aggregated and assessed. To avoid unnecessary duplication, it may make sense not to hold golden shares in subsidiaries of the same holding company.[236]

Because SGS is a federally-created instrument, its terms do not have to comply with the requirements of state corporate laws, and its holder's rights and obligations can be vastly different from those of a regular corporate shareholder. The greatest challenge in designing SGS is to find a proper balance of public and private interests within the context of a functioning economic enterprise. In principle, we envision the SGS as a dynamic mechanism, a sliding scale of management rights triggered by specified events. The SGS should be viewed as a form of conditional rather than absolute, temporary rather than permanent, and calibrated rather than uniformly predetermined government control over the Covered Entity's internal governance.

Unlike conventional shareholders, the SGS Holder would not have to make a capital contribution in exchange for its golden share and, generally, would not receive any dividends or distributions.[237] Unless and until one or more of the specified triggering events happen, the SGS is meant to remain largely a passive instrument. In this period of dormancy, the SGS Holder would not be expected or entitled to exercise any direct management rights in the firm. Its rights would be primarily of an informational and representational nature. It is crucial, however, that the SGS Holder have a broad right of direct and timely access to the firm's internal information.[238] Private firms' right to preserve, within reasonable limits, confidentiality of their business information would have to be

236. This approach may also be preferable as a scope-limiting device because it is based on the organizational criteria rather than the qualitatively complex SIFI determination. Under this approach the statute would have to preclude entity arbitrage designed to shift strategic information-gathering and decision-making functions into corporate layers below the top parent-company.

237. The SGS can have nominal value of $1.00, at which it would be carried on the Covered Entity's balance sheet. This nominally-valued instrument would not entitle the government to any economic rights of a conventional shareholder, such as the right to receive dividends or distributions. This important feature distinguishes the proposed SGS mechanism from the more familiar instances of government acquiring control through purchase of a majority equity stake in a firm. Structuring the SGS as primarily (if not exclusively) a control instrument underscores its quasi-regulatory nature and highlights the government's role as a collective actor seeking to resolve certain market dysfunctions, as opposed to seeking pecuniary gains. However, if the government later deems it necessary to contribute capital to a Covered Entity, it should receive statutorily specified economic rights.

238. Financial institutions zealously guard their "proprietary" information, partly because they fear that competitors would copy or otherwise thwart their trading or investment strategies, and partly because opacity and complexity of their "branded" financial products effectively allow these institutions to extract monopoly rents. For an explanation of this phenomenon of "strategic complexity," see Dan Awrey, *Complexity, Innovation, and the Regulation of Modern Financial Markets*, 2 HARV. BUS. L. REV. 235, 262–67 (2012); Omarova, *supra* note 231, at 68–75.

balanced against the government's right to know what it needs to know to protect the public from financial harm.[239]

To take full advantage of its informational rights, the SGS Holder must have permanent representation on the Covered Entity's board of directors. The enabling statute will need to delineate the rights and duties of special SGS-appointed directors ("SGS Directors"), in line with the overarching objectives of the SGS regime.[240] SGS Directors are not the same as independent directors, with their presumed neutrality and objectivity, primarily inferred from their lack of direct financial interest in the firm. They are representatives (and employees) of the US government, and their primary fiduciary duties should run to the taxpaying American public. If necessary, SGS Directors would have a right to request additional information from the firm's management or agents.[241] It may also be desirable to grant SGS Directors certain "baseline" special voting rights that remain in effect at all times, even when the SGS is otherwise "dormant." In parallel to the traditional golden share mechanism,[242] SGS Directors' approval may be required for certain important corporate decisions—although the emphasis here should be primarily on matters related to systemic financial stability.[243]

Generally, SGS Directors would function as our collective eyes and ears on financial institutions' boards, the embodiment of the government-as-market-actor striving to correct private markets' potentially destabilizing and socially destructive "natural" tendencies.[244] It is reasonable to expect that their watchful presence and explicitly systemic perspective would significantly improve boardroom dynamics and alter

239. The private firms' interest, while subordinated in principle to the public interest, can be reasonably protected through carefully designed procedural mechanisms limiting the SGS Holder's ability to use or disclose particularly sensitive trade information to other market participants.

