

PUBLIC SPENDING, PRICE STABILITY, AND THE GREEN TRANSITION: A REASSESSMENT

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ABSTRACT

The prevailing macroeconomic policy consensus, which presumes a consistent causal relationship between larger federal budget deficits and higher inflation, is ill-suited to and unprepared for the impending social and economic disruption caused by climate change. This Article introduces an alternative, more nuanced, and empirically grounded macroeconomic framework for conceptualizing the relationship between public investment and price stability, drawing on the lessons of the COVID-inflationary era as well as other recent crises. It takes a functional approach to public budgeting, viewing inflation rather than availability of funds as the true political and material constraint on large-scale fiscal action. Instead of prioritizing formal revenue-neutrality, it thus seeks to estimate the inflationary effects of proposed spending programs and mitigate them through targeted regulatory interventions and demand offsets, including “non-fiscal payfors” such as direct credit regulation and antitrust regulation and enforcement. In some instances, large fiscal outlays will have limited impact on demand or overall price conditions, and thus can be implemented with few or no corresponding demand offsets. One illustrative example is the nationalization of fossil fuel reserves and associated infrastructure through the public acquisition of shares and other governing interests in fossil fuel companies. Nationalization would likely have minimal upfront inflationary impact and could potentially even exert a deflationary effect through reducing long-term investment in new reserve discovery and cutting other existing fossil fuel company expenditures. It is thus both an example and a model for how an inflation-oriented approach for macroeconomic policymaking can improve price stability and open new possibilities for high-impact, deficit-financed public spending aimed at climate mitigation and economic sustainability.

I. Introduction

Addressing the climate crisis and transitioning to a clean energy economy will require mass mobilization and sustained high public investment—in other words, a Green New Deal.¹ The global macroeconomic experience of the past 15 years, punctuated by the Global Financial Cri-

sis (“GFC”), the Eurozone Crisis, COVID-19, and the Ukraine War, has demonstrated conclusively that the United States government does not face intrinsic financial or budgetary constraints when responding to unprecedented social and economic disruption.² Rather, it is limited in practice by real resource availability, administrative capacity, and, critically, social concern for price stability.³

These limits are important, and when ignored, can lead to public backlash and reduced support for necessary col-

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1. See, e.g., *About Sunrise, The Sunrise Movement* (2023), <https://sunrisemovement.org/about> [https://perma.cc/6GKP-J5GE] (described as a “a movement of young people fighting to stop the climate crisis and win a green new deal”).

2. For a more extended treatment on this point, see STEPHANIE KELTON, THE DEFICIT MYTH: MODERN MONETARY THEORY AND THE BIRTH OF THE PEOPLE’S ECONOMY (2020).

3. See, e.g., Yeva Nerstyan & L. Randall Wray, *Deficit Hysteria Redux? Why We Should Stop Worrying About Government Deficits*, LEVY ECONOMICS INSTITUTE PUBLIC POLICY BRIEF NO. 111, 16, <https://www.econstor.eu/bitstream/10419/54259/1/631375910.pdf> [https://perma.cc/C96C-W9TC]; there is no financial constraint on the ability of a sovereign nation to deficit spend. This doesn’t mean that there are no real resource constraints on government spending, but these constraints, not financial constraints, should be the real concern. If government spending pushes the economy beyond full capacity, then there is inflation.

lective action. In particular, widely held concerns about the inflationary impact of public spending, even when unfounded or misdirected, can undermine political support for otherwise popular economic reforms, including those aimed at climate mitigation and prevention.⁴

However, both public macroeconomic perception and underlying economic realities are not fixed. Instead, they are constantly evolving in response to changing conditions and capable of modification through intentional, coordinated action and public education. Without overstating the case or downplaying the limits imposed by material constraints, how we understand and deploy our collective fiscal resources in a practical sense determines our productive capacity and what we ultimately do.⁵

A central policy challenge for environmental advocates is thus to articulate and promote a non-utopian vision of large-scale, climate-oriented public spending, grounded in a sophisticated understanding of the relationship between public governance, real production, and prices.⁶ Contrary to conventional wisdom, this involves more than merely ensuring proposed green budget items are kept “deficit-neutral” through accompanying taxes, recoupment, or other budgetary savings measures. Instead, it requires determining the likely economic impact of different proposed public interventions and developing suitable price-stabilizing mechanisms to address them in politically palatable ways.⁷ This includes, but is not limited to, non-fiscal “demand-offsets” such as credit, and non-financial regulation.⁸

Strategically, it also involves identifying high-impact fiscal interventions with positive or negligibly negative expected impact on overall price conditions that can be pursued immediately, as low-hanging fruit, to cultivate macroeconomic credibility and expand movement influence. By establishing a successful track record of targeted spending campaigns, climate advocates can build momen-

tum and public support for even larger, more transformative fiscal demands.⁹

One illustrative example is the compulsory public acquisition of strategic oil and gas reserves, and related corporate infrastructure, as the first step in eventually dismantling or repurposing all extractive fossil fuel technologies and transitioning to clean energy and a renewable resource-based economy. While nationalization is both politically and legally complex, financially the process is straightforward. The government spends new public funds to purchase stocks and other similar interests, thereby “cashing out” existing private investors and retaining exclusive corporate governance powers, which can be directed to more socially oriented ends. From the perspective of individual investors, the process of being involuntarily bought out by the government or by another private investor has a similar impact on overall price conditions, even as the broader social and systemic implications differ significantly.

Notwithstanding what would likely be a very large upfront (or eventual) price tag, the impact on overall consumer demand from the investment would likely be quite small.¹⁰ Overall private wealth levels would remain roughly constant before and after the acquisition, which would resemble a financial asset swap (corporate stocks for government monies or securities) more than a direct fiscal injection such as the COVID-19 emergency relief payments. Rather than spend the newly acquired funds on goods and services, if fossil fuel investments were no longer available, investors would quickly rebalance their portfolios among a range of other asset classes.¹¹

Nationalization of oil and gas reserves would thus likely require few, if any, dedicated offsets to remain inflation-neutral. Instead, it could be structured as a clean spending bill, and deficit-financed through either standard public debt-issuance or direct money-financing. Of course, depending on how the acquired assets were subsequently managed, nationalization could ultimately have either a positive or negative effect on overall price conditions, and with them, the broader public appetite for further radically transformative climate action.¹² Critically, however, such risks and concerns are distinct from the economic impact of the original acquisition expenditure itself, and once properly distinguished, can be addressed separately on their own terms.

Pursuing selective nationalization and other forms of high sticker-price, low-inflation fiscal interventions is more

4. See, e.g., Michael Klein, *Manchin Killed Build Back Better Over Inflation Concerns*, THE CONVERSATION (Dec. 20, 2021), <https://theconversation.com/manchin-killed-build-back-better-over-inflation-concerns-an-economist-explains-why-the-2-trillion-bill-would-be-unlikely-to-drive-up-prices-174093> [<https://perma.cc/B4VR-4DF5>] (noting that Sen. Joe Manchin’s (D-W. Va.) concern for the inflationary impact of President Joseph Biden’s Build Back Better plan “effectively killed one of Biden’s top economic priorities”).

5. See, e.g., Jeffrey Stupak, *Fiscal Policy: Economic Effects*, CONG. RSCH. SERVICE (May 16, 2019), n.22, <https://crsreports.congress.gov/product/pdf/R/R45723/1> [<https://perma.cc/B4VR-4DF5>] (“deficit-financed government investment, such as infrastructure projects, may lead to a higher capital stock overall and therefore increase the productive capacity of the economy”).

6. For an extended discussion on this, see *Paying for the Green New Deal: A 1-Day Workshop at Harvard Law School, Exploring the Budgetary and Macroeconomic Aspects of the Green New Deal From a Modern Monetary Theory (‘MMT’) Perspective*, May 24, 2019, <https://payforgnd.org> [<https://perma.cc/3LBS-75JU>].

7. See, e.g., Janna Smialek, *Modern Monetary Theory Got a Pandemic Tryout. Inflation Is Now Testing It*, N.Y. TIMES (Feb. 6, 2022), <https://www.nytimes.com/2022/02/06/business/economy/modern-monetary-theory-stephanie-kelton.html> [<https://perma.cc/4JV3-74X4>] (“In an M.M.T. world, the Congressional Budget Office would have carefully analyzed possible inflation [from pandemic relief spending] ahead of time, and lawmakers would have tried to offset any strain on available workers and widgets with stabilizing measures and tax increases.”).

8. See Tankus, *infra* note 62.

9. See, e.g., Ray Galvin & Noel Healy, *The Green New Deal in the United States: What It Is and How to Pay for It*, 67 ENERGY RSCH. & SOC. SCI. 8 (2020) (noting that the United States’ “extreme free-market orientation makes [it] impossible for the government to act decisively and effectively in climate change mitigation,” and arguing that “pursuing climate change mitigation in ways that benefit poorer and marginalized sections of US society will bring increased public and political support for these mitigation endeavors”).

10. See Part IV, *infra*.

11. See Part IV(a), *infra*.

12. A well-managed phaseout of fossil fuel dependency could, for example, result in an increase in public provisioning of renewable energy, thereby reducing household energy costs and increasing support for further sustainable economic transformation. Conversely, a poorly-managed nationalization effort could result in supply disruption and higher energy prices, leading to public backlash and resentment.

than just a policy strategy to notch short-term political victories. It is part of a broader paradigm shift, toward functional finance¹³ and a multidimensional, coordinated system of macroeconomic governance.¹⁴ By taking price stability seriously as a first-order economic and political concern, climate activists (counterintuitively) open themselves to a new world of fiscal possibilities, freed from the limitations of presumptive budget neutrality and private market discipline.¹⁵

The implications of this paradigm shift extend beyond the immediate implications for the debate over fossil fuel nationalization, and the economic response to climate change more broadly.¹⁶ At a more fundamental level, it represents a reorientation toward empirical consistency and theoretical honesty in public economic discourse, in contrast to prevailing economic orthodoxies that rely on myths and fictions to heuristically guide the mass public toward policy outcomes that experts deem necessary and desirable.¹⁷

This Article is divided into three parts. Part II introduces and critiques the prevailing macroeconomic paradigm, in which price stabilization and demand management is primarily managed by the Federal Reserve, and fiscal deficits are discouraged outside of exceptional circumstances.

Part III presents an alternative framework for conceptualizing and maintaining price stability, grounded in a nuanced understanding of price and demand dynamics, and a functional, individualized analysis of the expected inflationary impact of each proposed spending or revenue program. In contrast to traditional sound finance budgeting, which assumes an intrinsic connection between deficit-neutrality and price-neutrality,¹⁸ this functional approach acknowledges and embraces the potential for large-scale, non-inflationary, deficit-financed public spending, as well as the use of non-fiscal “payfors”¹⁹ like credit and non-financial regulation as demand-offsets in lieu of dollar-for-dollar revenue offsets in appropriate circumstances.

Part IV explores the macroeconomic implications of nationalizing fossil fuel companies, including the impact of the initial acquisition on consumer demand, and subsequent impact of public ownership on energy prices and sectoral bottlenecks. I argue that nationalization is a useful and important example of a fiscal intervention with high budget cost, but limited inflationary impact, that could consequently be implemented with few if any demand offsets. More broadly, such interventions have the potential to advance both the political and material aims of the climate movement beyond the implicit constraints of the prevailing macroeconomic paradigm.

13. See, e.g., L. Randall Wray, *Functional Finance: A Comparison of the Positions of Hyman Minsky and Abba Lerner*, Levy Economics Institute Working Paper No. 900 (Jan. 2018), p.2, https://www.levyinsitute.org/pubs/wp_900.pdf [<https://perma.cc/4T98-UTYH>] (describing functional finance as the view that “a sovereign government that issues its own currency can never ‘run out of money’ . . . As such, it can adopt [an] approach to budgeting . . . [focused on] the outcome of the policy rather than on the budgetary impact.”)
14. See, e.g., *The COVID-19 Pandemic Is Forcing a Rethink in Macroeconomics*, ECONOMIST (July 25, 2020), <https://www.economist.com/briefing/2020/07/25/the-covid-19-pandemic-is-forcing-a-rethink-in-macroeconomics> [<https://perma.cc/2BU8-LCQ8>]; The Ezra Klein Show, *Covid Showed Us What Keynes Always Knew*, N.Y. TIMES (Sept. 17, 2021), <https://www.nytimes.com/2021/09/17/opinion/ezra-klein-podcast-adam-tooze.html>.
15. Galvin & Healy, *supra* note 9.
16. For more on the broader implications on the climate discourse of moving beyond the prevailing paradigm centered around presumptive budget-neutrality and private market discipline, see Nathan Tankus et al., *The Green New Deal Will Be Tremendously Expensive. Every Penny Should Go on the Government's Tab*, BUS. INSIDER (Sept. 23, 2019), <https://www.businessinsider.com/green-new-deal-climate-change-government-spending-no-private-money-2019-9> [<https://perma.cc/98CH-EQME>] (arguing against reliance on public-private partnerships, and other forms of “politically light” budget gimmicks, in favor of direct public investment to finance the Green New Deal).
17. See, e.g., L. Randall Wray, *Paul Samuelson on Deficit Myths*, NEW ECON. PAPER (Apr. 30, 2010), <https://neweconomicperspectives.org/2010/04/paul-samuelson-on-deficit-myths.html> [<https://perma.cc/jfC87-HYKW>] (quoting former Economic Nobel Prize winner Paul Samuelson saying: “I think there is an element of truth in the view that the superstition that the budget must be balanced at all times [is necessary]. Once it is debunked [that] takes away one of the bulwarks that every society must have against expenditure out of control. There must be discipline in the allocation of resources or you will have anarchistic chaos and inefficiency. And one of the functions of old fashioned religion was to scare people by sometimes what might be regarded as myths into behaving in a way that the long-run, civilized life requires. We have taken away a belief in the intrinsic necessity of balancing the budget if not in every year, [then] in every short period of time. If Prime Minister Gladstone came back to life he would say ‘uh oh what you have done’ and James Buchanan argues in those terms. I have to say that I see and merit that view.”)

II. Macroeconomic Orthodoxy

Fundamental transformations in material economic processes often take decades, even centuries.²⁰ Today, the pace of societal evolution and technological innovation is accelerating, potentially at the cost of increasingly frequent and severe economic and financial crises.²¹ To address these changes openly and thoughtfully, it is critical to recognize and account for the relative costs, benefits, winners, and losers, of different approaches to macroeconomic management and price stabilization.²²

18. *I.e.*, a budget that does not add or reduce the overall size of the deficit is presumed to have little or no significant impact on inflation.
19. The oft-repeated notion that public spending must be “paid for” with taxes or borrowing is not accurate in a fiat currency regime in which the government issues its own floating fiat currency. Instead, government spending is limited by public appetite for any undue inflation that results from it. Consequently, when considering how to “pay for” public spending in such a regime, one mechanism that offsets any potential inflationary pressure can be understood as a “payfor,” similar to how taxes and borrowing are treated as “payfors” under a sound finance regime.
20. See, e.g., CHRISTINE DESAN, *MAKING MONEY: COINAGE AND THE COMING OF CAPITALISM* (2014) (locating the birth of modern capitalism in the rise of central and commercial banking in 17th and 18th centuries); WILLIAM N. GOETZMANN, *MONEY CHANGES EVERYTHING: HOW FINANCE MADE CIVILIZATION POSSIBLE* (2016) (tracing the multi-thousand-year development of financial technologies and instruments from the emergence of writing through to digital finance).
21. See generally AZEM AZHAR, *THE EXPONENTIAL AGE: HOW ACCELERATING TECHNOLOGY IS TRANSFORMING BUSINESS, POLITICS, AND SOCIETY* (2021).
22. The dominant macroeconomic consensus that emerged during the 1970s and 1980s and remained relatively stable over the subsequent 40 years has been increasingly criticized for its failure to predict, and adequately respond, to the various crises and challenges of the past 15 years, prompting renewed theoretical and policy interest in alternative macroeconomic paradigms and schools of thought. See, e.g., Dilip Nanchane, *Global Crisis and the New Consensus Macroeconomics: End of “Paradigmatic Determinism?”*, 48 ECON.

