INVESTORS, FINANCIERS, AND ENTREPRENEURS: SOVEREIGN CAPITAL AS A TOOL OF INDUSTRIAL POLICY

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ABSTRACT

In February 2025, President Donald J. Trump signed Executive Order 14196, mandating the creation of a U.S. sovereign wealth fund—a move that signaled a potentially profound shift in American economic policy. Long viewed with skepticism as a form of central planning, industrial policy is reemerging as a legitimate and necessary tool for national development. This resurgence reflects a broader bipartisan recognition that the U.S. government must play a more active role in shaping the economy in the face of global competition, technological disruption, and systemic vulnerabilities exposed by recent crises. The decision to establish a national sovereign wealth fund marks a pivotal moment in this transformation, raising urgent questions about how best to design and deploy public investment institutions.

This Article argues that institutional design is central to the success of any industrial strategy. It offers a taxonomy of three principal institutional models for deploying state capital—sovereign wealth funds, national development banks, and state holding companies—and analyzes representative case studies from Norway, Germany, and Singapore to illustrate each model's strengths and limitations. It then maps the fragmented landscape of public investment entities in the United States, highlighting both their potential and their constraints. Building on this analysis, the Article outlines a proposal for the creation of a National Investment Authority, a more versatile and multi-functional federal institution that would integrate and amplify the best features of existing models.

The Article's insights have significant public policy implications. By framing public investment as a technical design challenge rather than an ideological battleground, it opens the door to pragmatic solutions for revitalizing American industrial capacity. The proposed NIA offers a flexible, scalable framework for deploying sovereign capital in support of strategic national priorities—from infrastructure and innovation to economic resilience and geopolitical competitiveness. As the U.S. redefines its approach to industrial policy, this Article provides a blueprint for building institutions capable of channeling public capital toward long-term national prosperity.

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INTRODUCTION

On February 3, 2025, the newly re-elected President Trump signed an Executive Order charging the heads of his Treasury and Commerce Departments with the task of creating a sovereign wealth fund "to promote the long-term financial health and international leadership of the United States."[1] According to the Treasury Secretary Scott Bessent, the fund would "monetize the asset side of the U.S. balance sheet" and put the nation's vast wealth "to work for Americans."[2] While conspicuously short on details, the announcement marked a potentially massive shift in the U.S. economic policymaking. Until that time, the creation of a stand-alone federal entity for the explicit purpose of investing sovereign capital "in great national endeavors"[3] seemed politically untenable, no matter which party held power in Washington, D.C. For decades, the idea of using the government apparatus for programmatic public investment has been eyed with suspicion as dangerously close to central planning and the inefficient industrial policy associated with it. Numerous legislative proposals to establish some version of a public infrastructure fund or federal investment bank languished and died on Capitol Hill, as generations of politicians shied away from association with these supposedly radical ideas.[4] The very term "industrial policy" became a taboo in U.S. policy circles as something inimical to the American tradition of free-market capitalism.[5]

This was, and continues to be, a costly misconception. Industrial policy is not an ideological commitment; it is an umbrella term for concerted government efforts to shape the national economy through targeted support of specific domestic industries, firms, or markets.[6] States around the world have long used industrial policy tools to develop new or modernize existing productive capacities, often as part of their nation-building (or re-building) strategies.[7] In this sense, industrial policy is closely related to, and often coextensive with, developmental policy. Post-World War II remaking of Japan's economy, followed by the rise of export-led East Asian "Tigers"—South Korea, Taiwan, and Singapore—vividly exemplify the potency of proactive state industrial

1. Exec. Order No. 14196, A Plan for Establishing a United States Sovereign Wealth Fund, 90 Fed. Reg. 9181 (Feb. 10, 2025).
2. *See* Kathryn Watson, *Trump Orders the Creation of a U.S. Sovereign Wealth Fund. Here's What That Means.*, CBS NEWS (Feb. 3, 2025), https://perma.cc/JM6W-JPAV.
3. Fact Sheet: President Donald J. Trump Orders Plan for a United States Sovereign Wealth Fund, THE WHITE HOUSE (Feb. 3, 2025), https://perma.cc/H593-BZSW.
4. *See* WILLIAM J. MALLETT, CONG. RSCH. SERV., IF12585, NATIONAL INFRASTRUCTURE BANK: PROPOSALS IN THE 118TH CONGRESS (2024); WILLIAM J. MALLETT, CONG. RSCH. SERV., IF11608, NATIONAL INFRASTRUCTURE BANK: PROPOSALS IN THE 117TH CONGRESS (2021).
5. *See* Antonio Andreoni & Ha-Joon Chang, *The Political Economy of Industrial Policy: Structural Interdependencies, Policy Alignment and Conflict Management*, 48 STRUCTURAL CHANGE AND ECON. DYNAMICS 136 (2019).
6. *See* Ruchir Agarwal, *Industrial Policy and the Growth Strategy Dilemma*, INT'L MONETARY FUND (Sep. 2023), https://perma.cc/KVG7-3GU8.
7. *See* Willy C. Shih, *The New Era of Industrial Policy Is Here: Are You Prepared?* HARV. BUS. REV. (Sep. 2023), https://perma.cc/FLR6-VUWG.

policies as an engine of rapid domestic growth and innovation.[8] Such policies have also been tremendously influential from a geopolitical perspective. The 1986 launch of the Chinese government's High-Tech Development Plan, for example, was a critical step toward making China the global economic power it is today.[9] And in the United States, the Apollo space program remains one of the greatest successes of geopolitically driven industrial policy in recent history.[10]

Today, industrial policy—in substance, if not in name—is once again on the U.S. public policy agenda, for reasons that are both practical and pressing.[11] In the wake of the COVID-19 pandemic, which exposed multiple structural vulnerabilities of the U.S. economy, industrial policy emerged as one of the key features of the Biden Administration's economic strategy.[12] The Inflation Reduction Act[13] and the CHIPS and Science Act,[14] two signature pieces of Biden-era legislation, set aside billions of dollars to incentivize private investment in technologically advanced industries, including semiconductor manufacturing and clean energy. The subsequent Trump Administration has forcefully pivoted to trade policy, using tariffs as its preferred tool of boosting domestic manufacturing and strengthening the U.S. competitive position, both of which are traditional goals of industrial policy.[15] In a move highly unusual for peacetime U.S. politics, it also took equity stakes and "golden shares" in strategically significant private companies, including Intel and U.S. Steel.[16] Notwithstanding the contrasting rhetoric and shifting sectoral priorities, these actions reveal emergent

8. *See generally* 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); ALICE AMSDEN, ASIA'S NEXT GIANT: SOUTH KOREA AND LATE INDUSTRIALIZATION (1989); PETER EVANS, EMBEDDED AUTONOMY (1995).

9. *See generally* EVAN FEIGENBAUM, CHINA'S TECHNO-WARRIORS: NATIONAL SECURITY AND STRATEGIC COMPETITION FROM THE NUCLEAR TO THE INFORMATION AGE (2003) (describing China's creation of its industrial R&D policy).

10. *See* Christian Totti & Mark Massa, *Lessons from Apollo: Industry and Great-Power Competition*, ATLANTIC COUNCIL (July 26, 2019), https://perma.cc/N3T3-9DAR.

11. *See* Barry Eichengreen, *Industrial Policy Is Back – Should We Welcome Government Intervention?*, THE GUARDIAN (Oct. 9, 2023), https://perma.cc/XW2P-SURB.

12. *See Bidenomics Is Working: The President's Plan Grows the Economy from the Middle Out and Bottom Up—Not the Top Down*, THE WHITE HOUSE (June 28, 2023), https://perma.cc/35E7-D7NP.

13. Pub. L. No. 117-169, 136 Stat. 1818 (2022) (codified in scattered sections of 23, 26, 30, 42, and 43 U.S.C.).

14. Pub. L. No. 117-167, 136 Stat. 1366 (2022) (codified as amended in scattered sections of 15, 26, and 42 U.S.C.).

15. *See* KEIGH E. HAMMOND & WILLIAM F. BURKHART, CONG. RSCH. SERV., R48539, PRESIDENTIAL 2025 TARIFF ACTIONS: TIMELINE AND STATUS (2025).

The purpose of this Article is not to endorse or challenge any particular U.S. Presidential Administration's trade or investment policy. These actions are used to illustrate the broader trends in U.S. politics since 2020.

16. *See* Sujai Shivakumar, Charles Wessner, & Christina Tutino, *Understanding Federal Equity Investment in Strategic Companies*, CSIS (Feb. 12, 2026), https://perma.cc/8EHF-RWJA (discussing the Trump Administration's strategy of acquiring equity stakes in private companies).

continuity in the broader normative stance toward industrial policy as a necessary and legitimate area of government action. Beneath the noisy surface of current politics, there is a live national project of defining and implementing America's new industrial policy.

The decision to establish a sovereign wealth fund—a specialized investment arm of the federal government—is an integral part of this process. As of time of this writing, it is difficult to predict how any such fund would operate or perform in practice. But the fact that such an entity has been officially announced as a national policy priority brings to the fore the fundamental questions about the optimal role, scope, and scale of public investment in the U.S. economy. These are not idle or politically coded questions. Contrary to popular stereotypes, public entities are exceptionally well situated to perform certain essential market functions by enabling, augmenting, and stabilizing the flow of capital to productive economic enterprise.[17] The government's vast resources, long investment horizons, high risk tolerance, and ability to prioritize non-pecuniary returns make it a natural "market contrarian," a critically important role in fast-moving and contagion-prone financial markets. These advantages make sovereign investors a reliable source of patient capital for business firms and infrastructure projects, which helps to maintain a healthy balance in a financial system based on competitive pursuit of private profit. As direct participants in financial markets, public investment institutions can fill persistent gaps in capital allocation by absorbing financial risks that private investors are unwilling to bear, coordinating and scaling market activities across sectoral and geographic lines, and explicitly incorporating societal interests—including systemic stability, job creation, and national security—in allocative decisions. It is difficult to overestimate the importance of these unique capabilities of sovereign capital in today's era of rapid innovation, rising geopolitical tensions, and increasing market complexity.

Crucially, these capabilities exist only within, and as attributes of, concrete institutional structures. The choice of institutional form for carrying out public investment can make or break the entire endeavor: if the vehicle wielding the sovereign's potentially enormous financial power is poorly equipped to deliver the intended public benefits, its actions may be economically and politically detrimental. Up until now, the U.S. government's practice has been to inject public capital into the economy through such traditional fiscal policy channels as grants, loans, and other subsidies funded by Congress and administered by federal agencies with substantive mandates outside investment management: U.S. Departments of Energy, Transportation, Agriculture, and so forth. However well these programs might have served the purpose of stimulating certain research and production activities within specific industries, these agencies' ability to deploy sovereign capital is inherently constrained. The funding for these loans and grants directly depends on the notoriously unpredictable budget politics in Congress, and the scope of each agency's investment activities is bound by its subject-matter jurisdiction. By contrast, a dedicated public investment institution can be designed to have more flexibility, both

17. *See* Robert C. Hockett & Saule T. Omarova, *Public Actors in Private Markets: Toward a Developmental Finance State*, 93 WASH. U. L. REV. 103 (2015) (examining public entities' core functions as financial market participants).

financially and administratively, to target capital needs of multiple industries and to tailor the conditions under which public resources are deployed.

Of course, designing such an institution is a challenging task, especially given how much is at stake for the American people. The logical starting point in any such project is to review the accumulated international and domestic experiences with various institutions of public investment. There is currently plenty of information and academic writing on this topic, but the bulk of this literature comprises either descriptively rich individual case studies or broadly drawn assessments of various aspects of these entities' history and operations.[18] To date, there has not been a systematic scholarly exploration of public investment as an *institutional design problem*.

This Article aims to fill that gap. It focuses on the choice of a specific *institutional form* as a determining factor in sovereign capital's ability to shape the economy. The Article makes three principal contributions to the current academic and policy debate.

First, it offers a taxonomy of principal institutional forms that have been employed as stand-alone instrumentalities of developmental and industrial policies. Without claiming to provide an exhaustive analysis of this diverse institutional universe, the Article breaks it into three main categories: sovereign wealth funds (SWF), national development banks (NDB), and state holding companies (SHC).[19] Within each category, it focuses on a specific case study illustrative of the relevant institutional model's principal strengths and weaknesses: Norway's SWF model,[20] Germany's NDB model,[21] and Singapore's SHC model.[22] These case studies provide a useful baseline for categorizing multiple public investment entities currently operating in the United States, primarily at the state and local levels.[23] Using concrete examples, the Article both highlights this essential facet of America's "hidden developmental state"[24] and exposes its built-in limitations as agent of national industrial policy.

Second, the Article develops a conceptual framework for designing effective institutions of public investment. As part of the general taxonomic exercise, it pinpoints three pivotal decision junctures in the design process—how the institution will be financed, how it will invest, and how to hold it democratically accountable for its actions—and emphasizes principal options and tradeoffs confronting

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18. This is not a judgment on the quality of this wide-ranging literature but an observation on its typical choice of the lens. For a sample of relevant scholarship, see sources cited *infra* Parts II-III.

19. In analyzing global experience, the Article discusses only national-level financial institutions, as opposed to multinational or sub-national entities. The discussion also excludes traditional government agencies that may disburse appropriated government funds for industrial policy purposes as part of their broader sectoral mandate. The focus here is on specialized institutions of public investment.

20. *See infra* Section I.A.

21. *See infra* Section I.B.

22. *See infra* Section I.C.

23. *See infra* Part II. As of early 2025, a total of 23 states had reportedly set up public investment funds of some kind. *See supra* note 3.

24. *See* Fred Block, *Swimming Against the Current: The Rise of a Hidden Developmental State in the United States*, 35 POLITICS & SOCIETY 1 (June 2008).

decisionmakers at each of these junctures.[25]

Third, the Article applies its insights to an exciting intellectual experiment of re-imagining the future of public investment in the United States.[26] It outlines a proposal to establish a new federal instrumentality of developmental finance—the National Investment Authority (NIA)—which can fill the gaps and correct the shortcomings of the current institution types, discussed in the Article.[27] The NIA proposal draws its inspiration from the U.S. historical experience with the Reconstruction Finance Corporation (RFC), a powerful institution of public investment that played a critical role in financing the U.S. economic recovery from the Great Depression and the subsequent World War II effort.[28] Envisioned as a more ambitious and flexible contemporary version of the RFC, the NIA combines and amplifies multiple elements of successful NDB and SHC models, while adapting them to work in the U.S. context.[29]

The proposed NIA is an ambitious and complex idea bound to raise numerous questions this Article does not purport to answer. In the present context, the proposal seeks to illustrate the full transformative potential of an institutional design-based approach to public investment and industrial policy, more generally. Its goal is not to advance any political program but to underscore the internal connection between technical design choices and the resulting entity's ability to put sovereign capital to work for the benefit of all Americans. In principle, all institutional forms discussed in this Article are compatible with a variety of political platforms. These diverse entities' primary function is to manage sovereign capital in line with the national developmental and strategic priorities, established through the appropriate political processes. The question at the center of this Article is not what those substantive priorities ought to be in any particular context but how the state can use thoughtfully designed institutions to advance them.[30]

The Article proceeds as follows. Part I introduces the three-part taxonomy of principal institutional models currently in operation outside the United States. It uses Norway's, Germany's, and Singapore's institutional choices as key case studies demonstrating the distinctive elements of each model. Part II maps out the extensive but fragmented network of public investment entities that currently exist in the United

25. *See infra* Section III.B.

26. *See id.*

27. *See* SAULE T. OMAROVA, THE NATIONAL INVESTMENT AUTHORITY: AN INSTITUTIONAL BLUEPRINT, BERGGRUEN INSTITUTE (2022), https://perma.cc/M8YZ-JAD6 [hereinafter NIA BLUEPRINT].

28. *See infra* Section III.A.

29. This modular design means the NIA can be successfully built and operate alongside a traditional SWF, as these entities represent mutually complementary approaches to public investment.

30. To be clear, this design-focused approach does not contradict or diminish the critical importance of democratic values and accountability in public investment and institution-building. The United States' constitutional order and political culture demand that the nation's core economic and social goals are democratically determined and transparently implemented. Ineffective or corrupt institutions with power to direct sovereign capital may cause irreparable harm to the American public and the nation's economy. The NIA proposal is built on, reflects, and seeks to operationalize that fundamental understanding.

States, primarily on the state and local levels. These case studies include state-run versions of a SWF in Alaska, Texas, and New Mexico; the Bank of North Dakota and other state credit institutions following the NDB model; and DARPA and In-Q-Tel, two successful federal agency-level venture capital entities resembling the SHC model. Part III looks to the RFC as a historic example of a U.S.-specific public-finance option that combined and scaled up certain elements of multiple institutional models. Building on that concept, it outlines the NIA proposal as an illustration of how smart design lessons derived from prior experience can be used to build a powerful new institution of public investment in the United States.

I. SOVEREIGN CAPITAL IN GLOBAL PERSPECTIVE: THREE MODELS OF PUBLIC INVESTMENT

Government entities specializing in public investment have long been a permanent feature of many countries' institutional landscapes. While the universe of currently active stand-alone public investment vehicles is both diverse and dynamic, they can be generally grouped into three principal categories: sovereign wealth funds, infrastructure and development banks, and state holding companies. This Part examines the key features of each of these three categories, through the lens of the specific experiences of individual countries notable for successfully utilizing a particular institutional model of investing public money in private economic enterprise.[31]

A. The Investor: Norway's Sovereign Wealth Fund (SWF) Model

Sovereign wealth funds (SWFs) are a diverse group of special-purpose government-owned portfolio investment vehicles that pursue a wide variety of domestic policy objectives, including macroeconomic stabilization, cross-generational wealth preservation, and socio-economic development.[32] Countries as diverse as Norway, China, Kuwait, and Ireland, among many others, have established SWFs using public funds from receipts from exports of natural resources, fiscal or balance-of-payments surpluses, and other sources.[33] While their investment strategies differ greatly, SWFs generally aim to preserve and grow the nation's financial resources by building diversified portfolios of primarily publicly-traded, foreign currency denominated securities.[34] Unlike other large institutional investors, however, the fact that SWFs typically have no debt liabilities allows them to take longer investment

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31. This Part builds on and expands the argument in Saule T. Omarova, *Finance as a Tool of Industrial Policy: A Taxonomy of Institutional Options*, ROOSEVELT INSTITUTE (February 12, 2024), https://perma.cc/5G6L-4MRF.

32. *See, e.g.*, Anna Gelpern, *Sovereignty, Accountability, and the Wealth Fund Governance Conundrum*, 1 ASIAN J. INT'L L. 289, 289 (2011); Abdullah Al-Hassan et al., Sovereign Wealth Funds: Aspects of Governance Structures and Investment Management 5–6 (Int'l Monetary Fund Working Paper No. 13/231, 2013).

33. *See What is a SWF?*, SOVEREIGN WEALTH FUND INST., https://perma.cc/V9A4-2XGT.