240. How many SGS Directors should be appointed in any particular case would depend on the individual profile, size, and other relevant circumstances of each Covered Entity. The idea here is to have a *special class* of directors with special class-specific rights that, under certain circumstances, may override purely numeric voting outcomes.

241. The statute should expressly prohibit Covered Entities from taking any action whose intended or unintended effect would be to limit SGS Directors' access to information or participation in decision-making processes.

242. *See* sources cited *supra* notes 223–27 and accompanying text.

243. The SGS Directors' approval could be required whenever the Covered Entity's board of directors approves the management's strategic business plan for the company, adoption of an executive compensation program, or appointment of external auditors. The government entity acting as SGS Holder will determine which matters are significant enough to require SGS Directors' review and pre-approval, based on a particular firm's business/risk profile, systemic footprint, and any other relevant considerations.

244. *See supra* notes 103–10 and accompanying text.

the balance of power between financial firms' boards of directors and managers.

The occurrence of specified events would trigger additional special rights of SGS Holder. Statutory triggering events would effectively activate the SGS Holder's direct management rights, shifting the entire mechanism from its relatively passive "peacetime" state into the actively participatory high-alert phase. Devising a precise hierarchy of statutory triggers and corresponding SGS rights is a challenging and intensely technical exercise that goes beyond the scope of this Article. Nevertheless, it is helpful to outline some of the potentially relevant considerations.

In principle, the choice of SGS triggers should be tied to the main policy objective of the new regime: preserving systemic financial stability and preventing excessive accumulations of risk in the financial sector. Special SGS rights should be activated in response to certain internal and external signals indicating potentially greater likelihood of increasing systemic risk or instability. Some of the familiar regulatory and supervisory metrics—capital adequacy levels, supervisory ratings, or stress test results—can easily double as proxies for triggering additional SGS rights. Serious problems with a Covered Entity's legal and regulatory compliance, financial reporting, or internal risk management should also serve as triggers for escalating the SGS Holder's level of managerial control.[245] Perhaps of even greater importance are signs of emerging trends in a particular Covered Entity's business strategy and overall risk appetite. For example, special SGS rights can be triggered by a potentially problematic shift in a Covered Entity's business and risk profile, as a result of either acquisition-driven growth or an internally-driven change in the composition or nature of its assets and liabilities.[246]

245. The trigger may be an obvious case of legal misconduct or regulatory violation, such as participation in a price-rigging scheme or fraudulent accounting practices. Examples include recent scandals involving analyst research conflicts of interest, LIBOR and foreign exchange rates manipulation, or "robo-signing" and other illegal home loan foreclosure practices of large US banks. A particular firm implicated in, or subject to investigation in connection with, any such scandal would risk immediate triggering of additional SGS management rights. The SGS rights may also be triggered in response to a series of less egregious violations indicating a troublesome pattern of the management's failure to ensure compliance with laws and regulations.

246. Potential tell-tale signs may include rapid growth of particular asset categories in a Covered Entity's or its key subsidiaries' portfolios (e.g., certain types of ABS), a discernible increase in the volume or riskiness of certain types of off-balance-sheet transactions (e.g., credit default swaps), or rising levels or changing tenor of the company's or its key subsidiaries' liabilities (e.g., increased reliance on borrowing in wholesale securities repurchase markets).

Size-related metrics may be particularly useful as potential triggers.[247] Any absolute quantitative size trigger should be set at the level that would pick up all financial institutions that are potentially "too big to fail" ("TBTF"). This threat of potentially intrusive governmental "meddling" in large firms' internal business affairs may operate as a significant deterrent against becoming TBTF.