A. Labor Discipline as Inflation Control

The prevailing consensus typically divides macroeconomic policymaking into fiscal and monetary policy, with the former encompassing spending and revenue-collection administered primarily by the U.S. Treasury through the congressional budget process, and the latter consisting of monetary, credit, and liquidity management administered by the Federal Reserve (“the Fed”).²³ Under this framework, primary responsibility for day-to-day systemic price stability is delegated to the Fed, which enjoys statutory and operational independence from the rest of the executive branch.²⁴ By contrast, fiscal authorities are generally expected to pursue their own separate, non-macroeconomic priorities while limiting the overall growth of deficits and public debt to acceptable levels, as determined by financial market conditions and prevailing macroeconomic consensus.²⁵

The Fed’s core mechanism for achieving its price stability targets is the adjustment of interest rates.²⁶ The Fed is (at least ostensibly) limited from coordinating with other public instrumentalities or private actors to directly intervene in and steer “Main Street” industrial production (as opposed to “Wall Street” financial market activity) on an ongoing basis.²⁷ There is, however, one exception

to the general institutional and jurisdictional separation between monetary and industrial policy: the labor market. Labor holds the unenviable distinction of serving as the primary sectoral target of the Fed’s modern inflation-fighting efforts.²⁸

The Fed’s operating framework is constructed in part around the concept of the “NAIRU,” or “Non-Accelerating Inflation Rate of Unemployment.”²⁹ The NAIRU is a theoretical rate of unemployment beyond which general inflationary pressure not only remains heightened, but begins to non-sustainably accelerate.³⁰ It serves as a conceptual upper-level boundary for optimal labor market conditions, which the Fed then aims to adhere within through its monetary policy interventions.³¹

The NAIRU is not directly observable, rather it is estimated through inferences drawn from a wide range of inflation and labor data.³² When the Fed’s Open Market Committee collectively estimates that the current employment rate is exceeding the NAIRU rate, it typically votes to contract economic conditions by raising interest rates.³³

& POL. WKLY. 1, 43 (2013). See also Joshua W. Mason, *A Debate Is Raging Over How to Fight Inflation: The Underdogs Are Winning*, BARRON’S (July 24, 2023), <https://www.barrons.com/articles/a-debate-is-raging-over-how-to-fight-inflation-2a608408> [https://perma.cc/P9MA-WXVA]; Paul Krugman, *The Inflation Debate Is Cooling*, N.Y. TIMES (May 26, 2023), <https://www.nytimes.com/2023/05/26/opinion/inflation-fed-blanchar-bernanke.html> [https://perma.cc/VLZ9-FTV4]; Thomas Ferguson & Servaas Storm, *The Great Inflation Debate: Supply Shocks in a Multipolar World*, INST. NEW ECON. THINKING (Jan. 3, 2023), <https://www.inetconomics.org/perspectives/blog/the-great-inflation-debate-supply-shocks-and-wealth-effects-in-a-multipolar-world-economy> [https://perma.cc/2NEU-YHNL]; Michael Madowitz, *Seven Ways the Inflation Debate in the United States Has Changed Since Last Year and How the Fed Can Now Recalibrate Its Monetary Policy*, WASH. CTR. EQUITABLE GROWTH (Apr. 22, 2022), <https://equitablegrowth.org/seven-ways-the-inflation-debate-in-the-united-states-has-changed-since-last-year-and-how-the-fed-can-now-recalibrate-its-monetary-policy> [https://perma.cc/L234-DP6X].

23. Troy Segal, *Monetary Policy vs. Fiscal Policy: What’s the Difference?*, INVESTOPEDIA (June 7, 2023), <https://www.investopedia.com/ask/answers/100314/whats-difference-between-monetary-policy-and-fiscal-policy.asp> [https://perma.cc/3ZV9-J85A].

24. *Monetary Policy: What Are Its Goals? How Does It Work?*, BD. GOV. FED. RESV. SYS. (July 29, 2021), <https://www.federalreserve.gov/monetarypolicy/monetary-policy-what-are-its-goals-how-does-it-work.htm> [https://perma.cc/48N9-Q5L1].

25. See, e.g., Cristina Bodes & Masashi Higashijima, *Central Bank Independence and Fiscal Policy: Can the Central Bank Restrain Deficit Spending?*, 47 BARRON’S J. POL. SCI. 47, 47–50 (2017). In recent years, leading orthodox macroeconomic figures have argued that this assumption should be relaxed in light of recent experience; however, these views have yet to become the dominant orthodox. See, e.g., Jason Furman, Chair, Council of Econ. Advisers, Expanded Version of Remarks at the Conference on Global Implications of Europe’s Redesign: The New View of Fiscal Policy and Its Application (Oct. 5, 2016), https://obamawhitehouse.archives.gov/sites/default/files/page/files/20161005_furman_suerf_fiscal_policy_cea.pdf [https://perma.cc/4M4N-F5YX].

26. See, e.g., *How the Fed Implements Monetary Policy With Its Tools*, FED. RESV. BANK ST. LOUIS, <https://www.stlouisfed.org/en/in-plain-english/the-fed-implements-monetary-policy> [https://perma.cc/RM5T-GT2Z].

27. For example, Federal Reserve Chair Jerome Powell has insisted that the Fed “[is] not, and will not be, a ‘climate policymaker,’” and that “without explicit congressional legislation, it would be inappropriate for [the Fed] to use [its] monetary policy or supervisory tools to promote a greener economy.” Jemma Smialek, *Powell Says Fed Will Not Be ‘Climate Policymaker,’* N.Y.

TIMES (Jan. 10, 2023), <https://www.nytimes.com/2023/01/10/business/economy/powell-fed-climate.html> [https://perma.cc/7Z7K-8ZX4]. This view is traceable to the emergence of the dominant macroeconomic consensus in the 1970s and 1980s, prior to which the Fed and other central banks around the world explicitly relied on targeted credit policy to manage demand and prices, as well as direct purchases of business and trade credit to maintain liquidity conditions. See, e.g., John Godfrey, *Credit Controls: Reinforcing Monetary Restraint*, 65 FED. RESV. BANK ATLANTA ECON. REV. 15 (May 1980) (detailing President Jimmy Carter’s use of Fed-implemented credit controls); Perry Mehrling, *Retrospectives: Economists and the Fed: Beginnings*, 16 J. ECON. PERSP. 207 (2002) (discussing the early debates over the early purpose and scope of the Fed’s monetary policy); ERIC MONNET, *CONTROLLING CREDIT: CENTRAL BANKING AND THE PLANNED ECONOMY IN POSTWAR FRANCE, 1948-1973* 14-15 (2018) (examining the history of post-War central bank-directed credit regulation in France prior to the emergence of the now-prevailing Anglo-centric macroeconomic consensus in the 1970s).

28. See, e.g., Jerome Powell, Chair, Fed. Resv., Speech Delivered to the Hutchins Center on Fiscal and Monetary Policy: Inflation and the Labor Market (Nov. 30, 2022) (transcript available at <https://www.federalreserve.gov/newsevents/speech/powell20221130a.htm>) [https://perma.cc/2897-HR1N]; Janet Yellen, Speech Delivered to the Federal Reserve Bank of Kansas City Economic Symposium: Labor Market Dynamics and Monetary Policy (Aug. 22, 2014) (transcript available at <https://www.federalreserve.gov/newsevents/speech/yellen20140822a.htm>) [https://perma.cc/8JP3-DA6S].

29. See, e.g., Matthew Yglesias, *The NAIRU, Explained: Why Economists Don’t Want Employment to Drop Too Low*, VOX (Nov. 14, 2014), <https://www.vox.com/2014/11/14/7027823/nairu-natural-rate-unemployment> [https://perma.cc/FK7A-T842]; Matthew Klein, *Debunking the NAIRU Myth*, FIN. TIMES ALPHAVILLE (Jan. 19, 2017), <https://www.ft.com/content/fac6989-7cd2-3724-a6d4-dfe7-755175f1> [https://www.philadelphiadef.org/surveys-and-data/real-time-data-research/nairu-data-set].

30. Yglesias, *supra* note 29.

31. Lorena Hernandez Barcena & David Wessel, *How Does the Fed Define ‘Maximum Employment?’*, BROOKINGS INST. (Feb. 23, 2022), <https://www.brookings.edu/articles/how-does-the-fed-define-maximum-employment/> [https://perma.cc/8HCS-XMGE].

32. *NAIRU Estimates From the Board of Governors*, FED. RESV. BANK OF PHILA. (Feb. 1, 2023), <https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/nairu-data-set> [https://perma.cc/B3VP-CCPQ]. See also James Galbraith, *Time to Ditch the NAIRU*, 11 J. ECON. PERSP. 93, 96–97 (1997) (noting that the correlation between inflation and unemployment, as evidenced in statistical data, is “modest” and “asymmetric”); Yglesias, *supra* note 29.

33. See, e.g., *How Does the Federal Reserve Afflict Inflation?*, BD. GOV. FED. RESV. SYS. (Aug. 27, 2020), <https://www.federalreserve.gov/faqsmf12856.htm> [https://perma.cc/Z7Q4-KP1W]; *Why Does the Federal Reserve Care About Inflation?*, FED. RESV. BANK CLEVELAND (July 26, 2023), <https://www.clevelandfed.org/en/center-for-inflation-research/inflation-101/why-does-the-fed-care-start> [https://perma.cc/QAD8-QAG8]; see also Dean Baker

The Fed's method of combating inflation by "softening of labor market conditions,"³⁴ when described operationally, sounds almost conspiratorial: higher rates increase the cost of debt finance, thereby reducing business investment.³⁵ Lower business investment, in turn, leads to lower employment levels, which reduces the bargaining power of labor, and in turn, lower wages.³⁶ Lower wages reduce consumer spending, which then causes businesses to lower prices.³⁷

This Rube Goldberg-esque process, when stripped down, essentially consists of reducing effective demand by inducing higher levels of unemployment so both workers and the unemployed have less money to spend.³⁸ In practice, it translates to the Fed exerting extremely broad latitude over labor market conditions.³⁹ In the name of price stability, it dictates employment opportunities and wage conditions, while promoting labor fragility and disunity through the maintenance and manipulation of an unemployed sub-class.⁴⁰

Even singular hikes can be enormously impactful. In 1980, the Fed Chairman famously "broke the back" of inflation by rapidly hiking rates to over 20%, resulting in record-high unemployment levels of nearly 11%.⁴¹ Paul Volcker's stated aim of this move was to undermine the increasingly militant wage demands of the union movement, who he blamed for precipitating an inflationary wage-price spiral.⁴² This short period had a permanent,

devastating impact on the political strength of organized labor, among other affected groups, which contributed to the subsequent decades-long decline in wage growth relative to total productivity levels.⁴³

B. *The Inherent Biases of Monetary Policy*

In theory, interest rates are a bidirectional lever: In periods of above-target inflation, the Fed raises rates in order to reduce business investment and ultimately, consumer demand.⁴⁴ Conversely, in periods of below-target inflation, the Fed lowers rates to ease credit conditions and encourage higher levels of private spending.⁴⁵

In practice, however, the lever is asymmetric: rates can be increased indefinitely, but not lowered indefinitely.⁴⁶ The Fed's ability to set negative nominal rates—functionally, a tax on holding interest-earning reserves and government securities—is operationally constrained by the effective lower bound, estimated to be a few percentage points below zero.⁴⁷ When the Fed hits this lower bound, the cost of holding interest-bearing digital government obligations (reserves, Treasury securities) exceeds the cost of simply withdrawing and holding zero-interest physical cash.⁴⁸ Consequently, the Fed cannot push rates lower, and alternative forms of expansionary interven-

& Sarah Rawlins, *The Full Employment Mandate of The Federal Reserve: Its Origins and Importance*, CTR. ECON. & POL'Y RSCH. (July 1, 2017), <https://cepr.net/images/stories/reports/full-employment-mandate-2017-07.pdf> [<https://perma.cc/M888-U3ZM>].

34. Jerome Powell, Chair, Fed. Rsv., Press Conference (July 26, 2023) (transcript available at <https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20230726.pdf>) [<https://perma.cc/ZNA9-CZGR>].
35. At least ostensibly empirical evidence suggests the impact of interest rate changes on business investment is weak, at best. See Josh Mason, *The Fed Can't Fine-Tune the Economy*, BARRON'S (Mar. 7, 2023), <https://www.barrons.com/articles/interest-rates-economy-federal-reserve-4814ad23> [<https://perma.cc/TW9P-Y3AN>].
36. Skanda Armanath & Alex Williams, *What Are You Expecting? How the Fed Slows Down Inflation Through the Labor Market*, EMPLOY AM. LAB. MKT. REPS. (Feb. 16, 2022), <https://www.employamerica.org/content/files/2022/06/What-Are-You-Expecting-.pdf> [<https://perma.cc/MD6N-697B>].
37. *Id.*
38. See, e.g., Joshua W. Mason, *The Fed Doesn't Work for You*, JACOBIN (Jan. 6, 2016), <https://jacobin.com/2016/01/federal-reserve-interest-rate-increase-jane-yellen-inflation-unemployment> [<https://perma.cc/3GHL-THUJ>]; see also Yglesias, *supra* note 29; Galbraith, *supra* note 32, at 105.
39. Mason, *supra* note 22.
40. See, e.g., Jon Schwarz, *In Confidential Memo, Treasury Secretary Janet Yellen Celebrated Unemployment as a "Worker-Discipline Device"*, INTERCEPT (Jan. 24, 2023), <https://theintercept.com/2023/01/24/unemployment-inflation-jane-yellen/> [<https://perma.cc/4AII-BVZM>]; see also Michael Kalecki, *Political Aspects of Full Employment*, 14 POL. Q. 322 (1943) (arguing that capitalists actively oppose and undermine efforts to achieve and maintain full employment, despite its economic benefits, out of concern that such conditions increase the relative bargaining position of workers, and thus decrease their own political and economic power).
41. For a detailed account of this period, and of Paul Volcker's broader anti-labor legacy as Fed Chair, see, e.g., Tim Barker, *Other People's Blood, N+1* (Spring 2019), <https://www.nplusonemag.com/issue-34/reviews/other-peoples-blood-2/> [<https://perma.cc/6JBO-QPNS>]; see generally Greta Krippner, CAPITALIZING ON CRISIS: THE POLITICAL ORIGINS OF THE RISE OF FINANCE, 106, 116–18 (2011).
42. Barker, *supra* note 41 (noting that Volcker stated that "in the economy as a whole . . . labor accounts for the bulk of all costs, and those rising costs in turn maintain the momentum of the inflationary process," and that "the most important single action of the [Reagan] administration

in helping the anti-inflation fight was defeating the Professional Air Traffic Controllers Organization (PATCO) strike in 1981," which had a "psychological effect on the strength of the union bargaining position"); see also Daniel J.B. Mitchell & Christopher L. Erickson, *Not Yet Dead at the Fed: Unions, Worker Bargaining, and Economy-Wide Wage Determination*, 44 INDUS. RELATIONS 565 (2005) (noting the overemphasis by the Fed on the macroeconomic and price impacts of union settlements during the 1980s and 1990s).