34. *Id*.

views and act as suppliers of "patient" capital critical for transformative infrastructure projects.[35]

One of the world's most influential SWFs is Norway's Government Pension Fund Global (GPFG). The GPFG was established in 1969, shortly after the discovery of massive oil reserves in the North Sea, for the dual purposes of managing petroleum revenues and providing for future obligations of the state.[36] By 2026, it had grown to approximately $2.2 trillion in assets, which makes it the largest SWF in the world.[37] Unlike most SWFs, the GPFG is not a separate legal entity; technically, it exists as a deposit account at Norges Bank, Norway's central bank, into which the Ministry of Finance transfers Norway's petroleum income.[38] As the official owner of the account, the Ministry of Finance adopts general guidelines for the Fund's management to be implemented by Norges Bank's Executive Board—which delegates the actual fund operation to its specialized unit, Norges Bank Investment Management.[39] The GPFG is subject to independent audits, complies with extensive public disclosure

35. *See* Paul Rose, *Sovereign Fund Selling, Market Volatility and Systemic Risk: Connections and Regulatory Possibilities* 1 (Ohio State Pub. Law Working Paper 357, 2016).

36. *The Government Pension Fund Global (GPFG) in Norway*, CTR. FOR PUB. IMPACT (Sept. 2, 2019), https://perma.cc/5J5T-2KBH.

37. NORGES BANK INV. MGMT., ANNUAL REPORT 2025 (Feb. 27, 2026), https://perma.cc/99FJ-LTCJ (stating that the fund's value at the end of 2025 was 21,268 billion kroner, i.e., approximately $2.2 trillion in early 2026 terms); *Ranking—SWFs and PPFs*, SWF (last updated Apr. 2026), https://perma.cc/46CT-7JB3 (identifying Norway's fund as the largest sovereign wealth fund in the world).

The government is entitled to receive transfers from the Fund, up to a specified limit. The so-called "fiscal rule" establishes a limit on annual transfers from the GPFG to the fiscal budget. *See* Khalid A. Alsweilem et al., *Sovereign Investor Models: Institutions and Policies for Managing Sovereign Wealth*, PROJECTS AT HARV. 76 (2015); Knut Christian Myhre, *Financialization and the Norwegian State: Constraints, Contestations, and Custodial Finance in the World's Largest Sovereign Wealth Fund*, *in* FINANCIALIZATION: RELATIONAL APPROACHES 157, 171 (Chris Hann & Don Kalb eds., 2020). The GPFG supports a significant share of the government's current expenditures each year. During the COVID-19 pandemic, for example, the transfer from the fund constituted 20% of Norway's 2021 annual budget. *See* David Nikel, *Norway Oil Fund Hits Record $1.2 Trillion Value Following Coronavirus Vaccine Boost*, FORBES (Nov. 17, 2020), https://www.forbes.com/sites/davidnikel/2020/11/17/norway-oil-fund-hits-record-12-trillion-value-following-coronavirus-vaccine-boost/; *About the Fund*, NORGES BANK INV. MGMT., https://perma.cc/5VK4-8GBX; Amir Barnea, *Norway's Big National Oil Lie*, HAARETZ (Oct. 20, 2022), https://perma.cc/8CUX-QCGN.

38. In addition to tax and licensing revenues, Norway's petroleum revenue stream includes annual dividends from Equinor (formerly Statoil), a Norwegian oil company with 67% of equity owned by the state. *See The Government's Revenues*, NOR. PETROL. (last updated Mar. 20, 2026), https://perma.cc/25M7-MWQF; Hanna Marisela Eap & Magnus Eskedal Haraldsen, Should the Government Pension Fund Global Invest in Oil & Gas Companies? 21 (June 2019) (Master's Thesis, Nor. U. of Sci. and Tech.), https://perma.cc/N2NJ-CHC2.

39. Under the Government Pension Fund Act, the Sorting (Norway's legislative body) establishes the Fund's formal framework and parameters and assigns responsibility for their implementation to the Ministry of Finance. The Sorting retains the ultimate power to approve any significant change to the Fund's investment strategy. *See Governance Model*, NORGES BANK INV. MGMT. (last updated 2026), https://perma.cc/T2LS-5NJT.

requirements, and regularly reports to the legislature.[40] The Norwegian government is entitled to receive transfers from the Fund, subject to the specified limit imposed by the so-called "fiscal rule."[41] "[T]his rule amounts to saving the real capital of the fund and spending only its return (akin to an endowment fund)."[42] Despite this limit, the Fund supports nearly 20% of the government's current expenditures each year.[43]

One of the few large SWFs owned by a democratic government, the GPFG occupies a unique place in the diverse ecosystem of SWFs. It owns almost 1.5% of shares in the world's publicly traded companies.[44] While foreign equities constitute the bulk of the Fund's investments, its portfolio includes significant holdings of fixed income, real estate, and renewable infrastructure assets, spread over more than 70 countries.[45] As a large shareholder, the GPFG openly seeks to influence its portfolio companies' business decisions by exercising its corporate management rights, as well as by limiting or prohibiting investment in individual companies on ethical grounds.[46]

This activism is part and parcel of the Fund's mandate. Norges Bank's Executive Board requires Norges Bank Investment Management to "seek to influence companies in its role as a financially motivated shareholder, in accordance with the management mandate for the Fund."[47] The Ministry of Finance expressly instructs Norges Bank that "[a] good long-term return is considered dependent on sustainable development in economic, environmental and social terms."[48] The Ministry of Finance also prohibits the GPFG from investing in foreign companies that commit serious violations of human rights, promote war and conflict, cause severe environmental damage, foster corruption, or otherwise violate fundamental ethical norms.[49] A special Council of Ethics, consisting of five outside experts appointed for fixed terms, advises the Ministry of Finance and continuously monitors the Fund's portfolio for specific investments inconsistent with ethical guidelines.[50] Upon recommendation from the

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40. Gelpern, *supra* note 32, at 301.

41. *See* Alsweilem et al., *supra* note 37; Myhre, *supra* note 37. The fiscal rule generally prohibits the Norwegian government from spending more than the expected return on the Fund's capital. *See About the Fund*, *supra* note 37.

42. Delia Velculescu, *IMF Survey: Norway's Oil Fund Shows the Way for Wealth Funds*, IMF NEWS (July 9, 2008), https://perma.cc/9KPF-4EN6.

43. *See About the Fund*, *supra* note 37; Nikel, *supra* note 37.

44. *See About the Fund*, *supra* note 37.

45. *Id.*

46. Anita M. Halvorssen & Cody D. Eldredge, *Investing in Sustainability: Ethics Guidelines and the Norwegian Sovereign Wealth Fund*, 42 DENV. J. OF INT'L L. & POL'Y 389, 390 (Jan. 2014).

47. *Principles for Responsible Investment Management*, NORGES BANK INV. MGMT. (June 30, 2020), https://perma.cc/A2PV-AGH5.

48. *See* NOR. MINISTRIES DIGITALIZATION ORG., MANAGEMENT MANDATE FOR THE GOVERNMENT PENSION FUND GLOBAL 2 (Aug. 24, 2021). By 2021, the GFPG has divested its holdings of fossil fuel company assets. Jariel Arvin, *Norway's Trillion-Dollar Wealth Fund Sold the Last of its Investments in Fossil Fuel Companies*, VOX (Jan. 29, 2021), https://perma.cc/5B2C-Q5BC.

49. *See* NOR. MINISTRIES DIGITALIZATION ORG., GUIDELINES FOR OBSERVATION AND EXCLUSION FROM THE GOVERNMENT PENSION FUND GLOBAL (Nov. 19, 2021).

50. *Id.* §§ 5, 8.

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Council of Ethics or the Ministry of Finance, Norges Bank can block specific companies from inclusion in the Fund's portfolio.[51] The list of companies excluded from the GPFG's investment universe in recent years includes, among others, General Dynamics (for producing key components for nuclear weapons),[52] China State Construction Engineering (for posing unacceptably high risk of corruption),[53] and RLX Technology (for producing tobacco).[54]

Not surprisingly, the GPFG has long invited criticism as "a template for substantially transparent but politically instrumental funds that also seek to maximize wealth."[55] Such criticisms often channel the unfavorable perception of the Fund as an instrument of extraterritorial exercise of political power through private market means—and the underlying distrust of states as market actors.[56] Critics also point to the inherent tensions between the Fund's proclaimed ethical and sustainability goals, on the one hand, and its dependence on petroleum extraction and questionable practical impact of some of its investments, on the other.[57]

From the perspective of industrial policy capabilities, however, Norway's experience is valuable not because it produces perfectly uncontroversial results, but because it demonstrates the potential of a SWF structure to serve as an institutional tool for changing economic incentives and behavior of multiple private companies in

51. *Id.* § 6.

52. *Decisions on Exclusion*, NORGES BANK INV. MGMT. (Sept. 5, 2024), https://perma.cc/2EMN-VVYP (announcing that the Executive Board excluded General Dynamics Corp. from the Government Pension Fund Global because of the company's production of key components for nuclear weapons).

53. *Id.* (announcing that the Executive Board excluded China State Construction Engineering Corp. Ltd. from the Government Pension Fund Global because of an unacceptable risk that the company contributes to, or is itself responsible for, gross corruption).

54. *Decisions on Exclusion and Special Ownership Dialogue*, NORGES BANK INV. MGMT. (Jan. 15, 2025), https://perma.cc/MCR8-CYC3 (announcing that the Executive Board excluded RLX Technology Inc. from the Government Pension Fund Global because of its production of tobacco or tobacco products).

55. Larry Cata Backer, *Sovereign Wealth Funds (SWFs) in Five Continents and Three Narratives: Similarities and Differences*, in RESEARCH HANDBOOK ON SOVEREIGN WEALTH FUNDS AND INTERNATIONAL INVESTMENT LAW 9, 87 (Fabio Bassan ed., 2015). *See also,* Katherine Kennedy, *Greasing the Wheels: How Norway's Sovereign Wealth Fund Ended Up Financing Russian Corruption*, THE GLOBAL ANTICORRUPTION BLOG (Sept. 19, 2022), https://perma.cc/Q9AD-9KYZ ("[A]lthough the financial management of GPFG is clearly distinct from spending by the government of Norway, some have suggested that the Norwegian government may sometimes influence the deployment of GPFG capital to advance foreign policy goals.").

56. *See* Cata Backer, *supra* note 55. *See also*, Javier Capapé & Tomás Guerrero, *Equity investments of Norway's GPFG: A European sovereign wealth fund for Europe*, *in* SOVEREIGN WEALTH FUNDS 2014 49, 53 (Javier Santiso ed., 2014); Anita Margrethe Halvorssen, *How the Norwegian SWF Balances Ethics, ESG Risks, and Returns: Can this Approach Work for Other Institutional Investors?* 10-12 (Pension Research Council Working Paper No. WP2021-16, 2021).

57. *See, e.g.*, Garvin Jabusch, *How the Norwegian Sovereign Wealth Fund Fails to Understand Risk,* GREEN ALPHA INVESTMENTS (June 12, 2024), https://perma.cc/6N83-7Q85.

multiple sectors.[58] The sheer scale and scope of its asset portfolio puts the GPFG at the top of the global corporate investor hierarchy, giving it an unparalleled capacity to shape economic outcomes across sectoral lines and in line with its people's democratic values.

Of course, the GPFG is by no means the only example of states' successful use of the SWF form in pursuit of a wide variety of economic and political goals. Moreover, in its explicit pursuit of a particular kind of ethics-motivated social change, Norway's fund is a notable outlier. It is no secret that the formidable group of Gulf States' SWFs—including giant sovereign funds operating in Saudi Arabia, UAE, Kuwait, and Qatar—pursue purely financial and economic objectives in managing their governments' petroleum revenues.[59] These funds are active performance-driven investors in foreign companies, with a special emphasis on global financial institutions,[60] but their mandates often also include financing domestic economic development and diversification.[61] The UAE's Mubadala, for example, maintains a domestic investment platform designed to "accelerate the transformation of the UAE's economy by building national world class champions, fostering vibrant industrial and commercial clusters, and partnering with world-class global entities."[62]

This domestic focus is especially clear in the case of Ireland's SWFs. The Irish government began its experiment with this institutional form in 2014, when it established the Ireland Strategic Investment Fund for the specific purpose of supporting domestic employment and economic development in the wake of the global financial crisis.[63] The Ireland Strategic Investment Fund is managed by the National Treasury Management Agency that reports to the Minster for Finance.[64] Under the so-called "double bottom line" mandate, the fund is required to make investments on a sound commercial basis, while prioritizing strategic national goals and long-term structural resilience of Ireland's economy.[65] In August 2024, the Irish Finance Minister signed an order to set up two new SWFs—the Future Ireland Fund and the Infrastructure, Climate and Nature Fund—initially capitalized from the country's existing budget surplus, with further commitment to contribute a set portion

58. There are many examples of the GPFG using its power as a large investor to change corporate behavior. For instance, through multi-year "special ownership dialogues," the Fund has prevailed on an Italian oil company Eni SpA to discontinue its environmentally dangerous onshore oil operations in the Niger Delta. *See* NORGES BANK INV. MGMT., *supra* note 54.

59. François Aïssa Touazi, *Gulf Sovereign Wealth Funds*, THE FOUND. FOR STRATEGIC RSCH. (Feb. 28, 2019), https://perma.cc/L2SJ-N6JB.

60. These SWFs' role as a major force in the global financial and monetary systems came into the spotlight during the 2007-2008 crisis, when their investments helped to save multiple Wall Street banks from collapse. *Id.*

61. *Id.*

62. MUBADALA (last updated 2026), https://perma.cc/4SE9-QXKF.

63. *See* National Treasury Management Agency (Amendment) Act 2014 (Act No. 23/2014) (Ir.), https://www.irishstatutebook.ie/eli/2014/act/23/enacted/en/html.

64. *Id.* §§ 38(3), 31(1); *see also Santiago Principles Self-Assessment: Ireland Strategic Investment Fund*, INT'L F. OF SOVEREIGN WEALTH FUNDS (2019), https://perma.cc/XMK3-CMNS.

65. *About Us*, IR. STRATEGIC INV. FUND (last updated 2026), https://perma.cc/5NK2-MFQP.

of Ireland's tax revenues for each year between 2024 and 2035.[66] Notably, the Future Ireland Fund's mandate is not to serve as a "rainy day" savings vehicle but to protect the country's living standards and public spending during economic downturns.[67]

China's experience with SWFs further exemplifies the potential of this institutional model to serve the state's foreign and domestic policy goals. China's flagship SWF, the China Investment Corporation (CIC), was established in 2007 for the purpose of investing China's large foreign exchange reserves under direct strategic oversight of the Chinese government and (indirectly) its Communist party.[68] CIC is tightly integrated in China's fiscal policy apparatus, deriving the bulk of its capital from special bond issuances by the country's Ministry of Finance.[69] It operates through three principal subsidiaries—CIC International, CIC Capital, and Central Huijin—pursuing functionally separate investment objectives.[70] In a familiar SWF fashion, CIC International and CIC Capital manage a diversified portfolio of foreign equity and fixed income, alternative assets, and an increasingly important investments in foreign infrastructure and commodities.[71] Central Huijin, on the other hand, holds direct equity stakes in China's domestic financial institutions.[72] Through this subsidiary, CIC effectively manages the flow of state-supported credit through China's economy, a task not commonly associated with the SWF model.

So, what generalizations can be drawn from this brief overview of various SWFs? To start with, it underscores the tremendous flexibility of this institutional model: no two state-owned investment funds are necessarily identical in what they do and how they do it. Yet, notwithstanding the great diversity and flexibility of structures and experiences, today's SWFs share certain fundamental characteristics that allow them to operate on the cusp of market and politics in a very particular way. Critically, most SWFs do not fund their operations by borrowing in private capital markets, which means their capacity to make mission-driven investments is not constrained by private

66. See Jennifer Duggan, *Irish Finance Minister Signs Order for New Sovereign Wealth Fund*, BLOOMBERG.COM (Aug. 1, 2024), https://www.bloomberg.com/news/articles/2024-08-01/irish-finance-minister-signs-order-for-new-sovereign-wealth-fund.

67. *See* John Campbell, *Irish Budget: €100bn Wealth Fund to be Set Up by Mid-2030s*, BBC (Oct. 10, 2023), https://perma.cc/DCA7-8N9F. The plan is to have the Future Ireland Fund exceed €100bn in assets by 2035, which would allow the government to draw down the fund's investment profits without depleting its principal capital. These revenues will be used to augment the rising costs of childcare, medical care, energy bills, and other public benefits affected by demographic shifts, climate change, and other structural economic trends. *See id*.

68. Larry Catá Backer, *Sovereign Investing in Times of Crisis: Global Regulation of Sovereign Wealth Funds, State-Owned Enterprises, and the Chinese Experience*, 19 TRANSNAT'L L. & CONTEMP. PROBS. 3, 112 (2010).

69. *See Santiago Principles Self-Assessment*, *supra* note 64.

70. *About CIC*, CHINA INV. CORP. (last updated 2026), https://perma.cc/L3NN-LS66

71. *Id.;* Roza Nurgozhayeva, *State Ownership in Terms of Transition: Curse or Blessing. The Cases of Kazakhstan and China* 133 n.461 (May 2016) (Ph.D. dissertation, Cornell University) (on file with author) ("Recent strategic investments of CIC have been focused on commodities. Those investments seek to mitigate China's dependence on resource imports.").

72. *About CIC*, *supra* note 70.

bondholders' demands. Not having to worry about making regular interest payments on any debt means SWFs can base investment decisions on factors other than short-term commercial returns. That freedom from the bond markets' dictates makes them uniquely potent—and *patient*—vehicles for implementing democratically established, long-term economic priorities.[73] Furthermore, SWFs exercise influence directly inside the companies in which they invest, through well-established and well-respected corporate governance rights. From this perspective, SWFs' greatest strength lies in the scale and scope of their investment portfolios: the bigger a shareholder a SWF is, the more power it can exert on the behavior of a wider range of companies.

At the same time, however, most existing SWFs' core function as a conduit for profitably investing the state's surplus revenues (usually by holding foreign companies' securities) limits their flexibility to use that capital for supporting domestic industrial policy goals not aligned with that mandate.[74] And, to the extent that SWFs operate by exercising standard corporate governance rights, their actions may be limited by multiple jurisdictions' corporate laws and remain vulnerable to accusations of purportedly politically motivated "shareholder activism."

In short, despite their popularity and visibility, SWFs are not always the most effective vehicles for implementing ambitious industrial policies.

B. The Financier: Germany's National Development Bank (NDB) Model

Development banks are another category of public investment institutions widely used for purposes of financing industrial policy objectives.[75] There are currently hundreds of multinational, national, and even subnational public development banks operating in multiple countries around the world.[76] That list includes entities as varied as the European Investment Bank,[77] Asian Development Bank,[78] Brazil's BNDES,[79]

73. This statement does not imply that all SWFs currently in existence automatically pursue democratically established policy goals. The point here is to emphasize potential advantages of this institutional model as a policy tool in a democratic society.

74. As discussed above, this foreign-domestic division is a direct function of individual SWFs' mandates. *See supra* notes 61-67 and accompanying text. Even where a particular fund's mandate includes domestic developmental goals, however, important constraints may remain. For instance, to the extent that financial returns are an essential element of the SWF business model, it tends to limit their flexibility as a tool of investing in a broader range of domestic public goods.