Enhanced SGS rights might also be triggered simultaneously across all Covered Entities (or their relevant subset) by sudden accelerations in credit growth across the financial system, which may indicate excessive build-up of risk and leverage feeding a speculative asset bubble. The government could arrest this potentially destabilizing systemic trend by exercising its special SGS rights to veto or slow down certain kinds of lending (or borrowing) activities pursued by individual firms. Building external triggers into the SGS mechanism would enhance its utility as a complement to the government's regulatory efforts.[248]

Defining and applying SGS triggers is a challenging and context-specific exercise that requires an individualized assessment of all relevant factors. It is, therefore, critical to allow the SGS Holder a significant degree of discretion in deciding when exactly its special rights should be triggered, and how exactly they should be used. To ensure accountability, the enabling statute will need to provide both a clear normative basis for the exercise of discretion[249] and a robust procedural framework for making entity-specific SGS trigger determinations.[250]

In the post-trigger mode, the government would essentially assume its (temporary) role as the manager of last resort. In this role, the SGS Holder would have broad veto powers allowing it to block any decision by a

247. Under current regulations, financial institutions with more than $50 billion in total consolidated assets are generally presumed to be systemically important. Non-banking financial companies that meet this size threshold are further evaluated for systemic significance based on a mix of quantitative and qualitative criteria. *See, e.g*., Financial Stability Oversight Council, 77 Fed. Reg. at 21,659.

248. Thus, SGS Holder's demand that individual firms raise more equity as a condition to continuing their lending activities would function as an internal-governance complement to regulatory "dynamic provisioning" and counter-cyclical capital buffer requirements.

249. Because correct and timely recognition and interpretation of market signals is inherently difficult, it is important to introduce an explicitly precautionary principle into this exercise. For a discussion of the role of precautionary principle in financial services regulation, see Hilary J. Allen, *A New Philosophy for Financial Stability Regulation*, 45 LOY. U. CHI. L.J. 173 (2013).

250. Generally, accountability-enhancing procedural rules are a well-established and familiar element of regulatory design. In devising such rules for the SGS regime, one may be able to draw on a variety of existing examples.

Covered Entity's board or shareholders.[251] It would have the right to call shareholder meetings with specific agenda.[252] In practice, the SGS Holder would likely act through the firm's serving SGS Director(s), transforming their role from that of passive monitors to that of active decision-makers. In effect, SGS Directors would take control of the board's actions.[253] Generally, they would have a right to impose temporary moratoria on shareholder distributions and major corporate transactions; to suspend or remove any manager or officer of the firm; to call special board meetings with specific agenda; and to propose specific resolutions for the board's vote.[254] For instance, SGS Directors could propose board resolutions halting specific high-risk trading or investment activities, reducing the firm's risk exposure by selling certain assets or unwinding trading positions, revising internal policies and procedures governing activities in question, raising more equity and reducing the firm's leverage, and suspending or replacing individual managers or executive officers. If these measures prove insufficient to resolve and prevent likely recurrence of the firm's problems, SGS Directors could propose to the board a resolution mandating sale of certain subsidiaries or segments of the firm's business—a measure that could effectively break up a TBTF entity. If, on the other hand, the less drastic corrective measures work, so that the degree of systemic risk posed by the Covered Entity's activities is reduced below the statutory trigger level, the SGS would revert to its dormant state and SGS Directors would relinquish their special rights, in accordance with the procedure specified in the statute.

While it is possible to vest the SGS Holder responsibilities in one of the existing financial regulators, such as the Federal Reserve or FDIC, it is preferable to establish either a new federal agency or a federally-chartered

---

251. Of course, the government should not exercise its broad veto rights indiscriminately. The idea is simply to give the government the necessary flexibility to take whatever measures are called for under the circumstances.