43. Barker, *supra* note 41; Mitchell & Erickson, *supra* note 42; see also Rohan Grey, *RIP, Paul Volcker: The Fed Chair Who Thought We Lived Too Well*, THE NATION (Dec. 11, 2019), <https://www.thenation.com/article/economy/volcker-inflation-economy> [<https://perma.cc/X851-7YH8>]; Dylan Matthews, *How the Fed Ended the Last Great American Inflation—And How Much It Hurt*, VOX (July 13, 2022), <https://www.vox.com/future-perfect/2022/7/13/23188455/inflation-paul-volcker-shock-recession-1970s> [<https://perma.cc/EWV4-5KXK>].
44. FED. RSRV. BANK CLEVELAND, *supra* note 33 ("When inflation is too high, the Federal Reserve typically raises interest rates to slow the economy and bring inflation down. When inflation is too low, the Federal Reserve typically lowers interest rates to stimulate the economy and move inflation higher.").
45. *Id.*
46. See, e.g., Thomas Mertens & John Williams, *Monetary Policy Frameworks and the Effective Lower Bound on Interest Rates*, FED. RSRV. BANK OF N.Y. STAFF REP. NO. 877, 4 (July 2019), https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr877.pdf [<https://perma.cc/WD46-SQB3>]; Janet Yellen, *Comments on Monetary Policy at the Effective Lower Bound*, BROOKINGS INST. (Sept. 14, 2018), <https://www.brookings.edu/articles/comments-on-monetary-policy-at-the-effective-lower-bound> [<https://perma.cc/ZDN8-VW3H>]; Ayswande McCunn & Rohan Grey, *Do Negative Interest Rates Live Up to the Hype?*, OXFORD BUS. L. BLOC (Mar. 13, 2017), <https://blogs.law.ox.ac.uk/business-law-blog/blog/2017/03/do-negative-interest-rates-live-type> [<https://perma.cc/9MLZ-BACK>].
47. Mertens & Williams, *supra* note 46.
48. There have been theoretical proposals to modify operating practices in ways that would eliminate the effective lower bound on interest rate policy, such as breaking the par-converibility of physical notes and interest-earning central bank reserves, but they have not been attempted in practice. See, e.g., Ruchir Agarwal & Miles Kimball, *Enabling Deep Negative Rates to Fight Recessions: A Guide* (IMF Working Paper, Paper No. 84, 2019) (proposing various mechanisms to create a de facto negative rate on physical currency).

tion become necessary.⁴⁹ This includes increases in fiscal deficits, which unlike both standard and unconventional monetary easing, increase private-sector incomes unilaterally without requiring a corresponding increase in private leverage or debt.⁵⁰

In contrast to rate hikes, which the Fed can easily and unilaterally implement without limit under existing statutory authority, coordinated fiscal-monetary expansion at the effective lower bound requires a complex negotiation between the legislative, executive branch, and central bank, conducted under high levels of public scrutiny.⁵¹ In the absence of a single, universal fiscal injection mechanism, spending programs must specify particular recipients and purposes in ways that invite political and subjective judgment of the kind that the Fed ostensibly aims to avoid.⁵² As a result, the Fed is instinctively averse to remaining at the effective lower bound, and considers it a deviation from the optimal economic state rather than a potentially equally valid alternative equilibrium condition.⁵³

Instead, once economic conditions improve, the Fed typically seeks to move or “normalize” interest rates at a baseline level sufficiently high that it can comfortably lower them again in the future if necessary.⁵⁴ Higher default rates afford the Fed greater operational flexibility to implement future expansionary policy (i.e. lowering rates) without recourse to fiscal support, ensuring that “fiscal dominance” remains the exception, rather than default state for policy coordination.⁵⁵ Achieving this normalization, however, requires maintaining sufficiently high levels of demand during the recovery to offset the contractionary effect of gradual monetary tightening without undue negative effects.⁵⁶ This, in turn, is paradoxically dependent on ongoing fiscal accommodation,⁵⁷ notwithstanding the Fed’s stated goal of preserving monetary policy independence.⁵⁸

The overall effect of this approach is that monetary policy is firmly in the macroeconomic driver’s seat, notwithstanding interest rates being a blunt tool and largely incapable of reducing or increasing demand in a way that promotes prosocial price stability.⁵⁹ The Fed is institutionally biased toward positive nominal default rates, and asymmetrically empowered to address high-demand-led inflation at the expense of other sources of price instability.⁶⁰ At the same time, it remains reliant on ongoing fiscal support to mitigate large-scale deflation and facilitate normalization around its baseline target rate.⁶¹

In contrast, an expansionary fiscal policy is treated as a countercyclical demand-stabilizing tool of last resort,

49. For an overview, see Leonard Gambarcorta et al., *The Effectiveness of Unconventional Monetary Policy at the Zero Lower Bound: A Cross-Country Analysis* (Bank of Int’l. Settlements Working Paper, Paper No. 384, 2012), <https://www.bis.org/publ/work384.pdf> [<https://perma.cc/S2VZ-ZY3H>].

50. See, e.g., Nick Bunker, *What Kind of Fiscal Policy Works Best at the Lower Bound?* WASH. CTR. EQUITABLE GROWTH (Mar. 23, 2017), <https://equitablegrowth.org/what-kind-of-fiscal-policy-works-best-at-the-zero-lower-bound> [<https://perma.cc/L66C-TJHZ>]; Paul Krugman, *Fiscal Policy at the Lower Bound, Again*, N.Y. TIMES (Dec. 27, 2014), <https://archive.nytimes.com/krugman.blogs.nytimes.com/2014/12/27/fiscal-policy-at-the-zero-lower-bound-again/index.html> [<https://perma.cc/6CM5-MVFX>]; Mark Blyth, *The Last Days of Pushing on a String*, HARV. BUS. REV. (Aug. 7, 2012), <https://hbr.org/2012/08/the-last-days-of-pushing-on-a-string> [<https://perma.cc/H5GF-QC4P>].

51. See, e.g., MARC LABONTE, CONG. RSCH. SERV., R46411, *THE FEDERAL RESERVE’S RESPONSE TO COVID-19: POLICY ISSUES* (2021) (“Congress decided . . . to direct the bulk of [CARES Act] money to the Fed; Treasury decides how much . . . funds should backstop each Fed program, but the Fed designs and administers those programs.”); Adam Tooze, *SHUTDOWN: HOW COVID SHOOK THE WORLD ECONOMY* 154 (2021).

What on its face looked like a powerful synthesis of fiscal and monetary policy working in harmonious co-ordination to help fund a generous new social contract revealed itself on closer inspection to be a confused and ill-shapen monster, a policy regime somewhere on the spectrum between Frankenstein and Jekyll and Hyde.

52. For a historical overview of fiscal-monetary coordination, see Josh Ryan-Collins & Frank Van Lerven, *Bringing the Helicopter to the Ground: A Historical Review of Fiscal-Monetary Coordination to Support Economic Growth in the 20th Century* (Post-Keynesian Soc’y Working Paper No. 1810, 2018), <https://www.postkeynesian.net/downloads/working-papers/PKWP1810.pdf> [<https://perma.cc/S835-QXP5>].

53. Lev Menand, *The Federal Reserve and the 2020 Economic and Financial Crisis*, 6 STAN. J.L. BUS. & FIN. 295, 354 (2021) (“monetary policy . . . depends upon [] a distinct internal culture, which means the Fed’s staff and leadership tend to avoid financial risk and political conflict.”) For an overview of the Fed’s expansive and unprecedented interventions during the 2020 COVID recession, see generally Lev Menand, *The Fed Unbound: CENTRAL BANKING IN A TIME OF CRISIS* (2022) (arguing that increased reliance on the Fed’s emergency powers is harmful to the Fed’s institutional independence and the broader democratic accountability of macroeconomic policy).

54. See, e.g., Jerome Powell, Chair, Fed. Rsv., Address at the Stanford Institute of Economic Policy Research (SIEPR) Summit: Monetary Policy: Normalization and the Road Ahead (Mar. 8, 2019), <https://www.federalreserve.gov/newsevents/speech/powell20190308a.htm> [<https://perma.cc/3T4L-BVBR>] (“[d]elivering on the [Federal Open Market Committee’s] intention to ultimately normalize policy continues to be a major priority at the Fed”); *Policy Normalization Principles and Plans*, Bd. Gov. THE FED. RESRV. SYS. (Sept. 16, 2014), https://www.federalreserve.gov/monetarypolicy/files/fomc_policynormalization.pdf [<https://perma.cc/WCC9-FESU>] (“The Committee will determine the timing and pace of policy normalization—meaning steps to raise the federal funds rate and other short-term interest rates to more normal levels and to reduce the Federal Reserve’s

securities holdings—so as to promote its statutory mandate of maximum employment and price stability.”).

54. See, e.g., Lael Brainard, Member, Bd. of Gov. of the Fed. Rsv. Sys., Remarks at SIEPR: Normalizing Monetary Policy When the Neutral Interest Rate Is Low (Dec. 1, 2015), <https://www.federalreserve.gov/newsevents/speech/brainard20151201a.htm> [<https://perma.cc/6VTS-5RX2>] (“The lower the longer-term nominal neutral rate is, the smaller in magnitude an adverse economic shock must be to push growth sufficiently below potential to necessitate a nominal federal funds rate below zero to provide accommodation.”).

55. See, e.g., Isabel Schnabel, Exec. Bd. Member, Eur. Cent. Bank, Speech at the Centre for European Reform and the Eurofi Financial Forum, *The Shadow of Fiscal Dominance: Misperceptions, Perceptions, and Perspectives* (Sept. 11, 2020), <https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp200911~ea32bd8bb3.en.html> [<https://perma.cc/4J63-SVXX>].

Fiscal expansion is indispensable at the current juncture to sustain demand and mitigate the long-term costs of the crisis. Monetary policy can complement these efforts. But by itself, it may not be sufficient to stabilize the economy . . . [I]n such times, it would be wrong to constrain fiscal policies today to protect monetary dominance tomorrow. Quite on the contrary, using fiscal and structural policies more actively in the current environment may foster central bank independence.

56. *Id.*

57. Fiscal accommodation in this context refers to increased deficit spending by fiscal authorities intended to increase effective demand in such a way as to offset the undesired contractionary effects of monetary policy tightening. See, e.g., John Carney, *The Fed vs. Congress: Who Is Enabling Whom?* CNBC (May 28, 2013), <https://www.cnbc.com/id/100770053> [<https://perma.cc/K6G3-U981>].

58. *Id.*; see also Gita Gopinath, Remarks Prepared for the Jackson Hole Symposium, *How Will the Pandemic and War Shape Future Recovery?* (Aug. 26, 2022), (<https://www.imf.org/en/News/Articles/2022/08/26/sp-gita-gopinath-remarks-at-the-jackson-hole-symposium>) [<https://perma.cc/R4ZR-R7WH>] (noting that “increasing reliance on fiscal policy to support economies” can help to raise “equilibrium interest rates,” i.e., the policy rate consistent with stable full employment).

59. See Schnabel, *supra* note 55.

60. See LABONTE, *supra* note 51.

61. See *infra* note 81.

to be invoked at the Fed's discretion, and only upon the determination that traditional monetary channels have been exhausted or are demonstrably insufficient to maintain effective demand.⁶² As a result, it tends to be ad hoc, reactive, and exceptionalized.⁶³ Explicit fiscal-monetary coordination is limited, beyond the use of budgetary gimmicks and off-balance sheet vehicles, to reduce the headline sticker price of large fiscal interventions.⁶⁴ Outside of these circumstances, persistent government deficits are seen as inherently irresponsible and undesirable; the presumptive expectation is that public spending will be fully costed and budget-neutral except when especially justified.⁶⁵

This view is both increasingly contested, and empirically inconsistent with both historical and current practices.⁶⁶ In reality, continuous monetary accommodation of persistent budget deficits is the norm, not the exception.⁶⁷ Fiscal and monetary authorities also regularly coordinate their operations and negotiate to resolve competing interests and priorities.⁶⁸ Moreover, the Fed's political and

budgetary independence has, in practice, led the legislative and executive branches to increasingly rely on it to perform a shadow fiscal role during crises through generous liquidity, credit, and non-recourse loan programs.⁶⁹ As a result, the ostensibly "apolitical" Fed now exerts significant, ongoing influence over the scope and scale of economic support extended to different groups, actors, and institutions in the economy, with limited external oversight or accountability.⁷⁰

C. Lessons From COVID-flation

Between 2020-2023, the United States endured a series of overlapping crises and unprecedented policy responses.⁷¹ Following the initial COVID-19 outbreak and economic recession, the Fed engaged in a broad loosening of monetary policy.⁷² This included not only lowering interest rates, but also backstopping an even wider range of asset markets and industrial sectors through crisis facilities that greatly expanded the range and favorability of its collateral policy.⁷³ The Fed also took the extraordinary step of engaging in outright purchases of corporate and municipal debt.⁷⁴

At the same time, the federal government implemented multiple rounds of large-scale fiscal relief measures, intended to provide income and credit support to individuals, small businesses, financial institutions, investors,

62. Nathan Tankus, *The New Monetary Policy: Reimagining Demand Management and Price Stability in the 21st Century* 1-3, MOD. MONEY NETWORK (2022), <https://files.modernmoney.network/M3F000001.pdf> [<https://perma.cc/ZF44-FB8C>].

63. While there have been proposals for both an independent fiscal authority and various countercyclical "automatic fiscal stabilizer" programs, they remain at the margins of political consideration. See, e.g., Thomas Baunsgaard & Steven Symanski, *Automatic Fiscal Stabilizers*, INT'L. MONETARY FUND STAFF POSITION NOTE NO. 2009/023 (Sept. 28, 2009), <https://www.imf.org/en/Publications/IMF-Staff-Position-Notes/Issues/2016/12/31/Automatic-Fiscal-Stabilizers-23303>; Nathan Tankus et al., *An MMT Response on What Causes Inflation*, FIN. TIMES (Mar. 1, 2019), <https://www.ft.com/content/539618f8-b88c-3125-8031-c46ca197c64> [<https://perma.cc/ZF44-FB8C>]; Stephanie Kelton, *Dual Mandate—Right Goals, Wrong Agency?*, FIN. TIMES (Aug. 6, 2013), <https://www.ft.com/content/366ce9c3-06be-3920-92d4-473aa9a8ab20> [<https://perma.cc/RP8N-KXDB>].

64. See, e.g., Nathan Tankus, *Improving the Accounting Gimmicks in the CARES Act*, NOTES CRISIS (May 7, 2020), <https://nathantankus.substack.com/pl/improving-the-accounting-gimmicks> [<https://perma.cc/5WLR-9V6S>].

65. See, e.g., *Fact Sheet: The President's Budget Cuts the Deficit by Nearly \$3 Trillion Over 10 Years*, WHITE HOUSE PRESS RELEASE (Mar. 9, 2023), <https://www.whitehouse.gov/omb/briefing-room/2023/03/09/fact-sheet-strong-the-presidents-budget-cuts-the-deficit-by-nearly-3-trillion-over-10-years-strong> [<https://perma.cc/QSN7-KDB5>] (arguing that "[i]f the President's Budget improves the Nation's fiscal outlook and reduces long-term fiscal risks by reducing the deficit, stabilizing deficits as a share of the economy, and keeping the economic burden of debt within historical norms").