75. For a small sample of academic literature on development banks, *see, e.g.*, DEVELOPMENT AND PUBLIC BANKS (Stephany Griffith-Jones et al. eds., 2022); THE REINVENTION OF DEVELOPMENT BANKING IN THE EUROPEAN UNION (Daniel Mertens, Matthias Thiemann, & Peter Volberding eds., 2021); THE FUTURE OF NATIONAL DEVELOPMENT BANKS (Stephany Griffith-Jones & Jose Antonio Ocampo eds., 2019).

76. *See* INST. OF NEW STRUCTURAL ECON. AT PEKING UNIV., PUB. DEV. BANK AND DEV. FIN. INSTS. DATABASE (last updated Sep. 2024), https://perma.cc/JUD3-UEJR.

77. *See* EUR. INV. BANK (last updated 2026), https://perma.cc/B8SE-KVZG.

78. *See* ASIAN INV. BANK (last updated 2026), https://perma.cc/D9JC-WUKV.

79. *See* THE BRAZ. DEV. BANK (last updated 2025), https://perma.cc/2X83-VPZ4.

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Canada Infrastructure Bank,[80] and China Development Bank.[81] For the purposes of this Article, NDBs offer particularly interesting design lessons. These institutions differ from SWFs in their explicit focus on domestic development, more diverse sources of funding, and greater diversity of investment strategies and instruments at their disposal. Unlike SWFs, NDBs are predominantly *credit* institutions. Depending on their individual mandates, NDBs invest in the construction of traditional physical infrastructures, agricultural development, social housing, strategic export industries, and other areas prioritized by their governments.[82] If SWFs are often seen as saving the nation's capital for the rainy day, NDBs are meant to put that capital to use every day.

One of the most successful contemporary examples of the NDB model is Germany's Kreditanstalt für Wiederaufbau (KfW). Established in 1948, the KfW was initially tasked with distributing and lending funds appropriated to Germany under the Marshall Plan. Owned jointly by the German federal government (80 percent) and the German states (20 percent), its investment activities are closely associated—sometimes controversially so—with the political priorities of its two shareholders.[83]

KfW is a public law institution, organized under and governed by the federal Law Concerning KfW (the KfW Law).[84] It is directly supervised by the Federal Ministry of Finance, in consultation with the Federal Ministry for Economic Affairs and Climate Action.[85] Internally, two primary governance bodies oversee the KfW's operations: (1) the Executive Board that manages the bank's day-to-day operations and comprises members appointed for fixed terms, based on their expertise; and (2) the 37-member Board of Supervisory Directors that exercises overall strategic oversight of KfW's business affairs.[86]

Under the KfW Law, the Federal Republic of Germany guarantees all existing and future obligations of KfW, as well as any obligations of third parties expressly guaranteed by KfW.[87] Because of its government backing, KfW enjoys a very strong

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80. *See* CAN. INFRASTRUCTURE BANK (last updated 2026), https://perma.cc/PKT3-YJ3K.

81. *See* CHINA DEV. BANK, https://perma.cc/8TUZ-T9VS.

82. FINANCE IN COMMON, FICS PROGRESS REPORT 2022 at 8-9 (2022).

83. *See* KFW GROUP, FINANCIAL REPORT 2023 at 26 (Mar. 6, 2024); Thomas Marois, *The KfW and Covid-19: Coordinating Public Finance Responses at Home and Abroad, in* PUB. BANKS AND COVID-19: COMBATTING THE PANDEMIC WITH PUB. FIN. 151 (David A. McDonald, Thomas Marois & Diana Barrowclough eds., 2020).

84. FINANCIAL REPORT 2023, *supra* note 83, at 26.

85. *Id*. at 27.

86. FINANCIAL REPORT 2023, *supra* note 83, at 15-19. The KfW Board of Supervisory Directors comprises representatives of the Federal Government, the states, and other key economic and societal interests, and its Chair position alternates annually between the Federal Ministry of Finance and the Federal Ministry for Economic Affairs and Energy. *See* Board of Supervisory Directors and its Committees, KFW (Jan. 2026), https://perma.cc/4NSX-ZVX7.

87. Law Concerning Kreditanstalt für Wiederaufbau [KfW Law], Art. 1a, https://www.kfw.de/PDF/Download-Center/Law-Concerning-KfW/KfW-Gesetz-DE-EN.pdf (Ger.).

credit rating and derives the bulk of its funding from global capital markets.[88] By issuing bonds guaranteed by the federal government, KfW is able to channel large volumes of money into its domestic and global policy-driven lending and investment activities.[89]

Today, KfW is one of the largest publicly owned banks in the world. As of year-end 2023, KfW had total assets of over €560 billion.[90] The KfW Law obligates it to provide financing for a wide variety of government policies aimed, among other things, at supporting Germany's small and medium-sized enterprises, housing, infrastructure, environmental protection, technical progress and innovation, education, and other social goals.[91] To fulfill this expansive mandate, the KfW Group includes several separate subsidiaries, or specialized divisions with separate portfolios.[92]

Generally, KfW's credit portfolio includes loans to small and medium-sized businesses that constitute the backbone of the German economy, housing-related loans, educational grants, financing for infrastructure projects, and an array of global funding instruments intended to support Germany's global developmental objectives. The vast majority of KfW's loans are extended through, and in partnership with, Germany's public and private commercial banks.[93] In that sense, KfW acts as a "banks' bank" using its "as good as gold" credit to augment the flow of private credit throughout the economy.[94] In addition to running a large portfolio of credit assets, KfW makes strategic equity investments in various sectors and regions. These long-term investments are meant to provide the federal government with the means of taking higher financial risks to promote industrialization, sustainability, and other public policy goals.[95] Notably, one of KfW's specialized subsidiaries, KfW Capital, invests in German and European venture capital funds, for the purpose of strengthening the growth of start-up businesses.[96]

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88. FINANCIAL REPORT 2023, *supra* note 83, at 27 ("Consequently, KfW's rating currently benefits from the Federal Republic of Germany's excellent country rating. The resulting funding conditions support KfW's operating activities in setting promotional incentives.")
89. *See* Natalya Naqvi, Anne Henow & Ha-Joon Chang, *Kicking Away the Financial Ladder? German Development Banking Under Economics Globalization*, 25 REV. OF. INT'L POL. ECON. 672 (2018).
90. FINANCIAL REPORT 2023, *supra* note 83, at 39, 93.
91. KfW Law, *supra* note 87, Art. 2.
92. As of the year-end 2023, the KfW Group reported six consolidated subsidiaries (in addition to the main KfW entity). *See* FINANCIAL REPORT 2023, *supra* note 83, at 28.
93. FINANCIAL REPORT 2023, *supra* note 83, at 64. The KfW Law expressly mandates this participation approach. KfW Law, *supra* note 87, Art. 3(1).
94. THOMAS MAROIS, PUBLIC BANKS: DECARBONIZATION, DEFINANCIALIZATION AND DEMOCRATIZATION 197 (2021).
95. As stated in KfW's annual report, "KfW also makes strategic equity investments in accordance with Article 2 (4) of the KfW Law (mandated transactions). The Federal Government mandates such equity investments to KfW because the Federal Republic of Germany has a state interest in them." FINANCIAL REPORT 2023, *supra* note 83, at 66.
96. *Id.* at 28-29.

This combination of legal mandate and other institutional design features makes the KfW a particularly potent tool of Germany's industrial policy. In the 75 years of its existence, KfW has evolved into a formidable public investment institution, firmly embedded in the global financial market and actively directing capital flows into the regions and sectors prioritized by the government. KfW's market-actor capabilities were on full display during the COVID-19 pandemic and subsequent period. In response to the pandemic, the German government tasked KfW with expanding its credit offerings and guarantees for all sizes of firms, credit insurers, and non-profit institutions. In the first half of 2020 alone, KfW's financing more than doubled in volume as a result of the public financial assistance programs.[97] In 2022, KfW was at the forefront of the Germany's efforts to manage the economic impact of the invasion of Ukraine and ensuing volatility in energy prices. Actively utilizing its financial resources, KfW has "achieved its historically strongest promotional year" in 2022, when its policy-driven business rose by 56% due to financing government's efforts to secure the energy supply in Germany.[98]

Outside of the emergency situations, KfW is increasingly focused on Germany's long-term sustainability and energy sufficiency policies. KfW actively supports the German government's ambitious plans to combat climate change, aiming for carbon neutrality by 2050.[99] A recent study, for example, details KfW's financing of the Energy Efficient Refurbishment and Construction Programs aimed at transferring all residential and business buildings to new energy-efficient standards.[100] To support this large-scale retrofitting and construction campaign, KfW rolled out massive grant and loan facilities that use attractive interest rates, flexible repayment terms, and partial debt relief to incentivize private sector adoption of the highest environmental standards. These efforts have generated three times as much total investment in these improvements as KfW's commitments, with projected aggregate returns to the federal government of as much as €4 per every €1 of budget allocation to the Energy Efficient Refurbishment and Construction Program.[101]

While KfW has received its share of criticism,[102] it continues to exemplify the potential of a well-designed and ambitious NDB to deliver tangible and reliable economic and political results, especially over long timespans. The KfW's experience illustrates the principal strengths of the NDB model and its advantages relative to the SWF model. These advantages include the possibility of a broader and more ambitious

97. Marois, *supra* note 83, at 156-57.

98. *See* KFW GROUP, FINANCIAL REPORT 2022 at 34 (Mar. 9, 2023).

99. *See* Mariana Mazzucato & Dani Rodrik, *Industrial Policy with Conditionalities: A Taxonomy and Sample Cases* (UCL IIPP Working Paper 14, Sept. 2023).

100. *Id*. at 14-16.

101. *Id.* at 15.

102. *See, e.g.*, John Orchard, *KfW: The Quiet Giant of German Finance*, EUROMONEY (Sept. 16. 2019), https://perma.cc/FPJ4-8SYB (describing concerns about KfW "casting a shadow" over Germany's banking sector); *Environmental NGOs Demand Halt to KfW Controversial Biomass Investments in Serbia*, BANKWATCH NETWORK (July 29, 2024), https://perma.cc/J2F7-BMKG; Nicola M. Dorrbecker, *Learning From KfW's Ex-Post Evaluations*? (IDOS Discussion Paper No. 14/2023) (analyzing gaps in the existing framework for KfW's performance evaluation and public accountability).

developmental (as opposed to reserve management) mandate, ability to access private financing in capital markets (as opposed to relying on state revenues), and potential diversity of investment tools and economic levers that can be used to advance the relevant policy goals. Accordingly, a typical NDB that acts primarily as a lender can also take a more proactive market-shaping role through strategic equity investment in start-up companies and nascent technologies. It thus can use its influence in both roles to direct private-sector behavior and to amplify the flow of private capital toward projects with the greatest developmental impact, across various time horizons.

These potential benefits, however, are not automatic or guaranteed to materialize. An individual NDB's ability to succeed depends greatly on its institutional design. For example, the scope and nature of the NDB's mandate determine the scope and scale of its operations and, therefore, must be formulated in a way that preserves the NDB's flexibility and ability to achieve multiple public policy goals. Furthermore, the government's full faith and credit backing is critical to the NDB's ability to access global capital markets, but it puts the government at risk of financial loss—and potentially the loss of political credibility. It is therefore important to establish a clear legal and institutional framework for the government's support and democratic oversight of the NDB's operations, while also enabling it to conduct its market operations efficiently and expertly. More importantly, heavy reliance on private bond financing also operates as a potentially significant structural constraint on the borrowing NDB's ability to promote the goals of industrial policy. Such NDB will be effectively limited in its ability to fund—or even entirely precluded from funding—publicly beneficial projects, unless they generate sufficient near-term revenues to cover the NDB's ongoing debt service payments. While raising capital from bondholders is an effective alternative to excessive reliance on government appropriations, it inevitably skews public institutions' portfolio choices toward investments with a relatively short path to commercial profitability, which may lead to suboptimal policy outcomes. Although the negative consequences of this tradeoff may not appear particularly salient in the KfW's case, it is nevertheless a significant structural constraint built into this funding model.

It is also vital not to underestimate the overall historical, political, and economic conditions that constitute the general context in which an individual NDB operates. These factors can fundamentally shape an individual NDB's business choices and its chances of success. For example, the KfW's experience may not be easily replicable in other contexts, where the state's legitimacy as an economic market actor is not as effectively embedded in the existing institutional arrangements. Moreover, in the absence of a vast and well-established ecosystem of public banks operating on state and local levels, as is the case in Germany, legally mandating an "on-lending" (or similar private-public partnering) model increases the risk that an NDB would lose control of the capital allocation process and misallocate public funds to the disproportionate benefit of private interests.[103] This example underscores the need to

103. For more on Germany's long-standing system of public banks, see Reinhard H. Schmidt et al., *The Persistence of the Three-Pillar Banking System in Germany*, in ALTERNATIVE BANKING AND FINANCIAL CRISIS 101 (Olivier Butzbach & Kurt von Mettenheim eds., 2014). For an in-depth analysis of public banking as an institutional model, see Saule T. Omarova,

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contextualize individual institutional design features of successful NDBs.

C. *The Entrepreneur: Singapore's State Holding Company (SHC) Model*

State holding companies (SHCs) constitute the third major category in the taxonomy of existing institutions of public investment. It is the least well-understood institutional form of sovereign capital. While it is not uncommon to view an SHC as simply another type of state-owned enterprise—an unfortunately ideologically-laden label—an SHC can also be designed as a public asset manager, a public interest-oriented counterpart to private asset management firms. In this capacity, an SHC can be utilized for the purposes of industrial policy in a much more direct and assertive way than either an NDB or a SWF model would typically allow.

Singapore's Temasek Holdings Ltd. (Temasek) is an example of a modern-day SHC that operates along the lines of a public portfolio manager and a venture capital firm. Temasek was incorporated in 1974 under the Singapore Companies Act to manage Singapore's public funds on behalf of its sole shareholder, the Ministry for Finance (MFF).[104] In 1991, the government designated Temasek as a so-called "Fifth Schedule entity" allowed to draw from the government's reserves.[105] Together with two other Fifth Schedule entities—the Monetary Authority of Singapore (MAS) and the Government of Singapore Investment Corp (GIC)—Temasek supports Singapore's annual budget by allowing the government to spend up to 50% of its expected net investment returns each year.[106]

Temasek's mission statement describes it as an active shareholder and a steward of Singapore's public funds that promotes good governance and "contribute[s] to the uplifting of communities in which [it] operate[s]."[107] Its primary objective is to "deliver sustainable returns over the long term."[108] In its earlier years, Temasek's portfolio was heavily centered on Singapore's strategic growth sectors: telecommunications, shipping, and banking. As the nation's economic priorities evolved, so did Temasek's. Today, its investment activities are focused on the long-run structural trends in the national and global economies, including digitization and sustainability.[109]

Temasek is predominantly an active investor in domestic and foreign equities. Its portfolio—which stood at S$434 billion as of March 31, 2025[110]—includes a variety of

Public Banking as an Institutional Design Project, 41 YALE J. REG. 1128 (2024).

104. Minister for Finance (Incorporation) Act 1959 (Cap 38, 2020 Rev. Ed.), https://sso.agc.gov.sg/Act/MFIA1959 (Sing.); *see also Temasek Review 2025*, TEMASEK (last updated 2026), https://www.temasekreview.com.sg/.

105. *See Our Purpose, Charter, and Values*, TEMASEK (last updated 2026), https://perma.cc/UMN8-8T3E.

106. MAS is Singapore's equivalent of a central bank; GIC is the country's SWF.

107. *Our Purpose, Charter, and Values*, *supra* note 105.

108. *Id.*

109. Temasek claims to "apply an ESG framework across [its] entire investment portfolio to strengthen portfolio resilience and achieve sustainable returns over the long term." *Investment Approach*, TEMASEK (last updated Mar. 31, 2026), https://perma.cc/YX5T-5V58.

110. *Our Financials: Portfolio Performance*, TEMASEK (last updated Mar. 31, 2026),

publicly traded securities and unlisted shares, held both directly and through investment funds.[111] Importantly, Temasek also forms and manages investment funds, joint ventures, and partnerships. For example, in 2021, Temasek partnered with BlackRock to form Decarbonization Partners, a platform for launching late-stage venture capital funds and early-growth private equity funds focused on advancing efforts to achieve a net zero economy by 2050.[112] At the portfolio level, Temasek exercises full discretion to rebalance its holdings dynamically, with a view towards its long-term strategic goals. Its emphasis is on being an active portfolio manager, using its own balance sheet to nimbly position itself for the maximum return over the long horizon.[113] Nonetheless, Temasek—which was initially capitalized by receiving shares of thirty-five government-controlled domestic companies[114]—continues to hold controlling equity stakes in Singapore's sectoral champions, including Development Bank of Singapore and Singapore Airlines.[115] As of March 31, 2025, 52% of Temasek's holdings were in Singapore-headquartered companies.[116]

Temasek finances its activities primarily through its portfolio revenues (including proceeds from divestments, dividends, and distributions from its investments), issuing debt instruments, short-term bank borrowings, and borrowings from the MFF. Temasek's strong credit rating enables it to raise capital through issuance of long-term bonds and commercial paper instruments.[117] Importantly, the company uses part of its revenues to run a series of philanthropic funds financing a wide variety of social services and providing public goods to communities.[118] This function was especially

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https://perma.cc/BQC7-467F. As of March 31, 2025, this was an equivalent to US $324 billion. *Id*.

111. In recent years, Temasek has pivoted away from public markets and towards private markets. Its exposure to unlisted assets grew from 20% in FY2004 to 27% in FY2015, and to 42% in FY2019. *See Volatile Stock Prices are Driving Singapore's Temasek to Look at Private Assets, Chief Executive Pillay Says*, SOUTH CHINA MORNING POST, (July 10, 2019), https://perma.cc/7Q75-MZGF. As of March 31, 2025, 49% of Temasek's portfolio was in unlisted assets. *Temasek Review 2025*, *supra* note 104.

112. *Temasek and BlackRock Launch Decarbonization Investment Partnership*, TEMASEK (Apr. 13, 2021), https://perma.cc/W85P-MQD4.

113. Temasek describes itself as "a generational investor, seeking to make a difference always with tomorrow in mind." TEMASEK, *About Us: Temasek at a Glance*, TEMASEK (last updated Mar. 31, 2026), https://perma.cc/Z24D-QXNS.

114. In 2013, Temasek's then Chairman said that the principal rationale behind Temasek's creation was "the idea that the Government should not be involved in [the] management of business", and because "the Government and civil servants should focus on policy." Press Release, Temasek, Transcript: Remarks by Chairman of Temasek, Mr. S Dhanabalan (July 23, 2013), https://perma.cc/A78S-MARP.

115. *Our Portfolio*, TEMASEK (last updated Mar. 31, 2026), https://perma.cc/R75A-9SAZ.

116. *Id.*

117. As of March 31, 2025, Temasek had S$20.2 billion in bonds outstanding, and S$400 million in Euro-denominated commercial paper. *Temasek Review 2025*, *supra* note 104.