252. It may be desirable to grant the SGS Holder super-majority voting power, but only with respect to matters that are expressly determined by the SGS Holder to be critically important for the preservation of the long-term stability of the US financial system. The statute would have to establish procedural rules that the SGS Holder, or any of its agents, must follow in making the required determination of "critical importance."

253. The extent, nature, and specific mechanisms of such control would depend on the nature and severity of the SGS-triggering concerns and other relevant circumstances.

254. Again, it may be desirable to grant SGS Directors super-majority voting power with respect to matters expressly determined to be critically important for the preservation of the long-term stability of the US financial system, as provided in the enabling statute. *See* sources cited *supra* note 249 and accompanying text.

government corporation to act as the SGS Holder.[255] It may be desirable to combine the functions of the SGS Holder and those of the NCMC, discussed earlier, in a single government entity.[256] If designed properly, this new combined entity can effectively become the institutional embodiment of the modern developmental finance state.[257] That, however, is the next stage in our model-building process.[258] Generally, institutional design choices—i.e., deciding which specific government actor should perform the proposed functions, how it should be organized and governed, and how it should interact with other public and private entities—are critically important elements of our vision of a developmental finance state. They are also sufficiently complex to deserve a separate, more nuanced treatment.

At this stage, our goal was to sketch out some of the principal elements of an SGS mechanism that builds on, but goes beyond the limited confines of, Europe's original "golden share" arrangements.[259] Our proposal raises many questions and leaves many details to be filled in at a later point.[260] It

255. The choice between a federal agency and a government corporation has significant consequences. The US federal government has a long history of chartering special government corporations, many of which operate under a unique set of privileges and constraints. *See, e.g.*, Lebron v. Nat'l R.R. Passenger Corp., 513 U.S. 374, 384–91 (1995) (describing the history of Amtrak and other government-chartered corporations). For an analysis of the functions and organizational structures of government corporations and quasi-governmental entities, see A. Michael Froomkin, *Reinventing the Government Corporation*, 1995 U. ILL. L. REV. 543; Anne J. O'Connell, *Bureaucracy at the Boundary*, 162 U. PA. L. REV. 841 (2014); Benjamin A. Templin, *The Government Shareholder: Regulating Public Ownership of Private Enterprise*, 62 ADMIN. L. REV. 1127 (2010).

256. We briefly suggested setting up such an umbrella agency—a National Investment Authority, or NIA—when discussing the NCMC model. *See supra* note 197 and accompanying text. NCMC and the SGS Holder are fundamentally similar in their missions and their primary mode of action as endogenous financial market participants. NCMC's investment operations could serve as the source of independent financing of the SGS Holder's activities. NCMC's focus on financing and guiding nation-wide economic development and the SGS Holder's focus on preserving financial and economic stability are complementary, which bodes well for the emergence of a shared institutional culture.

257. To be effective, this new entity would have to (1) have the necessary technical and financial-management expertise, (2) be democratically accountable but sufficiently insulated from political pressure, and (3) be able to resist "capture" by private interests. For an insightful discussion of the many forms of regulatory capture and potential ways of minimizing its harmful effects, see James Kwak, *Cultural Capture and the Financial Crisis*, *in* PREVENTING REGULATORY CAPTURE: SPECIAL INTEREST INFLUENCE AND HOW TO LIMIT IT 71 (Daniel Carpenter & David A. Moss eds., 2014); Lawrence G. Baxter, *"Capture" in Financial Regulation: Can We Channel It Toward the Common Good?*, 21 CORNELL J.L. & PUB. POL'Y 175 (2011); Lawrence G. Baxter, *Understanding Regulatory Capture: An Academic Perspective From the United States*, *in* THE MAKING OF GOOD FINANCIAL REGULATION 53 (Stefano Pagliari ed., 2012).

258. We plan to elaborate further on the proposed NIA structure in subsequent work.

259. *See* sources cited *supra* notes 223–30 and accompanying text.