66. See, e.g., Anton Korinek & Joseph Stiglitz, *Macroeconomic Stabilization for a Post-Pandemic World: Revising the Fiscal-Monetary Policy Mix and Correcting Macroeconomic Externalities*, BROOKINGS INST. (Hutchins Ctr. Working Paper, Paper No. 78, 2022), <https://www.brookings.edu/articles/macroeconomic-stabilization-for-a-post-pandemic-world> [<https://perma.cc/K4AU-HHC4>] (arguing for a permanently expanded role for fiscal policy in macroeconomic stabilization and demand management); Josh Ryan-Collins et al., *Monetary-Fiscal Policy Coordination: Lessons From COVID-19 for the Climate and Biodiversity Emergencies*, (UCL Inst. Innovation & Pub. Purpose Working Paper, Paper No. 2023-04, 2023), <https://www.ucl.ac.uk/bartlett/public-purpose/wp2023-04> [<https://perma.cc/N4JG-ECXZ>] (arguing that a revised framework for fiscal-monetary coordination is necessary to address impending climate and biodiversity crises).

67. While the Fed has the discretionary authority to adjust interest rates, it is operationally required to maintain liquidity in Treasury markets in order to maintain its target policy rate and preserve financial market system stability. Consequently, it is constantly engaged in a process of functional public debt monetization, notwithstanding its assertions of fiscal-monetary separation. See, e.g., Scott Fullwiler, *When the Interest Rate on the National Debt Is a Policy Variable (and "Printing Money" Does Not Apply)*, 40(3) PUB. BUDGETING & FIN. 72 (2020).

68. *Id.*; see also Eric Tyrionig, *Modern Money Theory, and Interventions Between the Treasury and Central Bank: The Case of the United States*, 48 J. ECON. ISSUES 641 (2014) (discussing the history and contemporary practice of close coordination between the Treasury and Federal Reserve).

69. Menand (2021), *supra* note 52, at 353. See also David Wessel, *How the Fed Became Everything (and Everything Became the Fed)*, FOREIGN POL'Y (Apr. 30, 2023), <https://foreignpolicy.com/2023/04/30/federal-reserve-limitless-trillion-dollar-triage-review-powell-us-economy-banking-crisis/> [<https://perma.cc/FV6D-J4QB>].

70. Menand (2021), *supra* note 52, at 354.

71. These include the COVID-19 Pandemic, the Ukraine-Russia War, the enduring aftermath of the GFC of 2008-2009 and the Eurozone Crisis of 2011-2012, and, of course, the growing Climate Crisis. The overlapping, interrelated, nature of these forces has led some commentators to describe the present condition as a "polycrisis" in which "disparate crises interact such that the overall impact far exceeds the sum of each part." See, e.g., Kate Whiting & Hyojin Park, *This Is Why "Polycrisis Is a Useful Way of Looking at the World Right Now*, WORLD ECON. F. (Mar. 7, 2023), <https://www.weforum.org/agenda/2023/03/polycrisis-adam-tooze-historian-explains> [<https://perma.cc/2GUS-ZXZC>]; Nathan Tankus, *What Are the Three Concurrent Crises of the Coronavirus Depression?*, NOTES CRISIS (May 21, 2020), <https://nathantankus.substack.com/pl/what-are-the-three-concurrent-crises> [<https://perma.cc/2EYP-3RJS>].

72. For a broad overview, see Eric Milstein & David Wessel, *What Did the Fed Do in Response to the COVID-19 Crisis?*, BROOKINGS INST. (Dec. 20, 2021), <https://www.brookings.edu/articles/fed-response-to-covid19/> [<https://perma.cc/LA95-9LIG>]. For a more detailed, blow-by-blow analysis, see Nathan Tankus, *The Federal Reserve's Coronavirus Crisis Actions, Explained (Part 1)*, NOTES CRISIS (Mar. 25, 2020), <https://www.crisisnotes.com/the-federal-reserves-coronavirus> [<https://perma.cc/763Y-4S6E>] [hereinafter "Tankus Part 1"]; *The Federal Reserve's Coronavirus Crisis Actions, Explained (Part 2)*, NOTES CRISIS (Mar. 26, 2020), <https://www.crisisnotes.com/the-federal-reserves-coronavirus-276> [<https://perma.cc/8HYA-V88G>] [hereinafter "Tankus Part 2"]; *The Federal Reserve's Coronavirus Crisis Actions, Explained (Part 3)*, NOTES CRISIS (Mar. 30, 2020), <https://www.crisisnotes.com/the-federal-reserves-coronavirus-054> [<https://perma.cc/GDB8-DUEV>] [hereinafter "Tankus Part 3"].

73. See generally Tankus Part 1, *supra* note 72; Tankus Part 2, *supra* note 72; Tankus Part 3, *supra* note 72.

74. Tankus Part 1, *supra* note 72; Tankus Part 2, *supra* note 72. For the enduring political and legal implications of the Federal Reserve's unprecedented actions, see generally Lev Menand, *Fed to the Rescue: Unprecedented Scope, Stretched Authority*, CLS BLUE SKY BLOG (Apr. 27, 2020), <https://clsbluesky.law.columbia.edu/2020/04/27/fed-to-the-rescue-unprecedented-scope-stretched-authority> [<https://perma.cc/VHM4-F7QL>].

and various levels and branches of government.⁷⁵ Some of these measures, such as supplementary income support for unemployed workers, were explicitly designed to soften the harmful social effects of high unemployment, which was seen as an unavoidable cost of mass quarantine and isolation.⁷⁶ Others, such as employer subsidies and loans, were intended to mitigate private-sector downturn by incentivizing businesses to stay open and keep workers on payroll during lockdown.⁷⁷

The scale and scope of the government's coordinated fiscal-monetary response across both the Donald Trump and Joseph Biden regimes, particularly in contrast to the Barack Obama Administration's response to the GFC, was staggering and had clear macroeconomic effects. Unemployment dropped from its peak of over 14% in mid-2020 to under 6% in a matter of months.⁷⁸ The stock market and corporate profits quickly rebounded,⁷⁹ and average incomes and overall net wealth levels shockingly improved relative to before the crisis.⁸⁰

Eventually, however, resurgent consumer spending demand, combined with a general productivity shock and accompanying supply chain crises, as well as the broader geopolitical disruption caused by Russia's attack on Ukraine, produced strong and broad-based price pressure, particularly in electronics (including cars), housing, food, and energy.⁸¹ Between February 2021 and June 2022,

headline Consumer Price Index inflation went from 1.7% to over 9%.⁸²

In response, the Fed pivoted to a contractionary monetary policy intended to reduce consumer spending demand by decelerating growth in worker incomes and wages.⁸³ Between March 2022 and July 2023, the Fed sequentially raised the overnight interest rate from 0.25% to 5.5%.⁸⁴ In a speech delivered to both the U.S. House of Representatives and the U.S. Senate in July 2023, Fed Chairman Jerome Powell argued that "[r]educing inflation [was] likely to require a[n] ongoing" period of below-trend growth and some [further] softening of labor market conditions," but claimed that "[r]estoring price stability [was] essential to set the stage for achieving maximum employment and stable prices over the longer run."⁸⁵

At the same time, the Biden Administration implemented various strategic price-targeting executive measures, including tapping the Strategic Petroleum Reserve and expanding fracking to lower the prices of oil and gas.⁸⁶ The U.S. Congress also passed the Inflation Reduction Act, which included unprecedented investments in and subsidies for clean energy technology and infrastructure, as well as support for manufacturing and other key domestic sectors.⁸⁷

It is unclear what effect these interventions, separately and together, had on overall price dynamics.⁸⁸ Regardless, broader improved economic conditions, combined with global supply chain recovery and other institutional and market adjustments, saw headline inflation drop to less than 3% as of June 2023—well below the historic average.⁸⁹ Somewhat surprisingly, this price decline did not

75. For a summary overview, see Grant Driessen & Lida Weinstock, CONG. RSCH. SERV., IN11734, THE COVID-19-RELATED FISCAL RESPONSE: RECENT ACTIONS AND FUTURE OPTION (2021). For a more detailed breakdown, see *The Federal Response to COVID-19*, BUREAU FISCAL SERV. (Aug. 31, 2023), <https://www.usaspending.gov/disaster/covid-19?publicLaw=all> [<https://perma.cc/763Y-4SE6>].

76. See, e.g., Nick Gwyn, *Historic Unemployment Programs Provided Vital Support to Workers and the Economy During Pandemic, Offer Roadmap for Future Reform*, CTR. BUDGET & POL'Y PRIORITIES, 1-2, 4 (Mar. 24, 2022), <https://www.cbpp.org/sites/default/files/3-24-22bud.pdf> [<https://perma.cc/UMP5-ZD64>].

77. See, e.g., Sean Ludwig, *Everything You Need to Know About Coronavirus Federal Small Business Stimulus Aid Programs*, U.S. CHAMBER COM. (Apr. 20, 2021), <https://www.uschamber.com/co/start/strategy/federal-small-business-stimulus-aid-programs-guide> [<https://perma.cc/Z9TF-6VQQ>].

78. Gene Falk et al., CONG. RSCH. SERV., R46554, *Unemployment Rates During the COVID-19 Pandemic 2* (2021).

79. Hamza Shaban & Heather Long, *The Stock Market Is Ending 2020 at Record Highs, Even as the Virus Surges and Millions Go Hungry*, WASH. POST (Dec. 31, 2020), <https://www.washingtonpost.com/business/2020/12/31/stock-market-record-2020/> [<https://perma.cc/68MK-NP5U>], (noting that S&P 500 stock index, the most widely tracked index of the stock market, finished the year up over 16% in 2020).

80. Ben Steverman, *America's Inequality Problem Just Improved for the First Time in a Generation*, BLOOMBERG (June 8, 2022), <https://www.bloomberg.com/news/features/2022-06-08/us-income-inequality-fell-during-the-covid-pandemic> [<https://perma.cc/CCU3-A9WZ>] (noting that the bottom 50% of households' wealth doubled in two years, such that they now hold a larger share of overall wealth than they've had for 20 years).

81. See, e.g., Kay O'Donnell, *The Main Driver of Inflation Isn't What You Think It Is*, POLITICO (Mar. 18, 2022), <https://www.politico.com/news/2022/03/18/housing-costs-inflation-00015808> [<https://perma.cc/MU9G-G6SS>]; Philip Barrett, *How Food and Energy Are Driving the Inflation Surge*, IMF BLOG (Sept. 12, 2022), <https://www.imf.org/en/Blogs/Articles/2022/09/09/cont-how-food-and-energy-are-driving-the-global-inflation-surge>; Ana Swanson & Katie Edmonson, *Commerce Dept. Survey Uncovers 'Alarming' Chip Shortages*, N.Y. TIMES (Jan. 25, 2022), <https://www.nytimes.com/2022/01/25/business/economy/chips-semiconductors-shortage.html> [<https://perma.cc/75G5-BHK6>].

82. *Consumer Price Index: 2022 in Review*, BUREAU LAB. STAT. (Jan. 17, 2023), <https://www.bls.gov/opub/ted/2023/consumer-price-index-2022-in-review.htm> [<https://perma.cc/G8CW-WAHU>].

83. See, e.g., Jeff Cox, *Federal Reserve Approves First Interest Rate Hike in More Than Three Years, Sees Six More Ahead*, CNBC (Mar. 16, 2022), <https://www.cnbc.com/2022/03/16/federal-reserve-meeting.html> [<https://perma.cc/66AY-49ZN>].

84. Taylor Tepper & Benjamin Curry, *Federal Funds Rate History 1990-2023*, FORBES (July 26, 2023), <https://www.forbes.com/advisor/investing/fed-funds-rate-history/> [<https://perma.cc/GV27-SQ23>].

85. Jerome Powell, *supra* note 34, at 3.

86. Press Release, White House, *President Biden to Announce New Actions to Strengthen U.S. Energy Security, Encourage Production, and Bring Down Costs* (Oct. 18, 2022), <https://www.whitehouse.gov/briefing-room/statements-releases/2022/10/18/fact-sheet-president-biden-to-announce-new-actions-to-strengthen-u-s-energy-security-encourage-production-and-bring-down-costs/> [<https://perma.cc/7755-TB7Y>]. See also Aramb Dutta & Skanda Armanach, *A Flexible Policy Toolkit: What the Biden Administration's Groundbreaking SPR Reform Unlocks*, EMPLOY AM. (Aug. 18, 2022), <https://www.employamerica.org/blog/unpacking-the-administrations-historic-spr-announcement> [<https://perma.cc/J2M4M-TAQW>].

87. See, e.g., Justin Badlam et al., *The Inflation Reduction Act: Here's What's in It*, MCKINSEY & CO. (Oct. 24, 2022), <https://www.mckinsey.com/industries/public-sector/our-insights/the-inflation-reduction-act-heres-whats-in-it> [<https://perma.cc/FUG6-PNSJ>]; *Summary of Inflation Reduction Act Provisions Related to Renewable Energy*, ENV'T PROT. AGENCY (June 1, 2023), <https://www.epa.gov/green-power-markets/summary-inflation-reduction-act-provisions-related-renewable-energy> [<https://perma.cc/Q3B3-GFHL>].

88. See, e.g., Christopher Rugaber & Josh Boaks, *Inflation Reduction Act May Have Little Impact on Inflation*, AP NEWS (Aug. 16, 2022), <https://apnews.com/article/inflation-biden-health-congress-climate-and-environment-63d07e15002e01b560a6f0e69fcb03> [<https://perma.cc/X8NS-R4B2>].

89. See, e.g., Christopher Rugaber, *US Inflation Hits Its Lowest Point Since Early 2021 as Prices Ease for Gas, Groceries and Used Cars*, AP NEWS (July 11, 2023), <https://apnews.com/article/inflation-prices-interest-rates-economy-federal-reserve-53d93610b5ccaccd097853593f29bc26> [<https://perma.cc/>].

produce a notable upswing in the unemployment rate. Instead, after dropping below the 2021 high of over 9%, the unemployment rate has remained constant around its pre-2019 level of around 3.6%—significantly below 20-year average NAIRU estimates.⁹⁰ This has prompted growing talk of the Fed achieving a much vaunted “soft landing,” in which inflation normalizes without a corresponding decline in employment.⁹¹

It remains to be seen whether headline inflation will return to the Fed’s 2% target without a recession. The Fed’s hikes may not have weakened the labor market enough to reverse positive fiscal headwinds and broader recovery trends, but they undoubtedly had a non-trivial contractionary effect, with the brunt of the associated economic cost borne by workers and the unemployed.⁹² And the Fed is not done yet. In June, Chair Powell testified that although the Federal Open Market Committee (“FOMC”) had voted to temporarily pause rate hikes, there was a broad consensus on the Committee that further hikes were forthcoming.⁹³

Either way, the Fed’s traditional monetary policy toolkit proved to be wholly inadequate and ill-prepared to handle the wide range of non-wage-led inflationary pressures that emerged during and after COVID, including but not limited to real resource shortages, supply chain disruptions, and corporate price gouging.⁹⁴ To the extent these pressures were mitigated directly, it was arguably mostly through a combination of executive orders and ad hoc,

emergency fiscal programs.⁹⁵ When push came to shove, the Fed reverted to its one-size-fits-all approach of raising interest rates to undercut the labor market, notwithstanding the tenuous or nonexistent connection between wage strength and many of the underlying inflationary drivers, such as foreign geopolitical disruption, limited domestic industrial capacity, and climate-driven crop failure.⁹⁶

On the fiscal side, the long-term political and economic repercussions of the past few years remain unclear. On one hand, the passage of multiple, multi-trillion dollar, deficit-financed COVID relief packages, with minimal impact on overall bond market prices, demonstrated the raw potential of fiscal stimulus to promote economic recovery and protect nominal incomes in the aftermath of economic crises.⁹⁷ In contrast to the Obama Administration, who after passing an initial post-GFC stimulus bill quickly pivoted to deficit reduction and debt sustainability,⁹⁸ the Trump and Biden Administrations both unapologetically embraced the higher price tag of their emergency relief packages as evidence of the government’s commitment to responding at a scale consistent with the nature of the problem.⁹⁹

On the other hand, emergency shortages of critical goods and services during the crises, combined with onset of high and seemingly persistent inflation during the subsequent recovery, underscored the importance of price stability as a first-order economic and political constraint on macroeconomic experimentation.¹⁰⁰ This, in turn, reinforced the need for additional price stabilization tools beyond traditional aggregate demand management, such as targeted price controls,¹⁰¹ industrial policy,¹⁰² and legal reform.¹⁰³ At

7Q55-32R2]; The Economics Daily, *Consumer Prices Up 3.0 Percent Over the Year Ended June 2023*, U.S. BUREAU OF LAB. STATS. (July 17, 2023), <https://www.bls.gov/opub/ted/2023/consumer-prices-up-3-0-percent-over-the-year-ended-june-2023.htm> [https://perma.cc/17RF-765X].