118. According to Temasek, by 2023, the company has committed in total close to S$1 billion to operate its nearly 1,500 social programs that include mental and physical health services, cultural exchange, music and arts educational facilities, care for ethe elderly, and so forth. *See Annual Report 2023*, TEMASEK FOUNDATION (last updated 2023), https://perma.cc/78SY-3B8D.

significant during the COVID-19 pandemic, when Temasek's social funds were mobilized to implement the government's wide-ranging response measures.[119]

As an "exempt private company," Temasek is lightly regulated and enjoys significant flexibility with respect to its internal governance, which includes greater freedom to set its voting structure, ability to adopt non-written resolutions, and exemption from the requirement to hold annual general meetings.[120] Neither Temasek nor its subsidiaries are required to publicly disclose information about their financial condition.[121] Temasek, however, regularly publishes key information on its investment and financial results.[122] As a Fifth Schedule company with the right to draw upon Singapore's reserves, moreover, Temasek is subject to a special regime of public oversight. Its Board of Directors is accountable to the Singapore President and the Parliament, and the President's approval is required for the appointment, reappointment, or removal of any Board members.[123] Temasek is also required to provide regular financial certifications to the President, who has the authority to disapprove its budget.[124]

Notwithstanding these ties, Temasek strongly emphasizes its independence from the government and the fact that it is a "commercial investment company" operating under the guidance of its Board, with neither the country's President nor the MFF participating in its investment decisions.[125] Singapore's officials have also taken steps to bolster a perception of Temasek's independence.[126] For example, the 2002 Temasek Charter, which delineated the company's goals and relationship with the government, indicated that its investments were driven by two objectives: (1) to ensure government control over companies critical to Singapore's security, economic well-being, or specific public policy objectives; and (2) to support domestic firms with potential for

119. *Id*.

120. The Singapore Companies Act (Cap 50) provides that "an exempt private company [] has no more than 20 shareholders and no corporate shareholder, and a solvent [exempt private company] is exempted from filing audited financials with the public registry." Companies Act (Cap 50, 2002 Rev Ed), §§175A, 184A, https://sso.agc.gov.sg/Act-Rev/CoA1967/Published/20211231?DocDate=20061031 (Sing.); *see* Christopher Chen, *Solving the Puzzle of Corporate Governance of State-Owned Enterprises: The Path of the Temasek Model in Singapore and Lessons for China*, 36 NW. J. INT'L L. & BUS. 303, 321 n.103–06 (2016).

121. Companies Act, *supra* note 120, at §197.

122. Temasek is consistently one of the top-ranked entities on the Linaburg-Maduell Transparency Index for SWFs. *See Linaburg-Maduell Transparency* Index, SOVEREIGN WEALTH FUND INST. (last updated 2026), https://perma.cc/6YNT-ACBK.

123. Constitution of the Republic of Singapore §22C, https://sso.agc.gov.sg/Act/CONS1963?ProvIds=P15-#pr22C- (Sing).

124. Constitution of the Republic of Singapore, §22D, https://sso.agc.gov.sg/Act/CONS1963?ProvIds=P15-#pr22D- (Sing).

125. *About Us: Corporate Governance*, TEMASEK (last updated Mar. 31, 2026), https://perma.cc/ZSN2-EEWT.

126. *See* P.R. Venkat & Costas Paris, *Temasek Steps Back from Singapore Inc.*, WALL ST. J. (Aug. 26, 2009), https://www.wsj.com/articles/SB125117657532456163; *Temasek's Revised Charter Downplays Singapore Links*, REUTERS (Aug. 25, 2009), https://www.reuters.com/article/temasek-charter/temaseks-revised-charter-downplays-singapore-links-idUSSGC00326020090825.

international success.[127] In 2009, the government revised the document, dropping the language about the government's need to control or own companies and instead highlighting Temasek's status as an investment company managed according to commercial principles in search of sustainable and long-term value for its "stakeholders."[128]

In sum, as Singapore's experience shows, the SHC model can support a wide range of direct and flexible institutional channels for the state's pursuit of active industrial policies. Unlike NDBs, SHCs are not focused primarily on lending but can build predominantly equity holdings, which gives them more effective ways of influencing business strategies of their portfolio companies. In contrast to SWFs, SHCs can explicitly focus on taking controlling stakes in private companies, which is especially important for purposes of nurturing innovative early-stage businesses and facilitating commercialization of new technologies. If that is a significant element of the government's developmental strategy, having an SHC to act as its separately capitalized venture capital arm greatly enhances its implementation capabilities. Furthermore, exercising corporate control over strategically important domestic companies allows the government not only to continuously shape the structure of the economy or maintain its geopolitical viability, but also to respond more effectively and quickly to macroeconomic pressures or emergencies. In effect, the flexibility of an SHC's investment tools and mandate allows it to adapt dynamically to the needs of the economy or the state managing it.

That same flexibility, however, is also a source of potential vulnerability of the SHC form to political criticism and attacks on its legitimacy.[129] This is a particularly weighty concern in a democratic polity. The inherently intimate connection between the state and the SHC it controls, accordingly, heightens the need to establish an effective governance and democratic accountability structure that would not undermine the SHC's decision-making autonomy and ability to pursue public objectives through market means.[130]

This intimate connection to the state also explains why any particular SHC's experience may be difficult to replicate elsewhere. How individual SHCs are structured, governed, funded, how they invest their capital, and how successful they

127. The Temasek Charter was originally adopted in 2002 and updated in 2009 to reflect different priorities. *Compare Background and Context of Temasek Charter 2002*, TEMASEK (2002), https://www.temasek.com.sg/content/dam/temasek-corporate/news-and-views/news/files/Charter_2002_-_Background_and_Context.pdf, *with Background and Context of Temasek Charter 2009*, TEMASEK (2009), https://www.temasek.com.sg/content/dam/temasek-corporate/news-and-views/news/files/Charter_2009_-_Background_and_Context.pdf.

128. *Temasek Charter 2009*, *supra* note 127.

129. Given the direct state ownership of an SHC (especially if it is organized as a commercial corporation with a single shareholder), this model is likely to face the same political and ideological obstacles as the more general category of a "state-owned enterprise" (SOE), routinely vilified in the mainstream economic literature of the last several decades.

130. *See generally* Saule T. Omarova & Brian Richardson, *Public Investment as Constitutional Power and Accountability Challenge*, 92 U. CHI. L. REV. 46 (2025) (analyzing the dynamics and mechanisms of democratic accountability in the context of public investment).

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are in practice depends on a multitude of country-specific economic, political, and cultural factors. Thus, from an institutional design perspective, the SHC model both presents the biggest implementation challenges and offers the greatest opportunities for experimentation.

* * *

To recap, Part I of this Article offered a condensed description and comparison of the three currently dominant institutional approaches to public investment outside the United States. Each of these distinct types of financial institution—a sovereign wealth fund, a national development bank, and a state holding company—has long been recognized as a potentially powerful tool of modern economic statecraft, adjustable to various countries' unique conditions and needs. This Article focuses on three high-profile financial institutions—Norway's GPFG, Germany's KfW, and Singapore's Temasek—that exemplify successful experimentation with these institutional models in developed economies. This highly selective and high-level overview is not meant as an exhaustive account of the vast and diverse universe of SWFs, NDBs, and SHCs that operate around the globe. Its simultaneously more modest and more ambitious purpose is to identify the principal strengths and weaknesses of each institutional model from the perspective of its efficacy as an agent of industrial policy.

A better understanding of the key design features and built-in limitations of each model enables a more informed and nuanced approach to institutional experimentation in the United States. Distilling the rich and widely varied global experience down to a small set of core design choices allows us both to reassess the current U.S. landscape of public investment and to reimagine its future. The remainder of the Article takes on this task.

II. IN PLAIN SIGHT: PUBLIC INVESTMENT INSTITUTIONS IN THE UNITED STATES

Despite its popular image as a textbook case of a "free market" economy, the United States is the home to multiple institutions of public investment. This Part explores what may be called America's hidden "developmental finance state"[131] by focusing on state investment funds, state public banks, and federal agencies' investment arms. Using a handful of such currently active entities as mini-case studies, it shows how various units in the complex structure of the U.S. government have long pursued investment strategies broadly tracking the three institutional models, discussed above. These experiments, however, expose the fundamentally limited scale and scope of public investment flowing through these disconnected and narrowly defined institutional channels. That, in turn, limits the existing entities' potential to function as effective agents of a national industrial policy.

A. Investors: State Investment Funds

131. *See* Hockett and Omarova, *supra* note 17.

INVESTORS, FINANCIERS, AND ENTREPRENEURS:
SOVEREIGN CAPITAL AS A TOOL OF INDUSTRIAL POLICY

Long before the Trump Administration announced its intention to create a national SWF, several states have successfully established their own versions of government investment vehicles that fit within the broad outlines of that model. Each of these funds operates in its own way, which reflects its founding state's circumstances and policy choices. Alaska, Texas, and New Mexico offer examples of these institutional choices.

1. Alaska Permanent Fund

The largest and best known sub-national government-owned investment vehicle currently operating in the United States is the Alaska Permanent Fund, or APF. In many ways, the APF hews closely to the traditional model of a SWF charged with preserving and managing the producer-state's oil and gas revenues. In 1968, less than a decade after Alaska became a state, one of the world's largest oil deposits was discovered in Prudhoe Bay located along Alaska's northern coastline.[132] Leasing the newly discovered oil fields has generated a $900 million windfall for the young state that previously relied heavily on federal aid and small industries.[133] After an intense debate on whether to save some or all of this oil income, the legislature spent it on infrastructure and social programs, prompting concerns that the state had squandered its leasing proceeds too quickly.[134]

In 1974, with the Trans Alaska Pipeline nearing completion, the legislature once again faced the question of how to use the large oil royalties the state was about to start receiving. Responding to criticisms of its earlier decisions, many among the state's lawmakers supported the idea of a "permanent fund" that would shield the revenues from quickly disappearing into the regular fiscal budget.[135] In 1976, voters approved a constitutional amendment creating the Alaska Permanent Fund, for the explicit purpose of setting aside a portion of the state's oil revenues for future generations of Alaskans.[136] For the next four years, the legislature debated whether to manage the APF as an investment fund or as an economic development bank. Advocates of the development-bank approach argued that Alaska suffered from underinvestment due to prejudice from conventional banks, while their opponents favored a more conservative strategy focused on preserving the fund's principal.[137] By

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132. *See* Oil discovered in Alaska's Prudhoe Bay, THIS DAY IN HISTORY (last updated May 27, 2025), https://perma.cc/82W6-FL32.

133. *See Our History*, ALASKA PERMANENT FUND CORP. (last updated May 31, 2026), https://perma.cc/Z92E-ATQP.

134. *Id.*

135. Oliver Scott Goldsmith, *The Alaska Permanent Fund Dividend: A Cast Study in Direct Distribution of Resource Rent*, UNIV. OF ALASKA INST. OF SOCIAL AND ECON. RSCH. 3 (Jan. 2011); Jonathan Anderson, *The Alaska Permanent Fund: Politics and Trust*, 22 PUB. BUDGETING & FIN. 57, 58-59 (Jan. 2002).

136. *Our History*, *supra* note 133.

137. Cliff Groh & Gregg Erickson, *The Improbable but True Story of How the Alaska Permanent Fund and the Alaska Permanent Fund Dividend Came to Be*, in ALASKA'S PERMANENT FUND DIVIDEND: EXAMINING ITS SUSTAINABILITY AS A MODEL 15, 22 (Karl Widerquist & Michael W. Howard eds., 2012).

1980, the investment-fund approach prevailed, and Governor Jay Hammond signed a law establishing the Alaska Permanent Fund Corporation (APFC), a state-owned corporation and "government instrumentality" tasked with managing the APF portfolio under the supervision of a Governor-appointed Board of Trustees.[138]

The Alaskan government funds the APF by depositing into the fund a share of royalties and taxes it collects from oil production, which takes place almost entirely on state-owned land.[139] Although the bulk of this oil-generated revenue goes into the state's Unrestricted General Fund, a constitutional amendment requires "at least twenty-five per cent of all mineral lease rentals, royalties, royalty sale proceeds, federal mineral revenue sharing payments and bonuses received by the State" to be deposited into the APF.[140] This share increases to 50% of proceeds from certain oil fields, and the legislature is authorized to make additional deposits to offset the impact of inflation.[141]

The APFC's professional staff invests the fund's money in accordance with the investment policy set by the independent Board of Trustees, which serves as the fiduciary of the trust.[142] Defining its mission as "making money for Alaska," the APFC's Board of Trustees and management aim to generate investment returns on the fund's portfolio above a certain threshold.[143] The APFC issues regular public reports detailing its financial condition and performance.[144] As of March 31, 2026, the APF's total value was approximately $86.4 billion (unaudited).[145] In 2025, publicly traded equities and fixed income together accounted for just over half of the fund's portfolio, while private equity, real estate, and private income comprised the next tier of largest asset classes.[146]

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138. ALASKA STAT. § 37.13.040 (through 27th Leg. Sess. 2012).

139. *How Alaska Profits from the Trans-Alaska Pipeline*, PBS (last updated 2026), https://perma.cc/J6XB-VTL4.

140. ALASKA CONST. Art. IX, § 15; ALASKA DEPT. OF REVENUE, REVENUE SOURCES BOOK FALL 2021 at 1 (2021) ("Any revenue that is not restricted by the Alaska Constitution, state or federal law, trust or debt restriction, or customary practice is considered 'unrestricted general fund revenue' (UGF) or simply 'unrestricted revenue.' Historically, most legislative, and public discussion has centered on the unrestricted category of revenue, and it has been the figure most commonly referenced in budget discussions.").

141. ALASKA STAT. § 37.13.010(a)(2) (through 27th Leg. Sess. 2012).; Alaska Stat. § 37.13.145(c) (through 27th Leg. Sess. 2012).

142. *Investment Management for Alaska*, ALASKA PERMANENT FUND CORP. (last updated 2026), https://perma.cc/5GTT-EC7K.

143. *Id.* The APFC contracts with external private managers to run certain segments of its portfolio.

144. In addition to current financial statements, the APFC publishes 10-year historical lookback and forward-looking projection reports. *See Resources: Report Archive*, ALASKA PERMANENT FUND CORP. (last updated 2026), https://perma.cc/M8EG-Z3FM.

145. *Investing for Alaska*, ALASKA PERMANENT FUND CORP. (last updated 2026), https://perma.cc/8MW6-234Z (reporting "Total Fund Value as of March 31, 2026" of $86,384,100,000).

146. *See APFC Release the 2026 Annual Report*, ALASKA PERMANENT FUND CORP. (Sept. 26, 2025), https://perma.cc/MYS5-LEUW (reporting FY25 asset-allocation actuals of 33% public equities, 20% fixed income, 17% private equity, 11% real estate, 9% private income, 7% absolute return, 1% tactical opportunities, and 2% cash). As of early 2025, approximately

Under the state's Constitution, the fund's principal cannot be spent and can only be invested in certain revenue-generating assets, while its earnings reserves are available for government spending.[147] While these earnings are used to finance multiple government programs, the most notable and unique feature of the APF model is a particular distribution mechanism, known as the Permanent Fund Dividend (PFD). This dividend functions as a form of universal basic income, paid annually to eligible Alaskans in amounts that vary based on the fund's investment earnings.[148] In recent years, the dividend amount fluctuated between approximately $1,000 and $2,000 per recipient.[149] Unsurprisingly, the PFD is an immensely popular and politically salient feature of Alaska's permanent fund system. For the state's policymakers, any attempt to interrupt or otherwise interfere with this dividend distribution amounts to political suicide.[150] Yet, the extent to which funding the dividend should take precedence over other forms of government spending continues to create significant frictions in the state's politics. For example, in 2020, Governor Mike Dunleavy's proposal to increase the PFD by cutting education and public services[151] sparked significant public backlash and a recall effort, highlighting the ongoing tensions built into Alaska's system.[152] The APF's evolution from a windfall management tool to a cornerstone of Alaskan economic policy underscores the complex interplay of resource wealth, political decision-making, and social welfare.

2. Texas Public Education Funds

Texas is another petroleum-rich state that operates two large government-owned investment funds—the Texas Permanent School Fund (PSF) and the Texas Permanent University Fund (PUF)—established shortly after Texas joined the United States in the

74% of the APF's money was invested in domestic financial assets, with the rest comprising investments abroad. *See Investment Management for Alaska*, *supra* note 142.

147. *The Fund Structure*, ALASKA PERMANENT FUND CORP. (last updated 2026), https://perma.cc/ZZY3-Q8A7.

148. *See Permanent Fund Dividend*, STATE OF ALASKA (last updated 2026), https://perma.cc/CF9F-HGFC.

149. *See Summary of Dividend Applications & Payments*, STATE OF ALASKA (last updated 2026), https://perma.cc/RCJ8-JEC9.

150. *See Scott Goldsmith, The Alaska Permanent Fund Dividend: An Experiment in Wealth Distribution*, in PROMOTING INCOME SECURITY AS A RIGHT: EUROPE AND NORTH AMERICA 553, 562 (Guy Standing ed. 2005) ("The immense popularity of the PFD now means that politicians are virtually falling over one another to demonstrate to the public their efforts to defend the [program]. Any politician who even suggests considering a policy that might adversely impact the size of the annual distribution had best look for another career.").

151. Cas Mudde, *Alaska's Governor Is Trying to Destroy Its Universities. The State May Never Recover*, THE GUARDIAN (July 6, 2019), https://perma.cc/4T2J-BQP6.

152. Nathaniel Herz, *After Bruising First Year, New Dunleavy Budget Trades Cuts for Big PFDs and Deficit Spending*, ALASKA PUB. MEDIA (Dec. 11, 2019), https://perma.cc/Q6Y7-BN84; Mudde, *supra* note 151; Jeff Landfield, *Dunleavy's Dividend Dilemma*, THE ALASKA LANDMINE (July 5, 2022), https://perma.cc/8ZCS-3EM4.

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late 19th century.[153] The PSF finances a portion of K-12 educational costs in each Texas school district, while the PUF supports the state's two flagship public universities, the University of Texas System and the Texas A&M University System.[154] Both funds finance education through direct distributions and by guaranteeing bonds issued by the eligible educational institutions.

Created by the Texas Constitution in 1845, the PSF was seeded with $2 million of the state's money and subsequently endowed with public lands generating significant oil and natural gas royalties and other proceeds for the fund.[155] In 1929, the Texas Legislature gave the State Board of Education the constitutional authority to invest the proceeds from the PSF's land and to make distributions to Texas public schools.[156] In 1939, the legislature created the School Land Board tasked with the management of the PSF's land and mineral leases.[157] This bifurcated management structure continued until 2023, when the Texas Legislature transferred the PSF's assets, investment functions and operations to a newly created Texas Permanent School Fund Corporation.[158]

In 1983, a constitutional amendment authorized the PSF to guarantee bonds issued by local school districts to finance construction of school buildings throughout the state.[159] Putting the PSF's wealth and creditworthiness behind individual school districts assured the AAA-rating for their bonds, thus drastically lowering their borrowing costs and generating substantial savings for local taxpayers, estimated to reach $400 million a year.[160] This innovative use of a tested financial technique markedly improved the state's educational infrastructure, supporting capital-intensive construction of new school buildings and the enhancement of existing facilities.