260. An important set of issues that needs to be addressed in greater detail concerns the relative rights of private shareholders in Covered Entities vis-à-vis the SGS Holder. The federal government's emergency equity investments under TARP raised difficult issues regarding the availability of judicial

may ultimately prove to be too difficult or politically toxic to implement in practice. Yet, it may also be more plausible than the critics are willing to acknowledge. At the very least, it suggests a new direction for the important debate on the complex relationship between public and private, states and markets, finance and development.

CONCLUSION

In this Article, we have sought to begin the much-needed process of deep rethinking of the federal government's role in today's financial markets. We have argued that, contrary to the dominant narrative, the government is not merely an exogenous force acting upon private financial markets in its traditional supervisory or constitutive capacity. The government is also an endogenous force acting within financial markets in a directly participatory capacity. Not only does it correct pervasive market failures and provide vital public goods, but it also creates, moves, amplifies, and preserves private markets in ways that enhance these markets' potential to serve important long-term public interests—interests that do not always fit neatly under the orthodox categories of public goods provision and market failure.

All too often, however, this proactive market-actor role of the government is taken for granted and invisible, so its transformative potential remains hidden and unappreciated as well. This Article has tried to shed some light both on the existing forms of the government-as-market-actor modality and on potential ways to expand the government's market-actor toolkit in pursuit of the more ambitious goal of continuous and stable long-term national development.

Our proposals for expanding the range and increasing the intensity of the government-as-market-actor modality are unorthodox, ambitious, and bound to attract criticism. Some critics may, intentionally or unintentionally, misconstrue our concept of a developmental finance state as a direct attack on free market enterprise and advocacy of socialist central planning—both of which are commonly thought of as fundamentally un-American. Any such inference would be incorrect. The idea of a strong, visionary state mobilizing, augmenting, and channeling

---

and administrative review of the government's actions in its new capacity as a controlling shareholder. Many scholars emphasized the need to protect private shareholders against the government-shareholder's politically-driven actions that could negatively affect the corporation's profitability. *See* sources cited *supra* notes 209–10. We recognize the significance of addressing these legal issues for the viability of the SGS regime and intend to do so in subsequent work.

private finance toward economic projects critical to the nation's long-term development and growth is deeply rooted in US history. The country's first Treasury Secretary, Alexander Hamilton, was the first modern statesman to devise a comprehensive developmental strategy for the American Republic. At the heart of Hamilton's strategy was the creation of a strong public-private system of finance that would, on the one hand, underwrite federal monetary control and credit allocation and, on the other hand, aggregate and channel vital resources toward building American industry and trade. In essence, Hamilton's vision was that of an emerging developmental finance state. In this Article, we seek to reclaim this uniquely American heritage.

Other predictable criticisms might proceed along the familiar lines brilliantly identified by Albert Hirschman as the "perversity," "futility," and "jeopardy" theses:

> According to the *perversity* thesis, any purposive action to improve some feature of the political, social, or economic order only serves to exacerbate the condition one wishes to remedy. The *futility* thesis holds that attempts at social transformation will be unavailing, that they will simply fail to "make a dent." Finally, the *jeopardy* thesis argues that the cost of the proposed change or reform is too high as it endangers some previous, precious accomplishment.[261]

To the extent that these arguments, commonly encountered in the debate on financial sector regulation, represent self-interested or ideologically-driven reactions to progressive change, they rarely generate a productive intellectual exchange. This is not to say, however, that we consider our task completed. We are fully mindful that important further details must be elaborated, ambiguities resolved, and potential legal and administrative issues addressed before our broadly outlined vision could become more of a blueprint for action. We plan to continue that work. For now, a constructive debate on the pros and cons of what we have called here a developmental finance state would be a significant step toward a better understanding and appreciation of the role of public actors in private markets.

---

261. ALBERT O. HIRSCHMAN, THE RHETORIC OF REACTION: PERVERSITY, FUTILITY, JEOPARDY 7 (1991).