90. Compare Bureau of Labor Statistics, *Civilian Unemployment Rates* (2023), <https://www.bls.gov/charts/employment-situation/civilian-unemployment-rate.htm>. [https://perma.cc/N8NX-VB]6], and Federal Reserve Bank of Philadelphia, *NAIRU Estimates From the Board of Governors* (Feb. 1, 2023), <https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/nairu-data-set> [https://perma.cc/8JES-CXGJ].

91. See, e.g., Allison Morrow, *Inflation Fever Is Finally Breaking. The Fed’s Soft Landing May Be in Sight*, CNN (July 13, 2023), <https://www.cnn.com/2023/07/13/business/nightcap-inflation-fever-breaks/index.html> [https://perma.cc/VF4L-TX8S]. It is important to note, however, that the headline unemployment rate masks large inequalities in labor market conditions between regions and populations. See, e.g., Oluhenga Ajilore, *On the Persistence of the Black-White Unemployment Gap*, *CTR. AM. PROGRESS* (Feb. 24, 2020), <https://www.americanprogress.org/article/persistence-black-white-unemployment-gap/> [https://perma.cc/67KJ-VZVZ].

92. See, e.g., Neil Irwin, *The Fed Says This Is Going to Hurt, but It Matters Who Feels the Pain*, *AXIOS* (Sept. 22, 2022), <https://www.axios.com/2022/09/22/fed-recession-jobs-inflation-unemployment> [https://perma.cc/TUK2-C8K3].

93. Jerome Powell, Chair, Fed. Rsv., Transcript of Chair Powell’s Press Conference 1 (June 14, 2023), <https://www.federalreserve.gov/media/center/files/FOMCpressconf20230614.pdf> [https://perma.cc/GQPP-7KJ2] (noting that “nearly all Committee participants view it as likely that some further rate increases will be appropriate this year to bring inflation down to 2% over time”). See also Tobias Adrian et al., *Looser Financial Conditions Pose Concerns for Central Banks*, *IMF BLOG* (Feb. 2, 2023), <https://www.imf.org/en/Blogs/Articles/2023/02/02/looser-financial-conditions-pose-concerns-for-central-banks> (warning against premature easing, and arguing that central banks around the world instead should “communicate the likely need to keep interest rates higher for longer until there is evidence that inflation—including wages and prices of services—has sustainably returned to the target”).

94. For a thoughtful “insider” discussion of these limits and challenges, see Lael Brainard, Vice-Chair, Fed. Rsv., Speech at the 21st Bank of International Settlements Annual Conference, *What Can We Learn From the Pandemic and the War About Supply Shocks, Inflation, and Monetary Policy?* (Nov. 28, 2022), <https://www.federalreserve.gov/newsevents/speech/brainard20221128a.htm> [https://perma.cc/4VJH-QS8A].

95. See, e.g., Menand (2021), *supra* note 52; Dutta & Armananth, *supra* note 86; White House, *supra* note 86.

96. See, e.g., Ben Bernanke & Olivier Blanchard, *What Caused the U.S. Pandemic-Era Inflation?* 1-3 (Hutchins Ctr. Working Paper, Paper No. 86, 2023) (noting that shocks to commodity and other prices, not labor market pressure, was the primary driver of early pandemic inflation).

97. See, e.g., Matt Philips, *How the Government Pulls Coronavirus Relief Money Out of Thin Air*, *N.Y. TIMES* (Apr. 15, 2020), <https://www.nytimes.com/2020/04/15/business/coronavirus-stimulus-money.html> [https://perma.cc/JBY5-3UAJ]; Jeanna Smialek, *Is This What Winning Looks Like?*, *N.Y. TIMES* (Feb. 7, 2022), <https://www.nytimes.com/2022/02/06/business/economy/modern-monetary-theory-stephanie-kelton.html> [https://perma.cc/38FD-QRHG]. See generally KELTON, *supra* note 2.

98. See, e.g., Greg Sargent, *Obama’s Pivot to Deficit Reduction, Explained*, *WASH. POST* (Mar. 19, 2012), https://www.washingtonpost.com/blogs/plum-line/post/obamas-pivot-to-deficit-reduction-explained/2012/03/19/gIQA01-0GNS_blog.html [https://perma.cc/L8MK-VNPE].

99. See, e.g., Brett Samuels, *Trump Signs \$2.3 Trillion Spending Package*, *THE HILL* (Dec. 27, 2020), <https://thehill.com/news/administration/531632-trump-signs-relief-bill-despite-criticism> [https://perma.cc/F8ME-L7JT]; Sahil Kapur, *Joe Biden Wants to Set Aside Deficit Concerns to Invest in Aid*, *U.S. ECONOMY*, *NBC NEWS* (Jan. 9, 2021), <https://www.nbcnews.com/politics/white-house/joe-biden-wants-set-aside-deficit-concerns-invest-aiding-u-1253638> [https://perma.cc/PX7Y-9PBX].

100. See, e.g., Ezra Klein, *The Economic Mistake the Left Is Finally Confessing*, *N.Y. TIMES* (Sept. 19, 2021), <https://www.nytimes.com/2021/09/19/opinion/supply-side-progressivism.html> [https://perma.cc/GJ15A-8VCZ].

101. See, e.g., Zachary Carter, *What If We’re Thinking About Inflation All Wrong?*, *NEW YORKER* (June 6, 2023), <https://www.newyorker.com/news/persons-of-interest/what-if-were-thinking-about-inflation-all-wrong> [https://perma.cc/SU4B-P235].

102. See, e.g., Alex Yablon, *The Origins of Biden’s Most Important Policy, Explained*, *VOX* (Apr. 5, 2023), <https://www.vox.com/policy/2023/4/5/23668755/industrial-policy-biden-chips> [https://perma.cc/HW5F-GASX] (discussing the rise of industrial policy).

103. See, e.g., Aneel Kovalli, *Countercyclical Corporate Governance*, 101 *N. CAROLINA L. REV.* 141 (2022), (arguing for, inter alia, the potential for private

the same time, however, it drained political appetite for further deficit spending, out of concern it would further contribute to excess demand and inflationary pressures.¹⁰⁴

III. Reconceptualizing Prices

A. Stability

The standard economic definition of inflation is a sustained, general increase in prices over time.¹⁰⁵ In reality, however, there is no singular notion of a general “increase” in the price level, or of “average prices.”¹⁰⁶ Instead, official inflation estimates rely on large price indices, consisting of a weighted basket of goods and services that are then treated as proxies for overall spending conditions.¹⁰⁷ These indices are inherently subjective and purpose-oriented.¹⁰⁸ They present, at best, a limited snapshot of overall economic conditions, and often obscure important dynamics and inter-relationships between consumer and non-consumer budgetary demands and price and non-price spending dynamics.¹⁰⁹ Nevertheless, they are the main quantitative metrics used in macroeconomic policymaking.¹¹⁰

The Fed’s normative vision of price stability is centered around reproducing and reinforcing market structures in which consumer prices increase incrementally, predictably, and uniformly, notwithstanding external shocks or changing economic conditions.¹¹¹ The institutionalized commitment to equilibrium-thinking manifests most visibly in its headline target of 2% annual inflation, as measured by periodic changes in core Personal Consumption Expenditures (“PCE”), an ostensibly representative and largely fixed basket of weighted consumer prices.¹¹²

This target is inherently backwards-looking, as it prioritizes the stability of existing markets and general price conditions at the expense of fostering and constructing embryonic and new markets and price dynamics that may be important for long-term economic stability. It also downplays the potentially high social and personal cost of individual price volatility, such as a one-off or rapid short-term price increase in critical goods like food, or services with low basket-weighting but high salience for particular subpopulations, like specialized medical care.¹¹³ In addition, it ignores the potential to use targeted price decreases to mitigate harms to specific populations caused by general price volatility, as well as expand available fiscal space for other non-inflationary spending.¹¹⁴

Crucially, the Fed’s framework, predicated on the belief that indefinite historical price continuity is both possible and supremely desirable, is increasingly at odds with the material and social realities of impending climate change.¹¹⁵ The default economic state, particularly for the foreseeable future, is not stasis but transformative disruption.¹¹⁶ Individual, sectoral, and systemwide prices will undergo periods of high volatility, as new industries emerge and old ones collapse.¹¹⁷ New consumer trends and market structures will form, seemingly from nowhere,

and regulatory changes to corporate governance to facilitate counter-cyclical demand management). See generally Yair Listokin, *LAW & MACROECONOMICS: LEGAL REMEDIES TO RECESSIONS* (2019).

104. See, e.g., Christian Paz, *Joe Biden’s New Go-To Tool to Fight Inflation? The Deficit*, VOX (June 4, 2022), <https://www.vox.com/23153687/joe-biden-interested-deficit-inflation-economy> [https://perma.cc/L8KS-7VZM].

105. See, e.g., *What Is Inflation and How Does the Federal Reserve Evaluate Changes in the Rate of Inflation?*, Bd. Gov. Fed. Rsv. Sys. (Sept. 9, 2016), https://www.federalreserve.gov/faqs/economy_14419.htm [https://perma.cc/U59U-BHWA] (noting that inflation “cannot be measured by an increase in the cost of one product or service, or even several products or services”).

106. See Nathan Tankus, *Are General Price Level Indices Theoretically Coherent?*, NOTES CRISIS (May 28, 2020), <https://nathantankus.substack.com/p/are-general-price-level-indices-theoretically-coherent> [https://perma.cc/URU3-GA64]; see also Dennis Jansen, *A Tale of Seven Inflation Measures*, THE AEM PRIV. ENTER. RESCH. CTR. (Apr. 29, 2022), <https://perc.nyu.edu/PERC-Blog/PERC-Blog/A-Tale-of-Seven-Inflation-Measures> [https://perma.cc/4K8N-ZLM3].

107. See Bd. Gov. Fed. Rsv. Sys., *supra* note 105; see also Jansen, *supra* note 106.

108. See Jansen, *supra* note 106. See also Tankus, *supra* note 106 (quoting JOHN MAYNARD KEYNES, *THE GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY* (Springer Int’l ed. 2018)).

109. See Tankus, *supra* note 106.

110. *Id.* See also Adrian Bloem et al., *Price Indices for Inflation Targeting*, in STATISTICAL IMPLICATIONS OF INFLATION TARGETING: GETTING THE RIGHT NUMBERS AND GETTING THE NUMBERS RIGHT 172, 179 (Carol Carson et al., eds., 2002) (describing the main price indices used by central bankers in the implementation of monetary policy).

111. See Bd. Gov. Fed. Rsv. Sys., *supra* note 105.

112. See, e.g., Carlos Garriga & Devin Warner, *Inflation, Part 3: What Is the Fed’s Current Goal? Has the Fed Met Its Inflation Mandate?*, FED. RSV. BANK ST. LOUIS ECON. SYNOPSIS (2002), <https://files.stlouisfed.org/files/htdocs/publications/economic-synopses/2022/09/02/inflation-part-3-what-is-the-feds-current-goal-has-the-fed-met-its-inflation-mandate.pdf> [https://perma.cc/67EK-5NJJN].

113. Perhaps the most high-profile example of this in recent years has been the dramatic increase in insulin prices due to commercial rent-seeking and price gouging, which, despite exerting minimal impact on headline inflation figures, has resulted in severe economic hardship and suffering for dependent diabetics. See, e.g., Tiffany Stanley, *Life, Death, and Insulin*, WASH. POST (Jan. 7, 2019), <https://www.washingtonpost.com/news/magazine/wp/2019/01/07/feature/insulin-is-a-lifesaving-drug-but-it-has-become-intolerably-expensive-and-the-consequences-can-be-tragic> [https://perma.cc/KBP9-PUJ8]; Shelly Gilled & Benjamin Zhu, *Not So Sweet: Insulin Affordability Over Time*, COMMONWEALTH FUND ISSUE BRIEF (Sept., 25, 2020), <https://www.commonwealthfund.org/publications/issue-briefs/2020/sep/not-so-sweet-insulin-affordability-over-time> [https://https://perma.cc/N2TC-DPS9].

114. See, e.g., Isabelle Weber, *A New Economic Policy Playbook*, PROJECT SYNDICATE (Mar. 13, 2023), <https://www.project-syndicate.org/magazine/inflation-targeted-price-controls-alternative-to-interest-rate-hikes-by-isabella-m-weber-2023-03> [https://perma.cc/7THG-WL7C].

115. See, e.g., Anton Regensburg, *The Fed Is Neglecting Its Duty on Climate Change*, NEW REPUBLIC (May 19, 2022), <https://newrepublic.com/article/166538/fed-jerome-powell-climate-change> [https://perma.cc/N97A-ZFV7]. While central bankers are beginning to acknowledge the macroeconomic significance of climate change, they remain fixated on minimizing the disruptive impacts on existing markets, rather than facilitating the transition to alternative, sustainable modes of production and consumption. Christine Lagarde, *Painting the Bigger Picture: Keeping Climate Change on the Agenda*, EUROPEAN CENT. BANK BLOG (Nov. 7, 2022), <https://www.ecb.europa.eu/press/blog/date/2022/html/ecb.blog.221107-14d017e80d.en.htm> [https://perma.cc/4FN7-46T2]; Lael Brainard, Member, Bd. Governors Fed. Rsv. Sys., Remarks at ‘The Economics of Climate Change, *Why Climate Change Matters for Monetary Policy and Financial Stability* (Nov. 8, 2022), <https://www.federalreserve.gov/newsevents/speech/brainard20191108a.htm> [https://perma.cc/4FN7-46T2].

116. See, e.g., Rachel Ramirez, “*Delay Means Death*”: *We’re Running Out of Ways to Adapt to the Climate Crisis*, *New Report Shows. Here Are the Key Takeaways*, CNN (Feb. 28, 2022), <https://www.cnn.com/2022/02/28/world/un-ippcc-climate-report-adaptation-impacts/index.html> [https://perma.cc/4FN7-46T2].