In parallel to the PSF, the PUF was established by an amendment to the Texas Constitution in 1876 to support higher education in the state.[161] The PUF was initially capitalized through appropriation of approximately one million acres of public lands.[162] Today, the 2.1 million acres that constitute the PUF supply lucrative streams of income from mineral and surface rights, which has helped the University of Texas

153. Christopher R. McIntosh et al., *Minnesota—Too Late for a Sovereign Wealth Fund?*, 35 MINERAL ECON. 67, 70 (2022).

154. *Id.*

155. *See Our History*, TEX. PERMANENT SCHOOL FUND (last updated 2026), https://perma.cc/2NQ2-CBXA.

156. *Id.*

157. TOM MAYNARD, TEXAS EDUCATION AND THE PERMANENT SCHOOL FUND 4 (Oct. 2024), www.texaspsf.org/wp-content/uploads/2024/10/Texas-Education-and-the-Permanent-School-Fund2.pdf.

158. *Our History*, *supra* note 155.

159. *Texas Permanent School Fund*, UNT LIBRARIES (2012), https://perma.cc/4H9R-8GNH.

160. *See Bond Guarantee Program*, TEX. PERMANENT SCHOOL FUND (last updated 2026), https://perma.cc/48XT-R2JT.

161. *Texas Permanent School Fund*, *supra* note 159.

162. Kyle Jacobson, *Permanent University Fund Warrants a Second Look*, LUBBOCK CHAMBER OF COMMERCE (July 27, 2021), https://perma.cc/FLR8-K8NM.

system and the Texas A&M University system to amass two of the largest public university endowments in the United States.[163] Between 2004 and 2013, the PUF funded approximately $1.5 billion in capital projects across the two university systems.[164] For the fiscal year 2025, the fund allocated almost $70 million to various University of Texas system institutions.[165] Like the PSF, the PUF also runs a bond guarantee program which allows the UT System and the Texas A&M system to issue a limited amount of PUF-backed bonds to finance construction and other capital expenditures at system institutions.[166]

3. New Mexico State Investment Council

The New Mexico State Investment Council (SIC) is another notable variation on the long-standing state-level fund model. Established in 1958, the SIC manages New Mexico's four major permanent funds: the Land Grant Permanent Fund, the Severance Tax Permanent Fund, the Tobacco Settlement Permanent Fund, and the Water Trust Fund. While formed at different times and for different purposes, New Mexico's Permanent Funds are vital to the state's financial health, and their activities directly impact households across New Mexico.[167]

The Land Grant Permanent Fund is the state's oldest and largest permanent fund. Established at the time of the state's admission to the Union in 1912, it has experienced significant growth, mainly through the increasing revenues from oil, gas, and other non-renewable resources.[168] The New Mexico State Land Office, overseen by the Commissioner for Public Lands, collects these revenues and plays a key role in maintaining and growing the fund.[169] The Land Grant Permanent Fund contributes over $1 billion annually to the state's public schools and universities, making up more than half of the $1.7 billion distributed by New Mexico's permanent funds each year.[170]

The Severance Tax Permanent Fund was established in 1973 by the New Mexico Legislature to save and invest severance taxes from the extraction of natural resources, including oil and gas.[171] Voters later approved constitutional protections to prevent the

163. *Id.*

164. McIntosh et al., *supra* note 153.

165. THE UNIV. OF TEX. SYS., AVAILABLE UNIVERSITY FUND REPORT: FY 2025 at 3 (2025), https://perma.cc/ST9N-TBZC (reporting "U.T. System Initiatives" expenditures of $70,000,000 for FY 2025).

166. *The Permanent University Fund (PUF)*, THE UNIV. OF TEX. SYS. (last updated 2026), https://perma.cc/WEV2-8GGC.

167. *See Severance Tax Permanent Fund*, N.M. STATE INV. COUNCIL, https://perma.cc/9BCQ-W33J ("Combined distributions from the Permanent Funds essentially deliver, on average, about $1,000 in value annually for every household in New Mexico. Without the distributions produced by these Funds every year, New Mexicans would face much higher taxes, a significant reduction in government services, or both.").

168. *Land Grant Permanent Fund*, N.M. STATE INV. COUNCIL, https://perma.cc/YNA8-KRC2.

169. *Id.*

170. *Id.*

171. *See Severance Tax Permanent Fund*, *supra* note 167. The taxes collected in this fund originate from natural resources as they are taken, or "severed," from the state. Severance tax

fund's corpus from being used for legislative appropriations. These protections, along with investment returns, have enabled significant growth for the Severance Tax Permanent Fund.[172] Every year, the fund distributes 4.7% of its five-year average value to the state's general fund, thus providing a reliable source of financing for multiple state operations and programs.[173]

The Water Trust Fund is another constitutionally protected fund dedicated to supporting water infrastructure projects in New Mexico.[174] Created in 2001, it received an initial appropriation of $40 million in 2006, followed by an additional $15 million in 2007.[175] The Water Trust Fund allocates $4 million each year to the state's Water Trust Board, which oversees the use of these funds to finance water infrastructure projects.[176] The projects selected by the Water Trust Board for public funding are essential for maintaining and enhancing the state's water systems, ensuring reliable and sustainable water resources for New Mexico's residents.[177]

The Tobacco Settlement Permanent Fund deviates slightly from the familiar pattern. It was created after the 1998 master settlement agreement between tobacco manufacturers and several states, including New Mexico.[178] The fund receives payments from this agreement and invests them according to state laws, with the generated income credited back to the fund.[179] In 2003, the Tobacco Settlement Permanent Fund was designated as a reserve fund for the state, highlighting its key role in New Mexico's overall fiscal framework.[180]

The aggregate value of New Mexico's permanent funds has increased markedly over the last decade, while also regularly distributing billions of dollars to the state government. In 2018, the permanent funds had less than $24 billion in total assets.[181] In early 2026, that number stood at over $72 billion.[182] According to the SIC, annual distributions from New Mexico's permanent funds have contributed about 15% to the state's budget, saving the average New Mexican over $1,000 in taxes.[183]

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revenues are used to pay the required debt service on so-called Severance Tax Bonds issued by the state. Remaining revenues are transferred to the SIC, to be added to the Severance Tax Permanent Fund. *Investment Accounts*, N.M. SUNSHINE PORTAL (last updated May 31, 2026), https://perma.cc/6SYS-MC5D.

172. *Severance Tax Permanent Fund*, *supra* note 167.

173. In fiscal year 2021, for instance, these distributions totaled approximately $234 million. *Id.*

174. *Water Trust Fund*, N.M. STATE INV. COUNCIL, https://perma.cc/AN59-E89P.

175. *Id.*

176. Water Trust Board, N.M. FIN. AUTH. (last updated April 2, 2026), https://perma.cc/HQL9-GWJF.

177. *Id.*

178. *Investment Accounts*, *supra* note 171.

179. *Id.*

180. *Id.*

181. N.M. STATE INV. COUNCIL, 60 YEARS ANNIVERSARY REPORT 3 (2018), https://perma.cc/JYU9-8DSB.

182. *See State of New Mexico State Investment Council*, SOVEREIGN WEALTH FUND INST., https://perma.cc/FPP2-WMXZ.

183. *About the SIC*, N.M. STATE INV. COUNCIL, https://perma.cc/E5MM-F8E5.

The composition and the powers of the SIC reflect its political importance as the legislatively established entity in charge of managing the state's permanent funds. The Governor of New Mexico is the Chair of the SIC, and its members include the state's Treasurer, the Commissioner of Public Lands, the Secretary for the New Mexico Department of Finance and Administration, the Chief Financial Officer for a state university, four public members appointed by the Legislative Council, and two public members appointed by the Governor.[184] The SIC is responsible for establishing the investment policy for all four permanent funds, including asset allocations and distribution policies, tailored to the specific needs and goals of each fund.[185] The SIC's stated mission is to "preserve, diversify, provide transparency, and grow the assets placed under management to enrich lives of all New Mexicans."[186] The funds under the SIC's oversight are invested in a diversified portfolio of public equity, fixed income, real estate, digital assets, private equity, and private credit.[187] The strong growth of capital inflows in recent years, however, has been putting pressure both on this diversification strategy and on the SIC's in-house professional investment management team.[188]

So, what does this brief overview of the three largest state-level SWFs, successfully operating in the United States, tell us about the promise and the limitations of the SWF model in the U.S. context? Does the collective experience of these funds' prove that the United States is much more ready for a federally established SWF than is commonly assumed? Or does it highlight the built-in limitations of the SWF model as a solution to America's economic problems?

The answer is, both. It is hard to overestimate the importance of the principle behind what is happening in Alaska, Texas, and New Mexico, as well as other states experimenting with similar public investment funds. It irrefutably demonstrates that the U.S. economy, just like all modern economies, is inherently hybrid, and that U.S. government entities can legitimately and successfully participate in financial markets as long-term, large-scale investors. And they can use their investment portfolios as unorthodox but effective tools of economic policy.

At the same time, it is notable that the surveyed state funds fall squarely within the traditional model of an SWF capitalized through the government's abundant oil and gas revenues. This specific form of financing has long been the principal, albeit not exclusive, feature of the world's largest and most famous SWFs.[189] Permanent funds in Alaska, Texas, and New Mexico seem to reinforce the underlying notion that only commodity export windfalls can justify having a SWF or ensure its success. That could potentially weaken the case for relying on a national SWF as the principal vehicle of economic statecraft.

184. *Id.*

185. *Investment Accounts*, *supra* note 171.

186. *Mission and Vision*, N.M. STATE INV. COUNCIL, https://perma.cc/JYU9-8DSB.

187. *See* Sarah Rundell, *How Abundant Inflows Have Put New Mexico's SIC In a Bind*, TOP1000FUNDS.COM (July 11, 2024), https://perma.cc/9BLY-Z787.

188. *Id.*

189. *See supra* Section I.A.

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The asset side of these state funds' balance sheets reveals another interesting feature of their business model. Just like their foreign counterparts, these permanent funds don't need to issue bonds in private markets to finance their operations. That potentially enables them to make patient investments in publicly beneficial local projects that may not be considered commercially profitable in the short run. But these funds' missions, framed in terms of preservation and growth of the relevant state's windfall revenues, limit them to replicating some version of a traditional SWF portfolio. In other words, the country's largest state-level SWFs are not typically used by their governments to implement active industrial policy through their investment strategies. Instead, the states use their funds' investment gains to finance the provision of public goods, such as subsidized education—arguably, the least controversial or interventionist form of fiscal policy-making—or even make direct dividend distributions to their residents.

The latter choice makes it particularly obvious that the U.S. states' experiments with SWFs have not been directly aligned with the more ambitious goals of structurally diversifying state economies or reshaping their composition for the long term. These goals have been more effectively pursued through another kind of state financial institution: a public bank.

B. Financiers: State Public Banks

Since the 1980s, there has been a steady stream of legislative proposals to establish a U.S. version of a national development or investment bank, yet none of them have made it into the law.[190] By contrast, many states have successfully created their own version of investment banks that closely follow the traditional NDB model, discussed above.[191] The Bank of North Dakota and several so-called green banks, operating in multiple states and municipalities, illustrate this trend.

1. The Bank of North Dakota

The Bank of North Dakota (BND) is currently the sole state-owned general-service bank in the United States. It was established in 1919, in an effort to create a reliable source of credit for North Dakota farmers who were effectively locked out of the then-existing private banking system.[192] At the time, national banks were prohibited from extending farm mortgage loans, and state banks were often under-capitalized and reliant on out-of-state funds, which left North Dakota farmers unable to secure financing for their highly cyclical business needs. High commercial interest rates and abusive prices charged by railroads further exacerbated these difficulties. When the Nonpartisan League, a new political movement advocating public ownership of economic infrastructure, took over North Dakota's government, one of its first acts was

190. *See supra* note 4.

191. *See supra* Section I.B.

192. *The Case for a State-Owned Bank*, BANK OF N.D., https://perma.cc/97FD-JSF3.

the creation of a state-owned bank.[193] Under its enabling legislation, BND's primary purpose was not only to provide low-cost credit to local farmers but, more generally, to "encourag[e] and promot[e] agriculture, commerce, and industry."[194] It was, in this sense, set up as a developmental institution.

BND is governed by the state's Industrial Commission, consisting of North Dakota's Governor, Attorney General, and the Commissioner of Agriculture—all elected officials.[195] The Commission, in effect, serves as the bank's board of directors; it appoints the bank's executive management team that runs its daily operations. The bank also has a seven-member Advisory Board, appointed by the Governor and comprising people with expertise in banking, including representatives of community banks.[196]

Originally derided by its opponents as a "socialist" experiment, BND now has more than a century-long track record of being an indispensable source of financial strength and economic stability for the State of North Dakota.[197] It channels capital toward the state's economic and social policy priorities, provides financial services to state departments and enterprises, and serves as a clearinghouse and rediscount agency for banks throughout the state.[198] It is a full-blown state-level development bank with a steady funding model and a dynamic investment portfolio.

Under North Dakota law, all state funds generally must be deposited with BND, which lends out those funds to borrowers within the state.[199] Deposits at BND are not federally insured but fully guaranteed by the State of North Dakota.[200] Although BND was not created for the purpose of managing the state's petroleum revenues, its balance sheet has clearly benefitted from the oil and gas discoveries that significantly boosted the inflow of public deposits and, accordingly, amplified BND's lending capacity.[201]

193. *Id.*

194. THE BANK OF N.D., ORGANIZATION, PURPOSE AND PROGRESS (1920), https://perma.cc/UC3R-QXNQ.

195. N.D. Cent. Code § 6-09-02 (Lexis Advance through all acts from the 69th Legis. Assembly Special Session (2026)).

196. *Leadership*, BANK OF N.D. (last updated 2026), https://perma.cc/SX6N-MSLJ.

197. *History of BND: 1920-1949*, BANK OF N.D., https://perma.cc/Y27A-BMDT.

198. *Operations*, BANK OF N.D. (last updated 2026), https://perma.cc/7MAF-3VR5.

199. N.D. Cent. Code § 6-09-07 (Lexis Advance through all acts from the 69th Legis. Assembly Special Session (2026)). While BND is authorized to accept retail deposits, it deliberately doesn't offer any customary conveniences (such as branch offices or ATM services), which keeps it a wholesale depository. *See Checking and Savings Accounts*, BANK OF N.D. (last updated 2026), https://perma.cc/Z938-E9W5 ("Because of our unique structure, it is the Bank's policy not to compete with the private sector for retail deposits. Therefore, convenience products such as debit cards, credit cards or online bill pay are not offered."). In addition to state deposits, BND accepts deposits from corporations, city and county agencies, and private financial institutions in North Dakota. *Id.*

200. North Dakota Century Code § 6-09-10 (Lexis Advance through all acts from the 69th Legis. Assembly Special Session (2026)).

201. *Oil!*, BANK OF N.D., https://perma.cc/YS44-A9K8.

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As of December 31, 2025, BND managed over $10 billion in assets.[202] The bank's credit portfolio comprises a wide variety of business, farm, infrastructure, residential, and student loans.[203] BND operates as a "bankers' bank," with most of its lending done in partnership with local community banks and other private lenders. These local banks originate industrial, agricultural, and mortgage loans that BND either purchases for its own books or co-finances—a technique known as loan participation.[204] This indirect credit extension strategy is widely credited for North Dakota's thriving ecosystem of community banks and credit unions, which consider BND a vital business partner.[205] In effect, it allows BND, a public bank, to subsidize and amplify the flow of private credit throughout the entire state.[206]

BND's ability to borrow from the Federal Reserve's discount window allows it to function as something of a mini-central bank for North Dakota's financial institutions, helping them meet their short-term liquidity needs more cheaply.[207] Similarly, BND can leverage its Federal Reserve borrowing capabilities to lend directly to local governments at lower rates than the municipal bond market provides.[208]

Since its inception, BND has generally been quite profitable, and a significant portion of those profits has been regularly contributed to the state's annual budget.[209] These transfers help to support vital public services, while simultaneously alleviating tax burdens on North Dakota's residents and businesses.[210] Importantly, BND has also provided emergency financing in times of crisis. During the 1997 Red River valley floods, for example, BND's rapid mobilization of credit lines and establishment of a disaster relief loan program drove the region's swift recovery.[211] More recently, BND

202. BANK OF N.D., QUARTERLY REPORT 19 (Dec. 31, 2025), https://perma.cc/H54G-SLMP (reporting total assets of $10,657,933,000).

203. BANK OF N.D., ANNUAL REPORT 2024 at 26–29 (2025), https://perma.cc/6GZR-HH9M (describing BND's "loan pools" as including commercial, agricultural, residential, and student loans, and explaining that its legislature-directed programs serve purposes including school construction, water projects, and general and medical infrastructure).

204. *See* MAROIS, *supra* note 94 (describing the BND's lending strategy). Notably, the BND extends student loans directly. BND offers student loans to North Dakota residents enrolled in schools located anywhere, as well as to out-of-state residents attending schools in North Dakota or any adjacent state. BND's student loan rates are among the lowest in the country. *See* Stacy Mitchell, *Public Banks: Bank of North Dakota*, INST. FOR LOC. SELF-RELIANCE (last updated 2024), https://perma.cc/H7HV-5URV.

205. MAROIS, *supra* note 94, at 174-75.

206. ELLEN BROWN, THE PUBLIC BANK SOLUTION: FROM AUSTERITY TO PROSPERITY 364-69 (2013).

207. *Id.;* Mitchell, *supra* note 204. The Federal Reserve's discount window is a special program that enable eligible banks to borrow directly from the central bank against high-quality collateral (typically, loans held in their portfolios), at rates that are better than those available in private markets. *See Discount Window Lending*, BD. OF GOVERNORS OF THE FED. RES. SYS. (last updated June 30, 2026), https://perma.cc/X6DU-2KT7. Having direct access to this this program is an important form of liquidity support for BND's operations.

208. Mitchell, *supra* note 204.

209. *First Transfer to General Fund*, BANK OF N.D., https://perma.cc/H3HG-T56F; Mitchell, *supra* note 204.

210. Mitchell, *supra* note 204.

211. Due in part to support from BND, the Grand Forks economy recovered much more

has risen to a much bigger challenge posed by the COVID-19 pandemic. From the very outset of the pandemic, when many American families and employers were unable to access much-needed bank financing, BND proactively and effectively provided emergency credit relief and support for the state's student-borrowers and small and large businesses.[212] It is hardly surprising, therefore, that BND enjoys a largely favorable reputation and popular support in North Dakota.[213]

BND's success has proven difficult to replicate in other parts of the country. To date, no other state has been able to establish a full-service public bank of BND's type.[214] Many different states and municipalities, however, have successfully created special-purpose investment institutions, commonly known as "green" banks.

2. State "Green" Banks

Green banks are defined as "mission-driven institutions that use innovative financing to accelerate the transition to clean energy and fight climate change."[215] This category includes a wide range of entities identifying themselves as banks, funds, financing authorities, coalitions, accelerators, and so on. In essence, the term "green bank" denotes not a specific institutional form but an institutionalized investment strategy.