117. See, e.g., Nicolo Florenzio, *Impact of Climate Change on Price Stability*, E-AXIS F (July 2022), https://e-axis.org/wp-content/uploads/2022/08/PB-Price-Stability_8_2022.pdf [https://perma.cc/4FN7-46T2].

while others fade into irrelevance or become impossible as climate disasters increase.¹¹⁸

In many cases, these changes will be disruptive and unwelcome. If properly managed, some may lead to improved living standards and greater ecological sustainability. Either way, simply maintaining the status quo is not an option. Due to changing environmental conditions, individual spending behaviors and budgetary needs will rapidly evolve and require radical social renegotiation.¹¹⁹

Twenty-first century, pro-social price stabilization policy is thus not just a matter of holding the ship steady; it involves seeing what's ahead, and steering into choppy waters. This, in turn, requires intentional public planning and holistic coordination across multiple systems of production, distribution, finance, and regulation.¹²⁰

The prevailing monetary policy regime is ill-suited to the challenge. As noted above, the Fed's preferred tool for reducing inflation, interest rate hikes, is based almost exclusively on adjusting effective demand through increasing unemployment levels and weakening wage demands.¹²¹ This single-track approach is often ineffective depending on external conditions,¹²² poorly targeted to address the diverse range of sources of price pressure, and precludes the development of more sophisticated, multidimensional systems of price administration and regulation.¹²³ It is also economically wasteful, socially harmful, politically unpopular, and undermines support for further public investment and central climate transition demands, like a green jobs guarantee.¹²⁴

More fundamentally, the Fed's approach is predicated on a singular notion of price stability, centered around the predictability and consistency of the consolidated movements of aggregate consumer price indices.¹²⁵ This notion ignores other economically important dimensions of price stability, including the average length of time between price increases,¹²⁶ and the one-off or rapid increases in

individual, systemically or politically important prices.¹²⁷ It also fails to capture how the public experiences and understands inflation, not as a discrete measurement of a particular basket of consumer prices but in the holistic sense of declining real purchasing power and increased costs of living.¹²⁸

B. Inflation

Presently, public enthusiasm for large-scale green spending is undercut by concern for the inflationary impact of increased budget deficits.¹²⁹ This concern is partly grounded in the mistaken belief that budget deficits necessarily increase demand and are thus inherently inflationary, whereas deficit-neutral public spending is presumptively demand-neutral and inflation-neutral.¹³⁰

In reality, there is no intrinsic relationship between deficit-neutrality and price-neutrality.¹³¹ The price impact of a dollar spent in one manner versus another can vary significantly, and in some cases may even be deflationary.¹³² This impact, in turn, may be mitigated, augmented, or unaffected by accompanying taxes and other budgetary offsets, even while they potentially exert their own distinct price

118. See, e.g., Amanda Ruggeri, *How Climate Change Will Transform Business and the Workforce*, BBC (July 9, 2017), <https://www.bbc.com/future/article/20170705-how-climate-change-could-transform-the-work-force> [<https://perma.cc/9Y9A-LH8F>].

119. For more on the challenge of ensuring a just transition for all people, see, e.g., *What Is Just Transition? Why Is It Important?*, CLIMATE PROMISE, U.N. DEV. PROGRAMME (Nov. 3, 2022), <https://climatepromise.undp.org/news-and-stories/what-just-transition-and-why-it-important> [<https://perma.cc/7HHG-WL7C>].

120. See, e.g., *The Paris Agreement*, UNITED NATIONS (2021), <https://www.un.org/en/climatechange/paris-agreement> [<https://perma.cc/L46M-CH8R>] (“[c]limate change is a global emergency that goes beyond national borders. It is an issue that requires international cooperation and coordinated solutions at all levels.”).

121. See FED. RESV. BANK ST. LOUIS, *supra* note 26; see also Yellen, *supra* note 28.

122. See, e.g., Silvana Tenreiro & Gregory Thwaites, *Pushing on a String: US Monetary Policy Is Less Powerful in Recessions*, 8 AM. ECON. J. 4, 43 (2016) (observing that sensitivity of the U.S. economy to monetary policy varies depending on the state of the economy, and is notably less effective during recessions).

123. See *supra* notes 32–35.

124. See, e.g., Varshini Prakash & Sarah Meyerhoff, *It's Time for the Climate Movement to Embrace a Federal Jobs Guarantee*, IN THESE TIMES (May 24, 2018), <https://inthesetimes.com/article/climate-movement-federal-jobs-guarantee-bernie-sanders-2018> [<https://perma.cc/ARNP-9BEN>].

125. See *supra* notes 31–33.

126. For more on the various dimensions and definitions of price stability, and the importance of administered prices as an alternative mechanism for price stabilization than demand management, see, e.g., Nathan Tankus, *Inflation*

& the Politics of Pricing, MONEY ON THE LEFT (June 19, 2019), <https://moneyleft.org/2019/06/19/inflation-the-politics-of-pricing-with-nathan-tankus> [<https://perma.cc/KR9K-2PDE>] (contrasting the 2.5-month duration of median price changes in Brazil, versus the 4-8 month duration of median price changes in the United States, to illustrate the greater degree of price stability in the latter economy); Frederic Lee & Paul Downward, *Retesting Gardiner Means's Evidence on Administered Prices*, 33 J. ECON. ISSUES 861 (1999); Frederic Lee, *POST-KEYNESIAN PRICE THEORY* (1999).

127. See, e.g., Isabella Weber et al., *Inflation in Times of Overlapping Emergencies: Systemically Significant Prices From an Input-Output Perspective* (UMass Amherst Econ. Dept Working Paper, Paper No. 340, 2022), https://scholarworks.umass.edu/econ_workingpaper/340 [<https://perma.cc/8ENX-244G>]; Robert Hockett & Saule Omarova, *Systemically Significant Prices*, 2 J. FIN. REG. 1 (2016); Nathan Tankus & Luke Herrine, *Competition Law as Collective Bargaining Law*, in CAMBRIDGE HANDBOOK LAB. COMPETITION L. 72, 94-95 (Sanjukta Paul et al., eds., 2022).

128. See, e.g., Carlo Pizzinelli, *Hall of Mirrors: How Consumers Think About Inflation*, INT. MON. FUND, FINANCE & DEVELOPMENT (Sept. 2022), <https://www.imf.org/en/Publications/fandd/issues/2022/09/hall-of-mirrors-how-consumers-think-about-inflation-pizzinelli> [<https://perma.cc/6B9R-MTR2>] (noting that behavioral research indicate, inter alia, that consumers general perceive inflation to be higher than it is, and rely on a few, regularly consumed products to extrapolate changes in the overall cost of living).

129. See, e.g., Jim Tankersley, *Republicans Say Spending Is Fueling Inflation*, THE FED. CHAIR DISAGREES, N.Y. TIMES (Mar. 23, 2023), <https://www.nytimes.com/2023/03/23/us/politics/republicans-inflation-federal-reserve-powell.html> [<https://perma.cc/BH1Z-ANPB>].

130. See, e.g., Tobias Adrian & Victor Gaspar, *How Fiscal Restraint Can Help Fight Inflation*, IMF BLOG (Nov. 21, 2022), <https://www.imf.org/en/Blogs/Articles/2022/11/21/how-fiscal-restraint-can-help-fight-inflation> [<https://perma.cc/MNC4-EDPY>] (“A smaller deficit cools aggregate demand and inflation, so the central bank doesn't need to raise rates as much. . . . [I]f responsibility—or even consolidation where needed—demonstrates that policymakers are aligned against inflation.”).

131. See generally KELTON, *supra* note 12.

132. See generally Lee, *supra* note 126. Orthodox macroeconomic theory acknowledges this to some degree through the concept of the “fiscal multiplier,” which evaluates the relative output per dollar of different fiscal adjustments, including spending and revenue collection. See, e.g., Renee Haltom, *Fiscal Multiplier*, FED. RESV. BANK RICHMOND ECON. FOCUS (2018), https://www.richmondfed.org/-/media/RichmondFedOrg/publications/research/econ_focus/2018/q4/jargon_alert.pdf. However, this approach has a limited focus on overall output effects, and compares fiscal impact through a unidimensional weighted numerical scale that fails to capture causal dynamics and qualitative differences between different forms of price pressure. *Id.*

pressures at the same time.¹³³ Different forms of spending and revenue generation can thus have distinct, often unrelated, or contradictory, impacts on price conditions, with no inherent commensurability or one-for-one trade off between the inflationary and deflationary impact of nominally balanced fiscal outflows and inflows.¹³⁴

Budget deficits are also not the only source of additional effective demand.¹³⁵ The private sector has the capacity to endogenously create purchasing power and spending through the extension of credit and leverage.¹³⁶ While private investment can expand overall output capacity over time, in the short run it often competes with public spending for claims over limited resources, including labor, in the process driving upwards price pressure in particular markets and sectors.¹³⁷ Thus, when evaluating the inflationary impact and social merit of proposed public investments, it is important to consider them not in isolation, but relative to other potential and likely private uses of the same resources and fiscal space.¹³⁸

Outside of emergency situations, the modern Fed rarely targets individual non-financial prices, overtly subsidizes, or penalizes specific non-financial market lending and credit activities.¹³⁹ Instead, it mostly influences general credit conditions through broad-based monetary policy interventions, such as interest rate adjustments and open market operations.¹⁴⁰ As described above, these interventions are primarily intended to maintain labor market conditions consistent with optimal overall consumer demand levels.¹⁴¹ Consequently, their impact on particular sector or market-level investment conditions, while important, is ultimately a second-order consideration to headline consumer price stability.

Recently, macroeconomic experts like Nathan Tankus have proposed a more fine-grained approach to monetary policy centered not around one-size-fits-all interest rate adjustments, but a constellation of sector and activity-specific modes of qualitative and quantitative credit regulation.¹⁴² In addition to allowing for more fine-grained demand management, targeted restrictions on private-sector credit could also be used to offset the inflationary

impact of new public spending.¹⁴³ In doing so, they would function as genuine “non-fiscal payoffs,” in contrast to current budgetary payoffs that prioritize arithmetic balance over real-world effects.¹⁴⁴ At the same time, interest rates on public spending and publicly approved (i.e., green) investments could be kept low or at zero permanently, ensuring socially important production remains as cost-efficient as possible while preserving maximum monetary policy discretion over broader private market conditions.¹⁴⁵

Targeted credit regulation should be implemented in coordination with broader industrial planning and non-financial price regulation, including antitrust law, in order to address sector-specific needs and minimize the anti-social effects of excessive concentrations of private economic power and unchecked market-led price governance.¹⁴⁶ Through strategic targeting of systemically important prices, the government can both mitigate the most harmful effects of future economic and social crises, and proactively maintain and improve collective living standards.¹⁴⁷

Adopting a disaggregated approach to demand management and price stabilization opens the door to new possibilities for fiscal experimentation and action. Individual spending proposals can be evaluated functionally on their own terms, without the presumptive need for budgetary neutrality and dollar-for-dollar revenue offsets. Proposals estimated to cause minimal inflationary impact can be funded via direct outlays from the public fisc, independent of broader macroeconomic dynamics, while those with significant price impacts can be strategically offset through inflation-weighted revenue offsets or non-fiscal payoffs.¹⁴⁸

Simultaneously, the government can proactively promote selective downward price pressure through investments in capacity-building, stockpiling, and buffer stock management,¹⁴⁹ and the development of market substitutes and public options in targeted sectors.¹⁵⁰ Such investments

133. See, e.g., Beardsley Ruml, *Taxes for Revenue Are Obsolete*, AM. AFF., Jan. 1946 (identifying four distinct purposes of taxation, only one of which is price stabilization).

134. See, e.g., Andrew Duehren, *Do Higher Deficits Cause Inflation? Not This Year*, WALL ST. J. (Sept. 2023), <https://www.wsj.com/economy/central-banking/do-higher-deficits-cause-inflation-not-this-year-1177e15d> [https://perma.cc/E6W-Z6L3] (noting that higher annual deficits in 2023 have not increased pressure on inflationary outlook).

135. See generally Tankus, *supra* note 62.

136. *Id.* See also Robert Hockett & Saule Omarova, *The Finance Franchise*, 102 CORNELL L. REV. 1143 (2017); Michael McLeay et al., *Money Creation in the Modern Economy*, BANK ENG. Q. BULL. (2014), <https://www.bankofengland.co.uk/-/media/boef/files/quarterly-bulletin/2014/money-creation-in-the-modern-economy.pdf> [https://perma.cc/4DK7-CAXG]; Stephanie Bell, *The Role of the State and the Hierarchy of Money*, 25 CAMB. J. ECON. 149 (2001).

137. Tankus, *supra* note 62, at 35.

138. *Id.* at 17–18. See also Tankus, *supra* note 64.

139. This was not always historically the case. See, e.g., Stacey Schrefl, *Credit Controls: 1980*, FED. RESV. BANK RICHMOND ECON. REV. 26–28 (1990) (discussing the history of credit controls in the U.S. prior and up to 1980).

140. See *supra* notes 29–53.

141. See *supra* notes 7–28.

142. Tankus, *supra* note 62.

143. Tankus, *supra* note 62, at 2; see also Macro Musings With David Beckworth, Nathan Tankus on the Future of MMT and How to Avoid U.S. Debt Default, MERCATUS CTR. (May 8, 2023), <https://www.mercatus.org/macro-musings/nathan-tankus-future-mmmt-and-how-to-avoid-us-debt-default> [https://perma.cc/YR4S-EAUP]; see also Rohan Grey, *Financial Regulation, Price Stability, and the Future*, L. & POL. ECON. PROJECT BLOG (Mar. 22, 2022), <https://lpeproject.org/blog/financial-regulation-price-stability-and-the-future> [https://perma.cc/7GF6-8NKE].

144. Tankus, *supra* note 62, at 2.

145. *Id.* at 20.

146. *Id.* at 25.

147. *Id.* See also Weber et al., *supra* note 127; Hockett & Omarova, *supra* note 127.

148. See Tankus, *supra* note 62 at 8; Weber et al., *supra* note 127, at 12.

149. See, e.g., Isabella Weber & Ewan Warner, *Sellers' Inflation, Profits and Conflict: Why Can Large Firms Hike Prices in an Emergency?*, 19–21 (UMass Amherst Econ. Dept. Working Paper, Paper No. 343, 2023), https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1348&context=econ_workingpaper [https://perma.cc/NRA2-WUPW].

150. For example, there has been extensive discussion of the potential for a public option in healthcare or health insurance to reduce price pressure in medical services. See, e.g., Matthew Fiedler, *Capping Prices or Creating a Public Option: How Would They Change What We Pay for Health Care?*, USC-BROOKINGS SCHAEFFER INITIATIVE HEALTH POL'Y 12–16 (Nov. 2022), <https://www.brookings.edu/wp-content/uploads/2020/11/Price-Caps-and-Public-Options-Paper.pdf> [https://perma.cc/TT52-GUNW]; see also Morgan Ricks et al., *Central Banking for All: A Public Option for Bank Accounts*, GREAT DEMOCRACY INITIATIVE (June 2018), https://rooseveltinstitute.org/wp-content/uploads/2021/08/GDI_Central-Banking-

not only “pay for themselves” over time in an inflationary sense, but also potentially generate additional fiscal space for other forms of public spending.

Of course, even deflationary investments in future capacity still require committing economic resources today.¹⁵¹ Proactive price stabilization efforts will thus remain constrained by contemporary price conditions and political appetite for additional public expenditure, as well as the availability of key inputs including administrative capacity and specialized labor.¹⁵² Nevertheless, they remain important both practically and imaginatively, as an example and model for how to reorient fiscal decisionmaking away from deficit-neutrality to inflation-management and real resource sustainability.