The first officially designated green bank in the United States was established in Connecticut in 2011.[216] Within a decade, by 2021, there were 21 green banks operating in sixteen states and the District of Columbia, with $7 billion in investments since 2011.[217] The list includes New York Green Bank, DC Green Bank, Michigan Saves, Colorado Green Energy Fund, Hawaii Green Infrastructure Authority, California Alternative Energy and Advanced Transportation Financing Authority, and many others.[218] While these entities' specific investment mandates, market participation mechanisms, and governance structures vary, they generally fit well within the traditional business model of a development bank.

Green banks can operate as government agencies, quasi-governmental organizations, or non-profit corporations. Many green banks are initially capitalized

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quickly than that of nearby East Grand Forks, Minnesota, which was similarly affected by the flood but did not have access to BND-like financial support. *Id.*

212. *See* Cinnamon Janzer, *In North Dakota, Student Loan Borrowers Can Defer Payments Until October*, U.S. NEWS & WORLD REP. (Apr. 14, 2020), https://perma.cc/9CP2-M3EH; MAROIS, *supra* note 94, at 264-66.

213. Yolanda K. Kodrzycki & Tal Elmatad, *The Bank of North Dakota: A Model for Massachusetts and Other States?* 3 (New England Pub. Pol'y Ctr. Rsch. Rep. 11-2, May 2011).

214. For an in-depth analysis of the challenges involved in the process of creating a public bank in the United States, see Saule T. Omarova, *Public Banking as an Institutional Design Project*, 41 YALE J. REG. 1128 (2024).

215. *Understanding the Model*, COAL. FOR GREEN CAP. (last updated 2026), https://perma.cc/Z6TG-2Q8N.

216. *About Us*, CONN. GREEN BANK (last updated 2025), https://perma.cc/7K5T-THD2.

217. *Green Banks*, ENV'T PROT. AGENCY (last updated March 10, 2026), https://perma.cc/4QXT-YJYM.

218. COAL. FOR GREEN CAP., *supra* note 215.

with a dedicated funding stream, such as ratepayer funding, carbon trading revenues, energy certificate sales, or other revenue-producing arrangements.[219] The Connecticut Green Bank, for instance, was capitalized through an electricity surcharge of about $10 per year per household.[220] In Maryland, the Montgomery County Green Bank was capitalized with $14 million generated from a utility merger.[221] It is also common for green banks to raise private capital and philanthropic contributions to finance their initial and ongoing operations. For example, the Nevada Clean Energy Fund was established by the state legislature with the mandate to secure the necessary startup and capitalization dollars to launch the fund.[222]

Bond issuances and returns on investments, in particular, are important sources of funding for green banks, allowing them to perform their market functions independently from the state's budget.[223] As a result, they focus on commercially profitable investments, which "generally means proven, technically viable projects that are well past the research and development stage."[224]

To finance and promote the transition to clean energy—defined as "energy efficiency upgrades, renewable energy projects (e.g., solar photovoltaic systems), clean heating technologies, battery energy storage, or electric transportation infrastructure"[225]—green banks employ several common techniques. They help consumers to finance energy efficiency upgrades through so-called "on-bill repayment" whereby the cost of the relevant upgrades, advanced by the lender, is repaid through the customer's utility bill.[226] Green banks often act as either administrators or lenders in these programs. Another popular method of financing clean energy projects is through credit enhancements, such as loan guarantees and loan loss reserves, which allow green banks to reduce the levels of risk for private investors in these projects.[227] By absorbing the risk private markets consider excessive, green banks increase the flow of capital into their priority areas. Green banks also provide credit directly to small, geographically dispersed projects—such as small business and residential energy efficiency improvements—that lack the scale to attract private investors.[228] By pooling and securitizing these loans, green banks overcome these potentially crippling inefficiencies of scale and make financial markets operate more effectively. Finally, green banks often partner with private capital as co-investors in various projects. Taking a senior or subordinated position in the project's capital structure allows green banks to close the funding gap that would otherwise render

219. ENV'T PROT. AGENCY, *supra* note 217.

220. *Energy Financing Institutions*, NAT'L LAB'Y OF THE ROCKIES (last updated Dec. 8, 2025), https://perma.cc/MT7B-JUZ6.

221. ENV'T PROT. AGENCY, *supra* note 217.

222. *Energy Financing Institutions*, *supra* note 220.

223. COAL. FOR GREEN CAP., *supra* note 215.

224. *Id*.

225. ENV'T PROT. AGENCY, *supra* note 217.

226. COAL. FOR GREEN CAP., *supra* note 215.

227. *Id.*

228. *Id.*

that project unfeasible.[229]

Green banks' proven ability to leverage and direct private capital toward publicly beneficial goals creates a strong incentive for policymakers to expand the scope of their activities. In 2021, the Connecticut Green Bank's mission, for example, was redefined to include "new areas of environmental infrastructure, related to climate adaptation and resiliency, land conservation, parks and recreation, agriculture, water, waste and recycling, and environmental markets."[230] While it is difficult to generalize, such broadening of green banks' mandates further underscores the fundamental similarities between these special-purpose subnational entities and the world's most famous and successful NDBs.

C. *Entrepreneurs: Agencies' Venture Capital Arms*

The United States currently has no financial institution that could be characterized as a direct variation on the SHC model, exemplified by Singapore's Temasek. Nevertheless, there have been a few remarkably successful experiments with the more entrepreneurial forms of public investment, which invite interesting comparisons with full-service government-owned asset managers. The Defense Advanced Research Projects Agency (DARPA) and In-Q-Tel are particularly intriguing and illuminating institutional experiments of this kind.

1. Defense Advanced Research Projects Agency (DARPA)

DARPA is an independent research and development (R&D) agency under the Department of Defense (DOD).[231] Founded in 1958 in response to the Soviet Union's launch of Sputnik, DARPA aims to make strategic, early investments in science and technology with high long-term potential to serve U.S. national security interests.[232] From the outset, the agency has focused on nurturing radical breakthroughs and bold experimenting rather than incremental improvements in specific technology markets. Guided by this "high risk, high reward" principle, DARPA has financed significant advances in material science, telecommunications, computer science, and other theoretical fields.[233] DARPA-funded research has also led to the emergence of some of modern history's most transformative products and technologies, including global positioning systems (GPS), stealth technology, unmanned aerial vehicles, infrared night vision, automated voice recognition, and even the now-ubiquitous internet.[234] As the agency itself describes it, its mission is "to prevent and create technological surprise" by "work[ing] quickly, embrac[ing] risk," and seeking "DARPA-scale

229. *Id.*

230. CONN. GREEN BANK, *supra* note 216.

231. MARCY E. GALLO, CONG. RSCH. SERV., R45088, DEFENSE ADVANCED RESEARCH PROJECTS AGENCY: OVERVIEW AND ISSUES FOR CONGRESS 3 (updated Aug. 19, 2021).

232. *Id.*, at 1-2.

233. *Id.*, at 2-3.

234. *Id.*

impact."[235]

Within the DOD, DARPA reports to the Under Secretary of Defense for Research and Engineering. Its financing comes exclusively from the DOD's budget appropriations.[236] In 2024, the agency's budget was slightly over $4 billion.[237] As of late 2024, DARPA employed approximately 250 government personnel (including nearly 100 program managers) in six technical offices, each with a particular substantive research focus.[238] Generally, however, DARPA does not conduct research in-house but contracts with universities, private industry, government laboratories, non-profits, and other entities.[239] As a research organization, DARPA does not fund production of any specific technology products or operating systems. Its mode of operation is to develop "proof of concept" prototypes, leaving further commercialization of the underlying advanced technologies to its private and public sector partners.[240]

In line with this model, DARPA has described itself as an "agile" agency. Its projects typically have a short lifespan of three to five years, after which they are either terminated or transitioned to the private sector, another government agency, or put into operational use.[241] Its key personnel—program managers and tech office leaders—have limited work terms (also between three and five years), which allows DARPA to continuously bring in new cohorts of top tech talent and prominent scientists and to cultivate a dynamic intellectual environment.[242] Known for its uniquely "flat" organizational structure, DARPA provides its program managers with a great deal of autonomy, giving them significant freedom to create new programs, fund promising research, and terminate projects on an as-needed basis.[243] DARPA program managers work closely with the leaders in multiple scientific and engineering communities to identify and address newly emerging challenges in the fast-moving environment. In contrast to the traditionally cautious bureaucratic culture prevalent at other federal agencies, the so-called "DARPA model" encourages taking risk on innovative ideas and prizes rapid innovation and execution.[244]

At the heart of the DARPA model is a very particular approach to investment risk. Given its mission, the agency is driven primarily not by the fear of financial losses on projects with low chances of short-term commercial success but by the assessment of potential magnitude of their impact on the national security ecosystem. In fact, it is not

235. DEF. ADVANCED RSCH. PROJECTS AGENCY, DARPA AGENCY FINANCIAL REPORT FY 2024 at 1 (2025), https://perma.cc/5DCW-QLCD. The Soviet Union's launch of the Sputnik mission is the paradigmatic example of a "technological surprise" at the core of DARPA's understanding of its mission. *Id.* at 9.

236. *Id.* at 6.

237. *About DARPA: Budgets and Testimony*, DEF. ADVANCED RSCH. PROJECTS AGENCY, https://perma.cc/6M6J-D3RL.

238. DEF. ADVANCED RSCH. PROJECTS AGENCY, *supra* note 235, at 6-8.

239. GALLO, *supra* note 231, at 10.

240. DEF. ADVANCED RSCH. PROJECTS AGENCY, *supra* note 235, at 9.

241. *Id.* at 9, 16.

242. *Id.* at 16.

243. GALLO, *supra* note 231234, at 4-5.

244. *Id.*

unusual for DARPA to reject commercially viable projects it considers insufficiently ambitious. It accordingly views the failure of any initiative it funds as an expected built-in cost of supporting truly transformative R&D.[245] As the agency puts it:

> Under all scenarios, valuable information is taken from the project and applied to all future efforts. DARPA does not strive for a 100% "success" rate in transitioning projects because that indicates risk is not being taken for exploratory research and development.[246]

This approach, while leading to some high-profile failures, has also been the bedrock of DARPA's most significant successes, and the agency's focus on high-risk game-changing research is widely considered vital for sustaining the United States' economic and military competitiveness.[247]

2. In-Q-Tel

In-Q-Tel is another domestic example of institutional experimentation with public asset management in the name of national security. Unlike DARPA, In-Q-Tel is not a federal agency but a not-for-profit venture capital firm, chartered by the Central Intelligence Agency (CIA) in February 1999.[248] Its mission is to identify, adapt, and deliver innovative technology solutions to support the CIA and the broader U.S. intelligence community.[249] Structurally and legally independent from the CIA, In-Q-Tel uses government-supplied funds to make equity investments in private-sector firms, particularly focusing on emerging technologies that stand to advance the objectives of the intelligence community.[250] It is thus much more closely follows the familiar business model of a private venture capital fund.

In contrast to traditional venture capital firms, however, In-Q-Tel's primary goal is to advance the CIA's strategic objectives, focusing on so-called "technology returns" rather than financial profit.[251] In this orientation, it follows the same model as DARPA. In recent years, In-Q-Tel made about fifty new investments per year, with individual investments ranging from $500,000 to $3 million.[252] Its investment approach is similar

245. *Id.* at 6.

246. DEF. ADVANCED RSCH. PROJECTS AGENCY, *supra* note 235, at 9.

247. GALLO, *supra* note 231, at 17-18.

248. John T. Reinert, *In-Q-Tel: The Central Intelligence Agency as Venture Capitalist*, 33 NW. J. INT'L L. & BUS. 677, 678 (2013).

249. *Id.*

250. *Id.* at 677, 694.

251. Keith W. Crane et al., *Assessment of the Utility of a Government Strategic Investment Fund for Space*, INST. FOR DEF. ANALYSES B-1 (Apr. 2019), https://www.ida.org/assets/2025/10/25114156/D-10616.pdf.

252. Patrick S. Roberts & Jon Schmid, *Government-Led Innovation Acceleration: Case Studies of US Federal Government Innovation and Technology Acceleration Organizations*, 39 REV. OF POL'Y RSCH. 353, 361 (2022).

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to corporate strategy venture funds like those of Google Ventures or Intel Capital.[253] In-Q-Tel's technology is primarily used to advance the objectives of the specific constituency it serves, rather than being marketed to external consumers.[254]

As a strategic investment fund, In-Q-Tel functions principally as a "technology accelerator."[255] The CIA provides investment capital and identifies "pressing problems," for which In-Q-Tel finds solutions through strategic investments in startups.[256] The investments are typically in technologies that can offer near-term advantages from an intelligence gathering perspective.[257] Specifically, In-Q-Tel's investment strategy focuses on mature solutions that can yield benefits within three years, and the decision-making process turns primarily on the target firm's financial soundness, a technical evaluation, and the match between the solution and the defined problem set.[258]

Importantly, however, In-Q-Tel assesses its performance based not on whether its technologies are financially profitable but on whether members of the intelligence community ultimately purchase and adopt the technology for industry use.[259] In other words, "[i]f the product is a commercial success, but not adopted by the [intelligence community], the investment is considered unsuccessful."[260] This reflects the fact that In-Q-Tel's objective is not to maximize its return on investment but to accelerate technology development to deliver useful products to the CIA and the broader market.[261]

In-Q-Tel's role also extends to being a market influencer within the technology sector. By identifying and investing in promising technologies, it signals to the broader market the areas of innovation that are of interest to the intelligence community. This "halo effect" can attract additional investment and interest in these areas, further stimulating technological advancement.[262]

In short, much like DARPA, In-Q-Tel represents a distinctive form of public participation in capital markets. Despite the differences in their governance and investment strategies, both DARPA and In-Q-Tel are designed to behave more like risk-taking entrepreneurs and venture capitalists than the more familiar types of sovereign funds and development banks. These self-consciously agile institutions are focused on promoting technological innovation and deeply embedded in the industries and market communities at the center of their respective missions. It is particularly noteworthy that the success of these public asset managers is not

253. Crane et al., *supra* note 251.
254. *Id.*
255. *Id.*
256. Reinert, *supra* note 248 at 677, 678-79.
257. *Id.*
258. Roberts & Schmid, *supra* note 252 at 353, 361.
259. Crane et al., *supra* note 251.
260. *Id*.
261. DG, *In-Q-Tel: How to Keep Your Spies In the Know*, HARV. BUS. SCH. (Dec. 9, 2015), https://perma.cc/6H9Q-L3NZ.
262. Crane et al., *supra* note 251; Roberts and Schmid, *supra* note 252 at 353, 362.

measured in terms of commercial profitability, which enables them to take economic risks in the public interest, thus operationalizing the sovereign government's unique advantages as a strategic investor with a policy-driven agenda.

* * *

As this brief overview shows, the United States has long had multiple institutions of public investment, dispersed among multiple states or nestled inside the federal administrative apparatus. For the most part, these institutions remain in the shadows of our country's vast and burgeoning private financial markets. Yet, it is difficult to overestimate the significance of these institutions' success as the living proof of the enduring viability of sovereign funds, development banks, and public asset management in the U.S. context. These entities fill key structural gaps in private markets by consistently channeling financial resources into education, clean energy, and technological innovation—areas that, despite being critical to the nation's long-term economic growth and resilience, often fall short of private investors' short-term return expectations.

At the same time, however, placing these entities in a comparative frame highlights their principal limitations as tools of national industrial policy. The most critical such limitation is the narrow scope and scale of their ambitions and activities. To a great extent, this is a product of the fact that most of these institutions are creatures of individual states. As the U.S. state permanent funds illustrate, for example, the SWF model at this subnational level functions primarily as a straightforward fiscal policy mechanism and not as an institutional base for strategic restructuring and diversifying the state's economy.[263] While various state public banks, like the BND or green banks, take a more proactive role as conduits for the enhanced flow of public and private credit to productive enterprise, their missions are defined by reference to in-state and local economic activities. Green banks' investment portfolios are also mission-specific, with the focus on financing clean energy projects. Although this is a potentially expansive concept, it inevitably bounds the space for economic policy action these banks' balance sheets can reliably support. DARPA and In-Q-Tel represent an intriguing variation on this model, in which the breadth of potential market action and investment tools at the agency's disposal is paired with a very specific policy goal: financing innovation in the national security ecosystem.

It is hardly surprising, therefore, that the institutional structure of public investment in the modern-day United States remains fundamentally fragmented, unevenly distributed, and uncoordinated on the national level. In the absence of entities able to mobilize much larger flows of capital in furtherance of more cohesive and democratically determined long-term national goals, the emergence of an effective U.S. developmental strategy remains unlikely. To be able to finance and execute such a strategy, the United States needs to scale up its public investment infrastructure.

That project, however, is not simply about "upsizing" or "upgrading" the entities

263. *See supra* Section II.A. The Alaska Permanent Fund, famous for its annual dividend distributions, is a particularly interesting example of the impact the state's choice of what to do—or, perhaps more to the point, what not to do—with its commodity revenues can have on that state's economic trajectory and political dynamics.

that already exist in this country. Nor can it be reduced to blindly replicating other countries' institutional choices. Those choices were made in different times (often many decades ago) under the economic, political, and cultural circumstances unique to each country. Familiar institutional labels do not capture any of these key substantive features that made individual sovereign investment agencies fail or succeed. Moreover, as the foregoing discussion shows, each of the three presently popular institutional models of public investment—SWF, NDB, and SHC—has its own weaknesses and limitations as an instrument of developmental or industrial policy. As a relative late comer to this institutional project, the United States has the advantage of learning from the wealth of experience accumulated elsewhere, enabling it to avoid common pitfalls and to build on proven successes. U.S. policymakers are perfectly positioned to select, adapt, and amplify specific elements of institutional design that would work well in the U.S. context.

Of course, the greatest challenge in this process is contextualizing the abstract lessons of institutional design to optimize the desired outcomes for a country as unique as the United States. Fortunately, U.S. policymakers have a powerful source of institutional learning in our own history: the New Deal era's Reconstruction Finance Corporation (RFC). Largely left out of today's mainstream discussions, the RFC was an effective and capacious federal entity at the core of the government's massive responses to the Great Depression and World War II. What is especially relevant for purposes of this Article, the RFC represented a unique institutional approach to public investment that goes beyond the currently prevalent models. Understanding it is essential to any serious effort to reimagine the U.S. industrial policy in the 21st century.

III. THE PAST AND THE FUTURE OF SOVEREIGN CAPITAL IN THE UNITED STATES: EXPERIENCE AND EXPERIMENTATION

So, what kind of public investment institution would be the best fit for the 21st century United States, as the country navigates the rapidly evolving and increasingly complex socio-economic, technological, and geopolitical landscape? What concrete lessons should U.S. policymakers derive from the accumulated experience, both abroad and on our own soil?

To address these questions, this Part begins by taking a closer look at the RFC as the most directly relevant U.S. precedent for financing a large-scale industrial policy effort. In its own distinctive way, the RFC's institutional design combines many elements of SWFs, NDBs, and SHCs. Having added this unique historical model to the three-part taxonomy of public investment entities in operation today, the Part then outlines a conceptual framework for designing a new entity capable of re-energizing and re-positioning the U.S. economy for long-term success.

A. The Lost Legacy: Reconstruction Finance Corporation

Although the United States currently has no federal institution explicitly tasked with financing or implementing industrial policy, it is a home to one of the most interesting and instructive historical experiments in this area: the RFC. During its years of activity, from 1932 until the early 1950s, the RFC has achieved remarkable success in mobilizing America's financial resources to lead the nation through the Great Depression and the World War II effort. In the context of the present discussion, the RFC offers a real-life institutional example of what can be termed an "emergency public finance" option, whose admittedly unique experience has fundamentally shaped U.S. financial markets.[264]

The RFC was a special government corporation, established in the wake of the 1929 stock market crash and the Great Depression that followed it.[265] By 1932, the year in which the RFC was created by the Hoover administration, virtually every sector of the U.S. economy was suffering from numerous business closures and soaring unemployment, while widespread bank failures foiled any hopes of recovery.[266] In this period of unprecedented economic distress, the creation of the RFC marked a unique effort by the U.S. government to intervene directly in a troubled economy to restore public confidence in the nation's nearly defunct financial system.[267]

The RFC's initial mandate was to restart the flow of credit necessary to prevent the nation's economy from collapse by lending to banks, trust companies, and other financial institutions.[268] As it became apparent that the economy needed the government to provide greater quantities of public capital via multiple channels, Congress authorized the RFC to take equity stakes—primarily by purchasing preferred stock—in banks, insurance companies, agricultural credit corporations, and other lenders.[269] Importantly, the RFC was also granted authority to make loans to business enterprises and assist in financing the construction of public works. Under its expanded mandate, the RFC engaged in large-scale direct lending to municipalities, utilities, commercial businesses, farmers and farm co-ops, production credit associations, joint-stock land banks, livestock credit corporations, and local lending institutions.[270]

Operating through multiple specialized finance subsidiaries and thirty-three regional offices nationwide, the RFC functioned as the New Deal's "capital bank."[271] During the World War II, the RFC became the natural institutional choice to take the

264. *See* CHRIS HUGHES, MARKETCRAFTERS: THE 100-YEAR STRUGGLE TO SHAPE THE AMERICAN ECONOMY 3-48 (2025)

265. *See* Reconstruction Finance Corporation Act, 15 U.S.C. § 601 et seq. (repealed 2010) [hereinafter RFC Act].

266. David C. Wheelock, *Reconstruction Finance Corporation Act*, FED. RSRV. HIST. (Nov. 22, 2013), https://perma.cc/2Y7E-SRPB.

267. SEC'Y OF THE TREASURY, FINAL REPORT ON THE RECONSTRUCTION FINANCE CORPORATION, (May 6, 1959), https://perma.cc/Q6HN-3C7H [hereinafter *Secretary of the Treasury Report*].

268. Wheelock, *supra* note 266.

269. *Secretary of the Treasury Report*, *supra* note 267, at 2. When the RFC ceased operations in the early 1950s, it sold the preferred stock it held in its portfolio and recovered the funds provided by taxpayers. Charles W. Calomiris et al., *The Effects of Reconstruction Finance Corporation Assistance on Michigan's banks' Survival in the 1930s*, 50 EXPLS. IN ECON. HIST. 526, 527 (2013).

270. JAMES S. OLSON, SAVING CAPITALISM: THE RECONSTRUCTION FINANCE CORPORATION AND THE NEW DEAL 1933–1940 42-46 (1988).

271. *Id*. at 44.

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lead in financing and implementing national defense programs, which included not only financing but constructing, owning, and operating defense-related manufacturing facilities.[272] As part of this expansion of its business portfolio, the RFC established eight subsidiary-corporations to produce strategic defense goods.[273]

The RFC was initially capitalized by selling $500 million in stock to the U.S. Treasury.[274] It was also authorized to borrow from the Treasury, if necessary to supplement its portfolio revenues.[275] Over time, the RFC borrowed a total of $51.3 billion from the Treasury and $3.1 billion from the public, all backed by the full faith and credit of the United States.[276] Thus, the RFC remained embedded in the federal fiscal policy apparatus while conducting a much more proactive industrial policy through direct market participation.

In large part because of this funding mechanism, the RFC typically invested in projects that provided a reasonable assurance of repayment, so that its investment income generally exceeded its losses and expenses.[277] At the same time, however, many of the RFC's loans and investments were made with little to no expectation of recovery. Notable examples included grants and loans to other federal government and state agencies during the New Deal era and expenditures in support of the WWII effort.[278] In these cases, Congress "recognized the unbusinesslike nature of these expenditures" and canceled the RFC's obligations to repay the funds to the Treasury.[279] As the Treasury's final report on the RFC emphasized, "Nowhere in the basic RFC legislation are there any indications that RFC was established for the purpose of making a profit. The stated purposes for RFC's existence were to deal with emergency situations and to aid in attaining broad economic goals."[280]

The extraordinary scale of the RFC's operations and the high degree of flexibility in structuring its investment portfolio were critical determinants of both its

272. *Secretary of the Treasury Report*, *supra* note 267, at 3. *See also* Andrew Bossie & J. W. Mason, *The Public Role in Economic Transformation: Lessons from World War II* 7-12 (Roosevelt Inst. Working Paper, Mar. 2020).

273. *Secretary of the Treasury Report*, *supra* note 267, at 30.

274. *Id.*, at 38.

275. Under Section 9 of the RFC Act, the RFC was "authorized and empowered, with the approval of the Secretary of the Treasury, to have outstanding at any one time in an amount aggregating not more than three times its subscribed capital, its notes, debentures, bonds, or other such obligations." Reconstruction Finance Corporation Act § 9. Congress increased the RFC's borrowing authority substantially through subsequent legislation. *Secretary of the Treasury Report*, *supra* note 267, at 21.

276. *Id.*

277. *Id.* at vii, 36. The RFC was known for running its loan portfolio with the shrewdness of a good banker. Although its charter permitted it to make loans with maturities up to three years, most had maturities of less than six months. The RFC generally also demanded high-quality, liquid collateral for its loans, charged higher interest rates than the rates charged on Federal Reserve loans, and required recipient institutions to limit the salary of employees for the life of the loan. Calomiris et al., *supra* note 269, at 527-28.

278. *Secretary of the Treasury Report*, *supra* note 267, at vi.

279. *Id.*

280. *Id.*

commercial success and its extraordinary efficacy as a tool of industrial policy. At its peak, the RFC's balance sheet dwarfed the combined balance sheets of Wall Street banks.[281] In particular, the RFC's authority to make equity investments augmented its policy-based market footprint. By 1934, the RFC held voting rights in thousands of American firms and was the single largest investor in the country.[282] Its typical *modus operandi* was to purchase as much preferred stock as there was common stock outstanding, thereby doubling the firm's capital and acquiring a controlling interest.[283] To protect its investment from insider misappropriation or abuse, the RFC actively exercised its shareholder and creditor rights to influence portfolio companies' dividend and executive compensation policies.[284]

The RFC was officially terminated by Congress in 1951 but continued operating until 1957, when its assets were transferred to other federal agencies.[285] The RFC's surviving offspring include such well-known entities as the Federal National Mortgage Association, the housing finance giant that was originally established as the RFC's mortgage subsidiary, and the Small Business Administration, which was set up in 1953 to take over the RFC's small business and disaster relief loans.[286]

Yet the RFC's most enduring legacy lies in the way it operationalized a bold yet pragmatic concept of the federal government not just as a financial market *participant* but as a market *maker*, in the most literal sense of creating the market where it otherwise wouldn't exist on the necessary scale. The RFC's business model does not fall neatly into any of the three categories in the taxonomy of modern public investment institutions, discussed above. The RFC had a broad and flexible mandate that allowed it to continuously adapt its actions to meet the demands of the moment. It deployed an expansive arsenal of investment tools and exercised its powers flexibly and nimbly. In short, it was a far more capacious and effective multi-functional asset manager than any typical modern-day SWF, NDB, or SHC.

In contrast to traditional SWFs, the RFC was not a standard stock market investor, but a much more active financier tasked with maintaining the continuous supply of credit throughout the U.S. economy. Its focus was expressly domestic, and its key objective was not to preserve the government's capital for future generations but to spend that capital to support productive economic activities in the targeted sectors. In that sense, it was born a quintessential NDB. As the RFC's portfolio grew to include direct equity holdings in various companies, moreover, it quickly evolved into a public asset manager along the lines of today's SHCs. What set the RFC apart from these contemporary institution types, however, was its policy ambition and the degree of raw power it wielded over private financial market actors. One of the principal factors that made the RFC an exceptionally powerful financier was the combination of freely

281. OLSON, *supra* note 270, at 42-46.

282. *Id.*, at 124.

283. *Id.*

284. *Id.* at 112, 125-26; *see also* Jesse H. Jones, FIFTY BILLION DOLLARS: MY THIRTEEN YEARS WITH THE RFC (1932–1945) at 156-58 (1951).

285. James Butkiewicz, *Reconstruction Finance Corporation*, ECON. HIST. ASS'N (July 19, 2002), https://perma.cc/QCD4-K5EL.

286. *Id.*

available public funding and great operational autonomy, which allowed the RFC leadership to make investment decisions that maximized the RFC's public policy mandate. Unlike contemporary NDBs and SHCs that raise capital in bond markets, the RFC did not depend on private bondholders' return expectations and was able to invest in projects it determined to be worthwhile without fearing the loss of private funding. This seemingly technical detail in the design of the RFC's funding mechanism has critically shaped the composition and size of its asset portfolio, ultimately making it one of the most powerful sovereign actors of its era.

While in many respects unique, the RFC's experience shows both the need for and the viability of a distinctly American institutional model for implementing a large-scale industrial policy program. But recovering that tradition in today's context requires more than simply trying to replicate the original RFC. Developing a workable new model of public investment is a more complicated task. To tackle that task, we must take a step back from the details of whatever was done either in specific places or at specific times and focus instead on the common elements and choices built into the process of designing public investment institutions. In other words, instead of asking the familiar but inherently superficial questions about whether or not the United States should (or could) recreate the RFC or set up some type of an investment fund that already exists elsewhere, we should reframe the inquiry in terms of finding the optimal institutional design for putting public capital at work in the U.S. economy of today and tomorrow.

B. Toward A New Institutional Model: The National Investment Authority

Designing the right architecture for the efficient and sustainable flow of public investment throughout the nation's economy is a complicated undertaking. As a starting point, it requires two things. First, this project must have clear normative framing, or an explicit articulation of the public policy objectives and democratic values the new institutional architecture is meant to promote. The entity's legal mandate is the principal outcome of this political exercise. Second, it requires an empirically informed roadmap of available institutional options. The three-part taxonomy of public investment institutions, laid out in this Article, provides that general roadmap.

It is important to remember, however, that this taxonomy is merely an analytical device that helps us make sense of the widely varied and multi-faceted realities of public investment on the global scale. As cautioned earlier, public investment vehicles currently operating around the world and in the United States are numerous and organizationally diverse. While some of them are easy to place in a specific category—SWF, NDB, or SHC—others display various degrees of hybridity and, as a result, may occupy multiple points along the continuum.

From this perspective, creating an effective and forward-looking vehicle of public investment for the United States involves a series of concrete institutional design choices. Without claiming to provide an exhaustive checklist of such choices, it is important to identify three pivotal decision points in this process: the sources of the new institution's funding, its investment powers, and its governance and accountability structure. Different choices at each of these points in the design process can determine not only what the resulting institution looks like but also how effective—or, conversely, ineffective—it is likely to be as an agent of socially desirable economic change.

Specific arrangements pertaining to the new entity's funding, investment powers, and governance are deeply interrelated and should be mutually reinforcing. Each specific option needs to be analyzed not in isolation—for example, as something that has been commonly done in other countries or contexts—but from the perspective of how it would affect the planned institution's day-to-day work and ability to fulfil its mandate. In this sense, the process of carefully putting together multiple organizational and functional pieces of the new entity is also the process of operationalizing high-level political goals it is meant to serve. Normative and technical aspects of institutional design are inextricably linked.

Through this lens, the process of creating a new institution that manages sovereign capital is inherently complex and open-ended. It allows for a significant degree of tailoring and creativity, within the bounds of legality and practical considerations. This flexibility is critical to ensuring the success of the new institution. In addition, it makes it easy to envision the creation of multiple vehicles for channeling public capital into worthwhile endeavors. Alongside a traditional SWF investing in a wide range of tradable securities, for instance, there may be a stand-alone NDB specializing in large-scale credit finance and a federal venture capital fund actively managing a portfolio of bespoke equity investments. This approach would increase the aggregate scale and scope of public investment activities, while potentially simplifying the task of designing individual institutions with more narrowly drawn mandates and smaller market footprints. On the other hand, these "financier" and "entrepreneur" functions can also be combined under a single organizational roof, to form a more capacious institution with a broader investment mandate and a larger, more diversified portfolio of financial assets to put to work for the American public. This approach would build directly on the American experiment with the RFC, while also incorporating lessons offered by various development banks and similar entities currently in operation around the world. Separate and distinct from a traditional SWF, such an integrated financier-entrepreneur vehicle can generate unique coordination benefits and thus amplify the impact of public capital on the nation's economic growth.

A proposal to establish an entity called the National Investment Authority, or the NIA, exemplifies one method of operationalizing that approach.[287] While the proposal continues to evolve, its chief aspiration is to revive and reinterpret the long-standing American tradition of pragmatic melding of public leadership and private initiative in financial markets. I envision the NIA as a dedicated institutional platform for a consistent, coordinated, and democratically controlled implementation of U.S. industrial policy. The rest of this Article outlines the principal elements of the proposed institutional scheme: its mandate, organizational structure and investment functions, funding, and governance and accountability mechanisms.

287. *See supra* note 27.

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1. Mandate and Structure

In formulating the mandate of a new public investment institution, it is crucial to articulate the overarching normative principles and policy goals it is obligated to serve, define the general scope of its activities, and set high-level outcome expectations. All of this must be done in sufficiently concrete yet not excessively restrictive terms. This technically difficult task is further complicated by the inherently political nature and contestability of normative principles, goals, and even the rhetoric of reform. As a matter of institutional design, it is therefore important to leave ample space for these more granular substantive determinations to be made at the appropriate moment in the appropriate fora, through meaningful democratic deliberation.

With that caveat, the ultimate aim of the NIA proposal is to generate the greatest prosperity and economic security for all Americans and to ensure the long-term stability, resilience, and competitive strength of the U.S. economy. Accordingly, the NIA's primary charge would be to formulate, finance, and implement a cohesive nationwide program of ongoing investment in critical public infrastructure, domestic productive capacity and job-creation, socially and environmentally responsible innovation, and other endeavors that support these high-level goals. This National Investment Strategy would serve as a tool of coordinating, amplifying, and dynamically managing the deployment of public and private capital in pursuit of the nation's economic and industrial policy objectives.[288]

Framing the NIA's core mandate in terms of industrial strategy-setting would immediately place the NIA alongside the U.S. Treasury and the Federal Reserve, the two most influential federal bodies in charge of the nation's fiscal and monetary policies. The NIA would occupy the currently vacant administrative and policy space between these two well-established areas of federal action. This positioning elevates the political status of industrial policy and reflects the fundamentally hybrid nature of the proposed NIA as a federal body acting directly in financial markets in pursuit of macroeconomic goals.

Centering the NIA's principal mandate around the National Investment Strategy would also provide the optimal degree of flexibility in conducting its market operations. To maximize the NIA's capacity to take a sound long-term view of the nation's economic goals, this formulation deliberately avoids imposing any commercial return requirements or similar hard constraints on its business decisions and managerial autonomy. This, of course, does not mean that the NIA's activities would not be subject to meaningful political constraints or requirements of economic prudence. On the contrary, more effectively targeted constraints and requirements would be implemented through a series of specific structural choices and

288. This coordinating function is not to be confused with central planning, frequently identified with the notoriously inefficient Soviet *Gosplan* system. Coordination is not inimical to the concept of a free capitalist market. To the contrary, it is a necessary feature of today's increasingly complex, interconnected, and fast-moving markets prone to an array of built-in collective action problems. As described below, the NIA is designed to act as an institutional mechanism for preemptive correction of certain kinds of market failure rooted in collective action problems and lack of effective coordination of dispersed economic activities.

accountability mechanisms, discussed below.[289]

To find the right balance between the NIA's efficacy as a financial market actor and the demands of democratic accountability, it makes sense to structure it not as a single institution but as a system, similar to the Federal Reserve System. As proposed, the three-tier NIA System would comprise (1) the NIA Governing Board (NIA Board), (2) functionally specialized operating subsidiaries, and (3) NIA regional offices spread around the U.S. territory.

The NIA Board would be an independent federal agency, whose members are appointed by the President with Congressional approval for sufficiently long terms and guaranteed a high degree of decision-making autonomy. The NIA Board members would be selected on the basis of their experience and expertise in finance, engineering, urban planning, environmental science, labor relations, law, community organizing, and so forth. The NIA Board's principal task would be identifying and dynamically updating key national economic priorities and developing the National Investment Strategy in line with those priorities. The NIA Board would not conduct any financial market operations directly, instead overseeing and supervising the NIA operating subsidiaries' market activities.[290] Much like the Federal Reserve Board, the NIA Board would be the principal locus of system-wide political accountability and democratic control.[291]

The NIA principal subsidiaries would be organized as federal government corporations, with their corporate powers and internal governance mechanisms documented in their charters. They would conduct the bulk of NIA's market operations under the NIA Board's supervision. These legally separate entities' balance sheets would form an integrated financial platform for implementing the National Investment Strategy. Initially, the proposal envisions the creation of two main operating arms of the NIA: the National Infrastructure Bank (NIB), which would specialize in credit provision along the lines of a traditional NDB model, and the National Capital Management Corporation (NCMC, or "Nicky Mac"), which would act as an asset manager and an SHC. These operating arms would mobilize and channel public and private finance into large-scale critical public goods and industrial policy priorities.

The NIA's regional offices would function as local hubs of the NIA system. Their task would be to ensure continuous community input in, and democratic bottom-up support for, the NIA's National Investment Strategy.[292] To this end, the NIA's regional offices would work closely with local communities, businesses, and public authorities on region-specific needs and plans. They would also coordinate their activities with the corresponding regional Federal Reserve Banks, to guarantee geographically and sectorally balanced distribution of financial flows necessary to support the U.S.

289. *See infra* Section III.B.4.

290. For the detailed description of the NIA Board member selection and duties, see NIA BLUEPRINT, *supra* note 27, at 24-29.

291. As a federal agency with rulemaking and other administrative powers, the NIA Board will be generally subject to the Administrative Procedure Act of 1946. 5 U.S.C. § 551 *et seq.*

292. *See infra* Section III.B.4 (discussing certain procedural safeguards).