IV. Fossil Fuel Nationalization: A Macroeconomic Analysis

As explained in the previous section, the practical limit on public spending is not financial capacity but inflation. Instead of requiring that outlays be budgetarily offset dollar-for-dollar with revenue, the federal government should evaluate spending proposals based on their estimated impact on general demand conditions and systemically important prices. Spending that creates excess demand should be accompanied by corresponding demand offsets, including “non-fiscal payfors” such as quantitative and qualitative credit regulations and non-financial leverage restrictions. Conversely, if the economy has capacity to absorb the additional demand without causing economywide bottlenecks or other manifestations of excess demand, public spending can and should be implemented without accompanying offsets, regardless of budgetary implications.¹⁵³

In some cases, public purchases create far less additional demand than its nominal sticker price would suggest. Two salient recent examples of this are student debt cancellation,¹⁵⁴ and purchases of real estate which subsequently are transferred to community land trusts.¹⁵⁵ Both

involve large upfront fiscal outlays, but exert only marginal impact on day-to-day consumption of goods and services.¹⁵⁶ To the extent they increase demand, it is through incremental, long-term effects on private wealth and income levels, not the initial one-off increase in fiscal deficits from cancellation/purchase.¹⁵⁷

Another example of a high social-impact, low-demand fiscal program is the nationalization of the fossil fuel industry. The logic behind fossil fuel nationalization is based on the basic math of carbon emissions and climate change. Burning fossil fuels results in a definite and measurable amount of carbon emissions.¹⁵⁸ Estimating proven fossil fuel reserves, we can thus derive estimates of the carbon emissions “embedded” in those reserves.¹⁵⁹ Based on those estimates, burning the proven fossil fuel reserves of the United States would, *by itself*, emit almost 600 billion tons of carbon into the atmosphere.¹⁶⁰ This would more than consume the *entire planet’s* carbon budget under the limits implied by the Paris Agreement’s 1.5 degrees Celsius (2.7 degrees Fahrenheit) warming target.¹⁶¹ Thus, while the United States may be able to afford to continue burning fossil fuels in financial terms, it clearly cannot afford to do so in carbon terms. To state the obvious, balancing the carbon budget is, unlike balancing the government budget, a macroeconomic necessity.

The most direct and parsimonious way of not burning fossil fuels is for the United States government to take control and commit to keeping them in the ground to the greatest extent possible while transitioning to clean energy and renewable production.¹⁶² Nationalization could involve the government purchasing direct claims over proven reserves and related production infrastructure (resource nationalization), taking fossil fuel firms public through compulsory acquisitions and shareholder buyouts (corporate nationalization), or some combination of both.

housingmatters.urban.org/articles/how-community-land-trusts-can-advance-racial-and-economic-justice [https://perma.cc/A4BU-HCAM].

For-All_201806.pdf [https://perma.cc/2QG4-AMRB] (arguing for a public option in banking services).

151. Again, however, the implied real resource commitments of public expenditure or public purchases can vary considerably, depending on the nature of the activity.

152. See, e.g., Daniel Rees & Phurichai Rungharoenkitkul, *Bottlenecks: Causes and Macroeconomic Implications*, BANK INT’L SETTLEMENTS BULL. (Nov. 11, 2023), <https://www.bis.org/pub/bsisbull48.pdf> [https://perma.cc/LSZU-ERVA].

153. See, e.g., Stephanie Kelton, *Biden Can Go Bigger and “Not Pay for It” the Old Way*, N.Y. TIMES (Apr. 7, 2021), <https://www.nytimes.com/2021/04/07/opinion/biden-infrastructure-taxes.html> [https://perma.cc/V59Q-G348].

154. See, e.g., Scott Fulwiler et al., *The Macroeconomic Effects of Student Debt Cancellation*, LEVY INST. RSCH. PROJECT REP. (Feb. 2018), <https://www.levyinstitute.org/publications/the-macroeconomic-effects-of-student-debt-cancellation> [https://perma.cc/5H6N-9WLT]; Mike Konczal & Ali Bustamante, *Canceling Student Debt Would Increase Wealth, Not Inflation*, ROOSEVELT INST. (Aug. 17, 2022), <https://rooseveltinstitute.org/2022/08/17/canceling-student-debt-would-increase-wealth-not-inflation> [https://perma.cc/UYGZ-EGQD]; Joseph Stiglitz, *Actually, Canceling Student Debt Would Cut Inflation*, THE ATLANTIC (Aug. 25, 2022), <https://www.theatlantic.com/ideas/archive/2022/08/biden-student-debt-cancellation-stiglitz/671228> [https://perma.cc/T7AE-CBKD].

155. See, e.g., Gabi Velasco, *How Community Land Trusts Can Advance Racial and Economic Justice*, HOUSING MATTERS, URBAN INST. (Feb. 26, 2020), <https://>

156. In the case of student cancellation, although the total face value of debt cancellation is born upfront, the change to the debtor only manifests in marginally lower monthly expenses, which have already been suspended for years. For community land trusts, initial land acquisition is expensive, but is effectively an asset swap from the perspective of the real estate seller, who replaces a real house (house) with a financial asset (cash). As explained further in the next section, this affects investment demand, but exerts only a marginal effect on consumer prices.

157. Konczal & Bustamante, *supra* note 154.

158. See, e.g., United States Environmental Protection Agency, Sources of Greenhouse Gas Emissions, <https://www.epa.gov/ghemissions/sources-greenhouse-gas-emissions> [https://perma.cc/VZ3M-R5Z1].

159. See, e.g., Oliver Milman, *Burning World’s Fossil Fuel Reserves Could Emit 3.5tn Tons of Greenhouse Gas*, THE GUARDIAN (Sept. 19, 2022), <https://www.theguardian.com/environment/2022/sep/19/world-fossil-fuel-reserve-greenhouse-gas-emissions> [https://perma.cc/2J12-BBTX]; see also Richard Heede & Naomi Oreskes, *Potential Emissions of CO₂ and Methane From Proved Reserves of Fossil Fuel: An Alternative Analysis*, 36 GLOB. ENV’T CHANGE 12 (2016).

160. Milman, *supra* note 159.

161. *Id.*

162. See generally Kate Aronoff, *A Modest Proposal: Nationalize the Fossil Fuel Industry*, THE NEW REPUBLIC (Mar. 17, 2020), <https://newrepublic.com/article/156941/moderate-proposal-nationalize-fossil-fuel-industry> [https://perma.cc/P78B-U8GY]; Kate Aronoff, *OVERHEATED: HOW CAPITALISM BROKE THE PLANET—AND HOW WE FIGHT BACK* (2021); Fergus Green & Ingrid Robeyns, *On the Merits and Limits of Nationalizing the Fossil Fuel Industry*, 91 ROYAL INST. PHIL. SUPP. 53, 53, 68 (2022).

While the choice of which approach to take is ultimately a political and strategic decision, corporate nationalization has several distinct benefits relative to resource nationalization. First, it is generally less costly to acquire governance rights over firms through shareholder buyouts than to buy their underlying assets directly, since the former involves also assuming responsibility for operations, expenses, and liabilities.¹⁶³ Consequently, the initial sticker price of corporate nationalization would likely be relatively lower than resource nationalization, increasing the odds of gaining public and political support.¹⁶⁴

Second, fossil fuel companies are not mere vessels for property claims over underlying resource assets. They are large, active institutions with high levels of administrative capacity, skilled labor, technological understanding, and political influence. By asserting public control, the United States can redirect and repurpose institutional focus and resources away from discovery of new reserves and development of extractive technologies, toward winding down the industry and promoting a just transition to renewable energy.¹⁶⁵ In doing so, it would neutralize a major source of future political resistance to decarbonization, and reduce the spread of industry-driven cultural ignorance and/or doubt regarding the nature, impact, and solutions to climate change.¹⁶⁶

It is beyond the scope of this Article to adjudicate between resource nationalization and corporate nationalization as distinct policy strategies for reducing fossil fuel production and promoting the broader goals of the environmental movement. Instead, for clarity's sake, the remaining analysis focuses on nationalizing fossil fuel companies, although most of the analysis applies equally to direct purchases of proven fossil fuel reserves, or a combination of the two.

More generally, this Article does not try to make the comprehensive case for fossil fuel nationalization as good politics and good policy.¹⁶⁷ Instead, its purpose is to illus-

trate how a sophisticated understanding of inflation, and a functional approach to public budgeting, changes the assessment of such an ostensibly radical policy proposal by (1) removing the presumptive need for revenue-neutrality, and (2) showing that the macroeconomic increase in demand resulting from such a program would be a small fraction of its total fiscal cost, and consequently potentially require relatively smaller offsets to maintain inflation-neutrality.

Of course, whether the removal of these objections and concerns is sufficient to render the prospect of fossil fuel nationalization appealing to those who have thus far been unconvinced of its merits is obviously debatable, and a matter for subjective debate and individual judgment. Indeed, for many, the question of whether fossil fuel nationalization is a good idea in principle is rendered practically moot by the lack of serious political interest in it, at least presently. At the very least, however, by distinguishing between genuine and fictitious budgetary constraints, and clarifying the likely macroeconomic effects of nationalization, it is possible to refocus the debate around the issue away from economic superstitions that presently distort public understanding, and toward more meaningful and realistic considerations of the merits of the proposal relative to feasible alternatives.

Such a reorientation is impactful not only in the narrow context of this particular policy issue, or indeed more broadly with respect to debates over the appropriate policy responses to climate change. At a more fundamental level, it reflects an underlying commitment to truth and accuracy in public discussion of economic policy, in contrast to the pervasive belief among certain segments of the economic policy commentariat that the public is incapable of understanding the degree of nuance and complexity required to evaluate budgetary debates beyond the reductive and misleading heuristics of nominal budget calculations.¹⁶⁸ In that respect, this argument is as important pedagogically as it is substantively: democracy cannot function without an informed electorate, and economic myths that obscure how prices and budgets really work in favor of digestible narratives that reinforce people's understandable but incorrect intuitions¹⁶⁹ represent a serious threat to that system.

163. See, e.g., Will Kenton, *Asset Acquisition Strategy: Key Concepts Explained*, INVESTOPEDIA, Mar. 4, 2021, <https://www.investopedia.com/terms/a/asset-acquisition-strategy.asp> [<https://perma.cc/936W-G99N>].

The benefit of an asset acquisition strategy, when compared to a stock acquisition strategy, is that the acquiring company gets to pick and choose the parts of a company it likes and feels would benefit their company. This is in contrast to a stock acquisition strategy where a company would have to buy all parts of a company where certain areas might be a poor fit and have to be divested in the future.

164. To give a very basic example, if a fossil fuel company had -\$1 trillion in assets, and \$800bn in liabilities, then acquiring its assets alone would cost in the ballpark of -\$1 trillion, whereas acquiring the company writ large would also take into account the negative value of the \$800bn in liabilities.

165. See, e.g., Heede & Oreskes, *supra* note 159, at 19 (arguing that private fossil fuel industry companies "represent[s] a substantial risk to the 2°C target not so much because of their proved reserves . . . but because of their ability and expressed intent to continue to explore for new sources of fossil fuels, and to convert existing probable and possible reserves into additional proved reserves," and that consequently "investor and consumer pressure should focus on the question of phasing out exploration for new resources, especially in high-cost environments and of carbon-intensive resources").

166. See, e.g., Amy Westervelt, *Our Climate Solutions Are Failing—And Big Oil's Fingerprints Are All Over Them*, THE GUARDIAN (Mar. 7, 2022), <https://www.theguardian.com/commentisfree/2022/mar/07/climate-solutions-big-oil-ipc-report> [<https://perma.cc/47F9-2WAM>].

167. See Aronoff, *supra* note 162; Green & Robeyns, *supra* note 162.

168. See, e.g., Michael Dorf, Money, Law, & Other Noble Lies, VERDICT (Oct. 13, 2021), <https://verdict.justia.com/2021/10/13/money-law-and-other-noble-lies> [<https://perma.cc/42AF-5SA4>] (acknowledging that the "social psychological roots of money are disguised by a kind of noble lie—a claim that our leaders know to be false but that they encourage in the masses to promote some social interest," but arguing that such a lie may "nonetheless be necessary in some circumstances," despite "sit[ting] in tension with democratic values").

169. See, e.g., The Fiscal Ship, <https://fiscalship.org/about.php> [<https://perma.cc/CPR6-LXCP>].

The Fiscal Ship challenges you to put the federal budget on a sustainable course . . . America is looking at a permanent, growing mismatch between revenues and spending, and policymakers are faced with difficult decisions about how to reconcile important government priorities . . . your mission is to pick from a menu of tax and spending options to reduce the debt from projected levels over the next 25 years . . . To win the game, you need to find a combination of policies that match your values and priorities AND set the budget on a sustainable course.

A. Aggregate Expenditure Effects

As of August 17, 2023, the 160 largest (by market capitalization) American oil and gas companies had a combined market capitalization of roughly 2.3 trillion dollars, equivalent to 9% of total U.S. Gross Domestic Product (“GDP”) in 2022.¹⁷⁰ That is a large sum, even in macroeconomic terms.¹⁷¹ However, the resulting increase in aggregate demand from public acquisition would likely be far less than this big-dollar amount suggests.

Presently, the vast majority of fossil fuel company shares and other ownership interests are held by large institutional investors like pension funds, hedge funds, and sovereign wealth funds.¹⁷² These investors manage diverse portfolios of different asset classes and investments.¹⁷³ If forced to sell their fossil fuel holdings, most would immediately reinvest the newly acquired funds in other stocks or bonds consistent with their broader allocation strategy, which would be modified to no longer include fossil fuel investments.¹⁷⁴ By contrast, only a very small percentage of fossil fuel stocks and related ownership interests are currently held by households in unencumbered form which could even conceivably be liquidated to purchase currently produced goods and services.¹⁷⁵ Moreover, even that small fraction is unlikely to be converted to current expenditures to any

significant degree, since most retail investments are held long-term even while remaining accessible on a day-to-day basis, and capital gains reinvested rather than consumed.¹⁷⁶

The fact that these funds are predominantly held by institutional investors rather than directly by individuals that engage in consumption makes the initial fiscal expenditure required to acquire them more equivalent to financial market investments than transfer spending.¹⁷⁷ Interventions that replace privately held financial assets with public funds are no more inflationary when financed by fiscal authorities and implemented for environmental purposes than when conducted by monetary authorities for liquidity purposes. The trust, fiduciary, and corporate laws which structure the management of large institutional cash pools reduces the leakage from governmental equity purchases to aggregate income and demand.¹⁷⁸ In this sense, what Hyman Minsky called “Money Manager Capitalism” and Benjamin Braun calls “Asset Manager Capitalism” facilitates the disconnection between equity purchases and demands for currently produced goods and services.¹⁷⁹

Nevertheless, the portfolio rebalancing which asset managers would do if fossil fuel stocks were fully bought out would likely cause significant capital gains in non-fossil fuel financial markets. In plainer terms, those cash balances would lead to purchases of other financial assets, increasing their price and providing a form of (capital) income to the lucky sellers. This indirect effect would add to the minimal direct demand impact from the initial equity purchase. However, for the very same reasons that the direct impact is minimal, the secondary impact is likely to be minimal as well. In general, the “propensity to consume out of capital gains” is quite small when considering the total capital