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industrial policy implementation.[293]

2. Market Functions: Amplifying Existing Models

The NIA is not meant to replace direct fiscal spending on industrial policy goals. Nor would it seek to replace private finance across all, or even most, markets. Its role is to supplement and augment both private financing and fiscal allocations. Accordingly, the NIA would target investments in projects that do not typically get funded at the necessary scale, either in private markets or through the existing fiscal channels. While there is plenty of private capital eager to invest in "hard" assets like toll roads in heavily trafficked areas, private investors tend to be rationally averse to funding inherently risky transformative projects that take a long time to become profitable in any commercial sense. Public investment, in turn, is often constrained because of political and budgetary limitations, jurisdictional conflicts, and lack of internal coordination.

The main job of the NIB and Nicky Mac—the NIA's main operating subsidiaries—would be to fill this persistent funding gap. The NIB would focus on traditional credit financing along the lines of traditional NDBs. Nicky Mac would operate along the lines of the SHC model, proactively supplying more risk-tolerant equity capital necessary for many transformative and innovative projects. Building on these roles, in times of systemic crises, the NIA will be well-positioned to act as the 21st century version of the RFC.

i. Credit Mobilization: A More Capacious NDB Model

The NIB would be the NIA's lender arm, focused on credit-based financing of large-scale public infrastructure projects through loans, guarantees, insurance, securitization, and secondary market-making. It would purchase and pool revenue bonds and project bonds issued by municipalities, public utilities, state green banks, and other government instrumentalities, as well as qualifying private-sector bonds supporting publicly beneficial projects aligned with U.S. industrial policy goals. The NIB would finance its operations by issuing its own bonds, backed by their pooled assets and eligible for the Federal Reserve's purchases (much like Treasury and Agency securities are today). As discussed below, the Fed's provision of secondary-market liquidity for the NIB bonds would play a crucial role in making them an attractive "safe asset" for large swaths of institutional investors.

In essence, the NIB would operate along the historically familiar lines of the RFC and existing NDBs. Currently, many infrastructure projects are deemed not economically viable mainly because private creditors are not willing to take on the complex task of valuing, tracking, and managing risks of multiple geographically

293. It would be important to ensure that the NIA's regional offices are established in such numbers and in such locations as necessary and appropriate to connect the NIA's decisions and actions to every community across America, in a direct and meaningful way.

dispersed and relatively small-scale projects.[294] The illiquid and fragmented nature of the existing market for municipal bonds, in turn, hinders the ability of local and state governments to access affordable financing for these much-needed projects.[295] The NIB would specifically target these scale inefficiencies by creating and maintaining a nationwide market for these traditional forms of infrastructure finance. Its capacity and policy impact, however, would be magnified by virtue of being integrated into a much larger and more ambitious NIA system.

ii. Equity Investment and Asset Management: A More Capacious SHC Model

Nicky Mac would be the NIA's equity investment and asset management arm, focused on equity-based finance necessary for truly transformative public and social infrastructures that bond investors consider too risky. It would operate by setting up multiple investment funds and soliciting pension funds, endowments, and similar institutional investors to purchase passive equity stakes ("limited partner" interests) in its funds.[296] As the sole manager (or "general partner"), Nicky Mac would control each fund's investment decisions. Its in-house professional teams would select and manage, with appropriate public input and oversight, individual funds' portfolios of assets, in accordance with the National Investment Strategy.[297]

By taking equity stakes in multiple operating companies, Nicky Mac's funds would be able to finance a wide range of innovative projects that can potentially leapfrog the U.S. economy, in accordance with the NIA's long-term developmental goals. Creating this permanent base for large-scale financing of forward-looking, technologically innovative enterprise would also critically strengthen the United States' global competitiveness and leadership. From this perspective, Nicky Mac's ability to build new domestic manufacturing capacity and resilient supply chains has an added strategic significance.

Importantly, these projects need not all be commercially profitable in the conventional market sense or within a conventional timeframe. Unlike private fund managers, Nicky Mac would not have to squeeze cash revenues out of its portfolio assets to repay investors in its individual funds at the end of the typical 10-year term. This is because (1) by design, its investments are driven not by short-term profits but by long-term public policy considerations, and (2) if necessary, it can leverage its direct access to the federal government's financial resources, as discussed below.

Both factors are fundamental to Nicky Mac's ability to fulfill its core mission. To attract significant inflows of private capital, Nicky Mac would need to be able to

294. *See How Blended Finance Can Reorient Cautious Private Investors to Infrastructure*, WORLD BANK BLOGS (2024), https://perma.cc/8K8A-M2FZ; José María Sarabia et al., *Spread Valuation and Risk on Transport Infrastructure Loans*, ECONS. OF TRANSP. 41 (2025) 100392.

295. *See* David Wessel, *Do Municipal Bond Exchange-Traded Funds Improve Market Quality?*, BROOKINGS INST. (May 7, 2021), https://www.brookings.edu/articles/do-municipal-bond-exchange-traded-funds-improve-market-quality/

296. To minimize undesirable arbitrage opportunities, large banks, private equity funds, and hedge funds would not be eligible participants. *See* NIA BLUEPRINT, *supra* note 27, at 38.

297. *See* discussion *infra* Section III.B.4 (outlining certain procedural safeguards).

reward its fund investors for their participation in financing long-term publicly beneficial projects, even where such projects may not generate revenues that are easily captured by private interests. Thus, Nicky Mac could guarantee return of the principal investment to those investing in funds prioritizing commercially unprofitable projects like toll-free roads or costly infrastructural improvements in rural and low-income neighborhoods. Nicky Mac could also offer equity-like additional returns that reflect the current estimates of long-term local, regional, or national macroeconomic impacts of these funds' projects. If, for example, experts calculate that a particular fund's investments would generate an additional 8% in regional or national economic growth over a certain period, Nicky Mac would translate that projected public gain into a corresponding added return for the investors in the fund.[298]

Nicky Mac would not manage *all* of its funds in a way necessitating the use of this option. The scale and diversification of the portfolio of assets under Nicky Mac's management are the key to its ability to generate sufficiently attractive returns through traditional means: operating revenues, profitable "exit" sales, and so on. Having this option, however, would critically augment Nicky Mac's freedom to channel large amounts of currently abundant private capital where the need for it is particularly urgent or its impact is particularly meaningful. Nicky Mac's unique ability to synthesize additional payouts would make the NIA funds a potentially highly attractive new safe asset class for public pension funds and other mission-driven institutional investors searching for yield that is also compatible with their core missions. Currently, public pension funds are among the largest investors in private equity funds, which means they are indirectly financing the industry known for breaking up American companies and laying off workers to maximize short-term shareholder returns.[299] Investing in NIA instruments, by contrast, would enable America's pension funds to generate healthy, reliable returns by investing in publicly beneficial, employment-boosting projects.[300]

iii. Crisis Response and Restructuring: A New Model of Emergency Public Finance

In emergency situations, the NIA would be well-positioned to manage federal funds appropriated by Congress to provide financial assistance to private and public entities in distress. When directed by Congress, it would allocate emergency credit to specific entities, negotiate and enforce applicable conditions, and take and manage the Federal government's equity stakes in firms receiving public assistance—all in compliance with clear guidelines and strictly with a view to maximizing the public's

298. *See id*. at 35-41. The idea here is not to outcompete private equity funds in terms of absolute returns, but to provide reasonable reward to institutional investors who would evaluate it in tandem with the safety of NIA issuances as investment assets.

299. *See* Christine Idzelis, *The World's Dominant Investors in Private Equity*, INSTITUTIONAL INV. (Nov. 6, 2020), https://perma.cc/UJ4B-AR3T.

300. *See* Lenore Palladino, *Nicky Mac: A 'Public Option' for Workers' Capital*, THE AM. PROSPECT (Dec. 1, 2020), https://perma.cc/DZ4F-4EM7.

overall welfare.[301] In effect, the NIA would be a designated public entity performing functions currently divided among the Treasury and the Federal Reserve and then outsourced to private asset managers like Blackrock and State Street.[302] This would remove the need for complex arrangements and subsequent political frictions between the Treasury and the Federal Reserve, eliminate the inevitable conflicts of interest on the part of private asset managers, and increase the transparency of the process. The NIA's institutional expertise and operational efficiency would also make future crisis responses much faster and more effective.

In the absence of a systemic crisis, the NIA could potentially perform the same functions with respect to financially distressed firms in specific sectors that require large-scale financial support and restructuring without decimating their workforce or hurting local communities. Rather than compete with private distressed-debt investors, the NIA would assist only those companies that would otherwise not be able to access sufficiently plentiful and affordable financing for this type of socially optimal corporate restructuring. Building institutional capacity in this area is particularly important in the context of ongoing automation and robotization of production.[303] Placing this function inside the NIA System would represent an adaptation and expansion of the RFC emergency-response approach to an orderly transitioning of the entire sectors of the U.S. economy into the next-generation technological production mode.

3. Funding

Initially, the NIA's operations would need to be funded through Congressional appropriation. After an initial take-off period, the NIA would raise the bulk of its financing in capital markets, primarily through bond issuances and sales of passive equity interests in its investment funds, as described above. The expectation is that the NIA's total assets would generate sufficient interest, dividends, and other revenues to cover its ongoing expenses.[304] The larger and more diverse its project portfolio, the

301. The NIA's guidelines would mandate maximizing payroll retention and uninterrupted provision of social services to employees and communities as part of any emergency assistance package. For large corporations, they would also condition assistance on changes to dividend and stock buyback policies and executive compensation. The purpose of these conditions is to prevent unfair shifting of financial burden on firms' employees. The NIA's policies and procedures would ban conflicts of interest, favoritism, and outside interference in the allocation process. For more, see NIA BLUEPRINT, *supra* note 27, at 41-49.

302. *See* Victoria Guida, *Massive Bailout Leaves Wall Street Giant Exposed to Fire From All Sides*, POLITICO (June 7, 2020), www.politico.com/news/2020/06/07/wall-street-fed-bailout-304362.

303. *See* Daron Acemoglu & Pasqual Restrepo, *Robots and Jobs: Evidence from US Labor Markets*, 128 J. POL. ECON. (2020) (estimating the impact of industrial robots on U.S. employment levels).

304. If necessary, Congress can also provide supplemental public funding for the NIA. That may take the form of directing a specified percentage of certain streams of the federal government's revenue, such as royalties received from oil and minerals on federal land, to the NIA. That would be similar to how the Alaska Permanent Fund is funded. *See supra*

more flexibility the NIA will have in utilizing various streams of operating revenues to fulfil its current obligations.[305]

To preserve the NIA's institutional autonomy and to insulate its investment decisions from excessive political interference, the NIA issuances would not be directly guaranteed by the United States. The federal government's backing would flow through different channels. To augment the NIA's practical capacity to finance what needs to be built, rather than what generates short-term profits, it is critical to grant the NIA operating subsidiaries direct access to liquidity support from the Federal Reserve. By maintaining a liquid secondary market for NIB bonds and a dedicated borrowing line for Nicky Mac, the Federal Reserve would effectively free the NIA from the debilitating constraints of short-term commercial viability. It would also give the NIA the flexibility to scale up its investments when necessary to sustain momentum in the economy.

In an emergency, the NIA's operating subsidiaries would have the right to borrow directly from the Treasury, at cost. As a practical matter, the NIA should not ever need to utilize this credit line: its own large portfolio of assets and the Federal Reserve liquidity facilities should obviate that need. It is nevertheless important to provide for this option, to signal to the market the U.S. government's resolve to stand behind the NIA's obligations. This federal backstop would help to keep the NIA's cost of capital low.

4. Public Accountability

The scope, scale, and transformative potential of the NIA's investment portfolio heighten the need for effective democratic oversight and governance of its activities. A powerful government entity running a large balance sheet inevitably raises the specter of inefficiency, political overreach, and outright corruption. These concerns transcend ideological labels and must be taken seriously. Crafting meaningful mechanisms of public accountability, however, is a highly context-dependent exercise: what specific risks demand specific preventative measures, and what those measures might look like, varies depending on the specific type of government entity in question. NIA's capital-allocation capabilities render it especially vulnerable to excessive interference by incumbent politicians as well as to capture by private interests. Both forms of corrupt influence threaten to erode the NIA's institutional integrity and efficacy as a market actor.

While there is no foolproof cure for capture and political overreach, the practical response here is to attempt incorporating multiple closely tailored levers of democratic oversight and accountability into multiple stages and elements of a particular institution's governance structure and organizational functions.[306] In general, the NIA

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note 140 and accompanying text. Another option would be to designate a certain portion of the Federal Reserve's annual profits for direct contribution to the NIA's budget.

305. However, as stated above, the NIA cannot be legally required to generate such revenues. Mandating financial profitability would unnecessarily constrain the NIA's investment portfolio.

306. *See* Omarova & Richardson, *supra* note 130, at 497-501.

governance structure would mimic that of a typical NDB or SHC.[307] To ensure greater transparency and more meaningful public input at the highest system-wide level, however, it is essential to insert additional mechanisms of public accountability into the NIA's daily operation. Below is a summary of some of these additional transparency-enhancing mechanisms.

i. Portfolio Selection Process

Each of the NIA's operating subsidiaries, including the NIB and Nicky Mac, would be subject to robust procedural rules for making and vetting investment decisions. The explicit purpose of these rules and procedures would be to ensure that these entities' business activities are properly insulated from undue influence both by private sector interests and by political incumbents. The NIB and Nicky Mac would select individual projects for inclusion in their asset portfolios through specified channels, including public auctions. Any public or private entity with an economically viable plan for achieving the stated objectives would have a fair and equal opportunity to apply for NIA funding. NIA's regional offices would play a particularly important role in this process. A specially designated committee of the NCMC or the NIB, as appropriate, would conduct a thorough analysis of each proposed project and choose the ones that meet their—formalized and transparent—internal requirements.[308]

ii. Congressional Reports and Audits

The NIA Board would also be required to submit annual reports to Congress, outlining the basic principles of the NIA's National Investment Strategy, explaining significant changes in its objectives over various time horizons, and discussing the NIA's actions in the process of accomplishing these objectives. The Chair of the NIA Board, along with the heads of the NIB and Nicky Mac, would also provide annual Congressional testimony on these matters.

In addition, the NIA Board would be subject to annual audits by the Government Accountability Office (GAO). The NIB and Nicky Mac would, in turn, be subject to annual independent audits of their financial performance and operations by a special audit panel comprising representatives of the GAO and major public accounting firms.[309]

iii. Public Interest Council

A more explicitly structural means of enhancing NIA's democratic accountability would be the creation of a special Public Interest Council (the Council). Modeled along the familiar lines of a Congressional commission, this permanent body would comprise academic experts and public interest advocates, all of whom are independent

307. *See generally* NIA BLUEPRINT, *supra* note 27.
308. For a more detailed list of the NIA project selection channels and criteria, see *id.* at 54-58.
309. *See id*. at 58-59.

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of both the industry and the government.[310] It would perform a strictly advisory and evaluative role, by providing an independent intellectual perspective on substantive policy issues faced and strategic decisions made by the NIA in the course of its activities. The Council would submit mandatory annual reports to Congress, containing its assessments, criticisms, and non-binding recommendations for improvement of NIA's performance. Establishing this new institutional channel for inserting public interest into the NIA's political accountability structure would serve as a powerful check against the strong pull of industry influence. More broadly, it would create a democratic forum for more transparent and inclusive discussions of the NIA's investment choices and their impact on communities and businesses.[311]

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In sum, the NIA is envisioned as a dedicated institutional platform for operationalizing, financing, and implementing a coordinated set of nationwide developmental and industrial policy initiatives. It builds on the existing institutional experiences, both international and domestic, while adapting them to structural challenges the United States is facing today. It is accordingly designed as a potent and flexible tool of rebuilding the nation's economy on a more resilient, fair, and technologically advanced basis.

In outlining the proposal, this Article does not purport to address numerous questions and concerns it is bound to generate. Undoubtedly, practical implementation of this ambitious and complex idea would face significant obstacles and require extensive fine-tuning along the way. Above all, it would require broad popular support and sustained commitment to a strong national industrial policy—not an easy win in today's polarized environment.

It is worth reiterating in this connection that the NIA structure, described above, is an institutional *form* potentially compatible with a variety of political and ideological platforms. It is a *technical design* project, a blueprint for an organization fit for a particular purpose: efficiently channeling sovereign and private capital into critical public infrastructure and other strategic national priorities. In the United States, these substantive priorities are derived through the intricate operation of our multi-faceted democratic order. As proposed, the NIA is embedded in that order, and its market actions must reflect the outcomes of the broader democratic process. Serious malfunctions in this process—including the weakening or failure of political accountability mechanisms—raise the specter of the NIA abusing its considerable financial power to exacerbate, rather than correct, structural imbalances and inefficiencies plaguing the U.S. economy. Regardless of political justifications,

310. *See* JACOB R. STRAUS & KAREN L. SHANTON, CONG. RSCH. SERV., R40076, CONGRESSIONAL COMMISSIONS: OVERVIEW AND CONSIDERATIONS FOR CONGRESS (2025).

311. For description of the Public Interest Council's functions and authorities, see NIA BLUEPRINT, *supra* note 27, at 59-60; *see also* Saule T. Omarova, *Bankers, Bureaucrats, and Guardians: Toward Tripartism in Financial Services Regulation*, 37 J. CORP. L. 622 (2012); Saule T. Omarova, *Why We Need a Public Interest Council*, THE AM. PROSPECT (Apr. 4, 2023), https://perma.cc/RC4J-2CDX.

deliberate misuses of this institutional form can be disastrous for the country, turning the model's strength against itself. In a democratic system, it is essential to be cognizant of this dark side of sovereign capital and vigilantly counteract it.

Moreover, even assuming the NIA's power will be used as intended, its success would depend on its ability to navigate the murky space between public and private, politics and finance, and the state and the market. Like all existing institutions of public investment, described in this Article—SWFs, NDBs, and SHCs—the proposed NIA is a hybrid entity. Both a government agent and a financial market actor, each institution of sovereign capital must maintain legibility and legitimacy in each sphere by meeting two fundamentally different sets of expectations. These entities cannot, and should not, fully commit to one identity at the expense of the other, which makes them inherently vulnerable to criticism from both ends of the political spectrum. Thus, conservative critics tend to see these institutions as too political and distortive of free-market dynamics, while progressives often attack them as too easily captured by private market forces. A better understanding of how sovereign capital is organized and how it works, offered in this Article, can help us overcome these old stereotypes and recognize both the hybridity and the transformative potential of this institutional form.

CONCLUSION

The choice of institutional form optimally suited for delivering the desired macroeconomic and socio-political results is an essential component of a viable industrial, developmental, or more broadly understood economic policy. Failure to appreciate the importance of this task creates potentially significant risks of underinvestment and misallocation of capital in the long run. Historical precedent and international experience are helpful sources of learning in this respect. There is a tremendous diversity of financial institutions that different countries' governments have used for purposes of implementing their industrial policies. In addition to the obvious context-specific differences, that fact reflects the diversity of goals that can be pursued under the general heading of industrial policy.

This Article offers a basic taxonomy of the key types of national financial institutions that currently perform—or have historically performed—this function. Understanding their distinctive features, in turn, provides the basis for designing a more finely tuned institutional instrument for the type of industrial policy the United States needs today. This Article aims to lay a solid conceptual foundation for this important national project.