170. *Largest Oil and Gas Companies by Market Cap*, COMPANIESMARKETCAP (Aug. 17, 2023), <https://companiesmarketcap.com/oil-gas/largest-oil-and-gas-companies-by-market-cap> [https://perma.cc/PD3J-G56B]. This estimate, based on multiplying the market value of a company's shares by the total number of outstanding shares, is a rough calculation, but it is sufficient here for demonstrative purposes.
171. To compare this amount with average quarterly increases in GDP, see *Gross Domestic Product, Fourth Quarter and Year 2022 (Advance Estimate)*, BUREAU ECON. ANALYSIS (Jan. 26, 2023), <https://www.bea.gov/news/2023/gross-domestic-product-fourth-quarter-and-year-2022-advance-estimate> [https://perma.cc/DH28-K7N4].
172. See, e.g., Sophie Robinson-Tillet, *Study Reveals “Top 10” Shareholders of World’s Fossil Fuels*, RESPONSIBLE INVESTOR (June 24, 2022), <https://www.responsible-investor.com/study-reveals-top-10-shareholders-of-worlds-fossil-fuel-reserves> [https://perma.cc/T8MU-SN8F] (noting that nearly half of all emissions potential from fossil fuel companies is under the influence of 10 financial entities, and identifying approximately 900 investors that own more than 1% stakes in the firms that collectively own 98% of all proven reserves); Ognjan Seizov & Katrin Ganswindt, *Investing in Climate Chaos: NGOs Release Data on Fossil Fuel Holdings of 6,500 Institutional Investors*, 30 JAHRE URSCHWALD (Apr. 20, 2023), <https://www.urschwald.org/en/medi-en/investing-climate-chaos-ngos-release-data-fossil-fuels-holdings-6500-institutional-investors> [https://perma.cc/894W-NTTX] (identifying 6,500 institutional investors, including pension funds, insurers, mutual funds and asset managers, that collectively own over \$3 trillion in investments in fossil fuel companies, including 23 investors that account for 50% of total investments, and two—Blackrock and Vanguard—that together account 17% of total investments alone). See generally Adam Tsooze, *The Rise of Asset Manager Capitalism and the Global Financial Crisis*, CHARTBOOK (Feb. 13, 2022), <https://adamtsooze.substack.com/p/chartbook-82-the-rise-of-asset-manager> [https://perma.cc/WL8B-8E2E].
173. See, e.g., Vanguard Investment Products (2023), <https://advisors.vanguard.com/investments/all> [https://perma.cc/XC2X-K9H4] (detailing all major asset classes invested by Vanguard).
174. Indeed, even this second-order effect could be mitigated by requiring institutional investors to hold a larger proportion of safe, liquid securities as part of their overall balance sheet, as the increased market demand for government-issued securities would absorb the newly issued government obligations issued to finance the acquisition of fossil fuel interests.
175. Most individual investments are locked up in pension funds, retirement accounts, and similar long-term vehicles. See, e.g., Dean Baker, *NPR Misses the Story on Dividend Tax Cut*, AM. PROSPECT (May 1, 2006), <https://prospect.org/economy/npr-misses-story-dividend-tax-cut> [https://perma.cc/6K8S-3CLM].

176. See, e.g., Malcolm Baker et al., *The Effect of Dividends on Consumption* (Nat'l Bureau of Econ. Rsch. Working Paper, Paper No. 12288, 2006) (finding significantly lower rates of individual spending following capital gains than dividends); Steen Meyer et al., *The Consumption Response to Realized Capital Gains: Evidence From Mutual Fund Liquidations* (Oct. 2019), https://www.aleepreterito.com/wp-content/uploads/2019/10/030_Previtero_WP_MPC-CapitalGains.pdf [https://perma.cc/AQ4D-Y8CE] (finding that, on average, individuals only consume 11% of funds after a forced liquidation event, with even lower rates for unrealized capital gains); see also Monica Paiella, *Does Wealth Affect Consumption? Evidence for Italy*, 29 J. MACROECON. 189 (2007).
177. It is also operationally equivalent to central bank purchases of private-sector securities, even as the policy motivations differ. See, e.g., BlackBull Markets, *How Much of the Japanese Stock Market Does the BoJ Own?*, BENZINGA (Apr. 29, 2022), <https://www.benzinga.com/22/04/26902762/how-much-of-the-japanese-stock-market-does-the-boj-own> [https://perma.cc/W4EY-7VTM] (noting the Bank of Japan has acquired 80% of all domestic exchange-traded funds, accounting for approximately 7% of the total Japanese stock market, as part of its expansionary monetary policy program).
178. See, e.g., Zoltan Pozsar, *Institutional Cash Pools and the Triffin Dilemma of the U.S. Banking System* (IMF Working Paper, Paper No. 190, 2011); Nathan Tankus, *The Night They Re-Read Pozsar (In His Absence)*, NOTES CRUISES (Mar. 30, 2023), <https://www.crisenotes.com/the-night-they-re-read-pozsar-in-his-absence> [https://perma.cc/PUB4-XBZH].
179. See, e.g., Benjamin Braun, *Asset Manager Capitalism as a Corporate Governance Regime*, IN THE AMERICAN POLITICAL ECONOMY: POLITICS, MARKETS, POWER 270 (Jacob Hacker et al., eds., 2021); L. Randall Wray, *Minsky’s Money Manager Capitalism and the Global Financial Crisis*, 40 INT. J. POL. ECON. 5 (2011); Hyman Minsky, *Money Manager Capitalism*, HYMAN P. MINSKY ARCHIVE (1989), https://digitalcommons.bard.edu/cgi/viewcontent.cgi?article=1012&context=hm_archive [https://perma.cc/Z5BP-T2M8].

gains across all types of holdings and not simply the unencumbered holdings of individual households.¹⁸⁰

Given all the complicated factors involved, it would take a full-fledged modeling effort to come up with proper estimates for how much additional aggregate expenditure such a program would produce (and thus need to be mitigated through demand offsets to remain inflation-neutral). To provide an initial rough estimate, if we assume current market capitalization prices and the “output multiplier” of the program to be 0.05 (i.e., 5% of the total outlay),¹⁸¹ then a congressional appropriation for the sum of 2.3 trillion dollars would functionally generate 115 billion dollars of additional demand. In macroeconomic terms, this is quite a small number.¹⁸² As a percentage of annual GDP in 2022, this would be 0.45%—more than a rounding error, but still quite manageable.¹⁸³ Even quadrupling it would only reach the still relatively modest sum of 1.8% of GDP. These numbers are especially impressive given the initial assumption of immediate, comprehensive nationalization. Adopting a more gradual approach in terms of both the number of targeted firms and rate of stock acquisition would further mitigate any upfront shock on demand.

Furthermore, the above estimate does not consider the “non-fiscal payoffs” built into the program itself. From the perspective of investors, corporate nationalization effectively involves a swap of high-yield stocks for lower-yield government obligations (via the deficit spending used to finance the initial acquisition).¹⁸⁴ Notwithstanding the one-time capital gain from the initial acquisition, over the long term, this swap eliminates dividends, reducing aggregate investor income. Furthermore, fossil fuel stocks tend to be high-dividend stocks. Evidence suggests that dividend payments are consumed far more readily than

realized capital gains.¹⁸⁵ Removing that income from the economy can potentially reduce a non-trivial amount of real spending behavior and thus demand.

More fundamentally, nationalization does not merely involve acquiring fossil fuel stocks and then passively holding them as investments. Rather, the point is to wind down the fossil fuel industry and eventually repurpose the workers, infrastructure, and institutional capacity toward more equitable and environmentally conscious ends. Winding down will not happen overnight. Instead, it will require a transitional period during which investment and expenditure decline in a controlled, steady way.¹⁸⁶ The exact form and speed of this shrinking process should be determined through careful planning that considers both the urgency of climate change mitigation, and the need to minimize disorderly social and economic disruptions that politically threaten both nationalization efforts, and broader enthusiasm for further climate action.

For example, while it is probably not possible to cease all fossil fuel production immediately tomorrow, it may be both feasible and desirable to immediately end investment in further exploration and cultivation of new reserves, given that we cannot climatologically afford to burn the fossil fuel reserves we already have.¹⁸⁷ The cessation of future fossil fuel exploration and related investment alone could conceivably exert a sufficiently large demand drain to serve as the “payoff” for the entire nationalization program.¹⁸⁸ Indeed, it is even possible this demand drain would be sufficiently large to serve as a payoff for *other* public spending as well.

Even if these offsetting considerations are discounted, the likely impact on aggregate demand of this program is still remarkably mild considering its profound social importance and implied dramatic change to the structure of the U.S. economy. Moreover, the program could have even less macroeconomic “cost” if timed in coordination with the next recession or crisis. Proposals to nationalize the fossil fuel industry in 2020 abounded as oil prices collapsed and the stock prices of fossil fuel companies went down dramatically.¹⁸⁹ Following the rough “output mul-

180. See, e.g., Baker et al., *supra* note 176; Meyer et al., *supra* note 176, at 2.

181. For more on output multipliers, see John Seliski et al., *Key Methods That CBO Used to Estimate the Effects of Pandemic-Related Legislation on Output*, CONG. BUDGET OFF. (Oct. 2020), <https://www.cbo.gov/system/files/2020-10/56612-Key-Methods.pdf> [<https://perma.cc/PEY7-CAM9>]; Tankus Part 1, *supra* note 72.

182. Admittedly, the assumption of current market capitalization is a strong one. The calculation would be less favorable if the overall acquisition price exploded due to increased fossil fuel stock prices in anticipation of prospective nationalization. However, this does not change the core point of the analysis, since even if larger in absolute terms, the program’s “aggregate demand impact” would still be a small fraction of the total amount of government expenditure. Furthermore, in a world where such a program had a serious chance of being implemented, it could conceivably end up being paired with targeted non-financial regulations or taxes (such as capital gains or wealth taxes) that repressed or slunked the market capitalization of oil and gas companies. The demand reductions from capital losses could conceivably even be a part of the non-fiscal “payoff” that balances the program’s macroeconomic impact in demand terms.

183. This estimate assumes for simplifying purposes that all spending would happen over the course of one year. A comprehensive modeling effort would take into account possible delayed impacts. The numbers here are for conceptual illustration only, i.e., to establish a general ballpark range for the scale of the program.

184. It does not matter whether the initial acquisition is financed through cash or an exchange of stocks for government obligations since, at the margin, the Fed determines the balance of reserves and Treasuries and will defensively respond to absorb new liquidity as necessary to maintain its interest rate and balance sheet targets. See, e.g., Stephanie Kelton & Scott Fullwiler, *The Helicopter Can Drop Money, Gather Bonds, or Just Fly Away*, FIN. TIMES (Dec. 12, 2013), <https://www.ft.com/content/227b3e08-c44e-3f35-8236-18a3c82c9f77> [<https://perma.cc/6QC5-RD6L>].

185. See, e.g., Baker et al., *supra* note 176, at 20, 24; Meyer et al., *supra* note 176, at 3.

186. For more information on what this process could look like, see The Production Gap, 2023 Report (2023), <https://productiongap.org/2023report> [<https://perma.cc/63WN-PRDF>].

187. See Heede & Oreskes, *supra* note 159, at 12–13.

188. This is considered either a “fiscal payoff” or a “non-fiscal payoff”—on one hand, it involves regulatory guidance of corporate production, on the other hand, it involves a reduction in public expenditure. Either way, it occurs outside of the traditional appropriations process and would presumably not be included in any deficit-scoring of the overall budget.

189. See, e.g., Aronoff, *supra* note 162; Sean Sweeney, *There May Be No Choice but to Nationalize Oil and Gas—and Renewables, Too*, NEW LAB. F. (Aug. 2020), <https://newlabforum.com/gas-and-renewables-31/there-may-be-no-choice-but-to-nationalize-oil-and-gas-and-renewables-too> [<https://perma.cc/CG4Q-RL5C>]; Marcella Mulholland & Ethan Winter, *Nationalize the Fossil Fuel Industry*, NEW LAB. F. (Apr. 21, 2020), <https://www.dataforprogress.org/blog/4/21/nationalize-the-fossil-fuel-industry> [<https://perma.cc/D4Z5-L4XC>]; Alexander Kaufman, *Falling Oil Prices Breathe New Life Into an Old Idea: Nationalize the Industry*, GRIST (Apr. 25, 2020), <https://grist.org/energy/falling-oil-prices-breathe-new-life-into-an-old-idea-nationalize-the-industry> [<https://perma.cc/MZ2K-B6F3>]; Johanna Bozowa, *The Case for Public Ownership of the Fossil Fuel Industry*, NEXT SYS. PROJECT (Apr. 14, 2020), <https://thenextsystem.org/learn/stories/case-public-ownership-fossil-fuel-industry> [<https://perma.cc/687Y-1BU1>].

tiplier” estimate above, if the government had purchased fossil fuels stocks during the time when prices were roughly one-half of current levels, the increase in overall demand could have been as little as 57.5 billion dollars or 0.225% of GDP.

B. Sectoral Prices and Bottlenecks

The previous section argued the fiscal expenditure required to nationalize fossil fuel companies would likely generate little additional effective demand, or at the least a disproportionately lower amount than its nominal sticker price. One implication of that claim is implementation would thus require fewer, if any, fiscal and/or non-fiscal payoffs to mitigate resulting inflationary pressure. While this is largely true from a macroeconomic perspective, the industry-specific particularities of nationalizing fossil fuel companies to reduce fossil fuel production brings important additional price complications.

As explained in Part III, undesirable price increases are not solely attributable to overall excess demand conditions. Market actors regularly exercise pricing power, both in their sector and more broadly across the economy, independent of overall demand conditions. At the same time, sector-specific bottlenecks can emerge alongside broader economic slack.

As the invasion of Ukraine has highlighted, global bottlenecks in fossil fuel markets can direct energy and broad-based price increases, with significant direct negative impacts on poorer households.¹⁹⁰ Perhaps even more seriously, such broad-based price increases, despite their obvious sectoral production origins, can lead NAIU-centric monetary policymakers to raise interest rates and undermine labor market conditions in an attempt to slow the macroeconomy.¹⁹¹ Higher interest rates, in turn, create political headwinds against new fiscal programs and further distract from more nuanced and targeted forms of price-stabilizing macroeconomic interventions.¹⁹²

In this case, an explicit purpose of nationalization is to reduce the long-term production and consumption of fossil fuels. Sectoral bottlenecks in fossil fuel-intensive industries, and shortages in fossil fuel production are thus not a bug, but a feature, albeit one with potentially significant price destabilizing effects that require targeted mitigation.

In particular, efforts to shut down production need to be paced and coordinated with stepping up clean energy production both nationally and globally as well as programs to increase energy efficiency and equitably reduce nonessential energy demand.¹⁹³ These efforts should be

combined with direct price caps in energy markets,¹⁹⁴ as well as non-financial regulations aimed at facilitating the orderly transition of energy supply chains toward renewables.¹⁹⁵ Doing so is necessary in order to not only mitigate energy market bottlenecks, but also prevent undesirable production shutdowns in other sectors for want of energy and minimize the impact of non-renewable energy prices on overall price conditions.

One example of targeted non-financial regulation would be to require nationalized fossil fuel companies to continue to sell fossil fuels to essential utilities and other systemically important (especially household-facing) sectors at stabilized, pre-nationalization prices, as an implicit consumption subsidy during the transition period. Such a mandate would, of course, need to be designed carefully to avoid incentivizing or empowering fossil fuel black markets and/or causing market disruption. While it is beyond the scope of this Article to suggest a particular approach for how to do so, the relevant point is that to the extent nationalization creates new production and price risks in the energy industry, many of these risks can potentially be ameliorated by the new “regulatory” possibilities afforded by fossil fuel production coming under public control itself.

Ultimately, the risk of bottlenecks and broader energy price disruption exists with any serious attempt to drastically reduce fossil fuel production. At the same time, only a radical and speedy reduction in fossil fuel production can hope to reduce carbon emissions on a scale sufficient to truly mitigate climate change. Thus, even if disorderly energy bottlenecks emerge beyond the mitigatory capacity of an energy demand reduction program and accelerated clean energy production, it is still a “price” worth paying to finally take the fight against climate change seriously. Crucially, such sector-specific price dynamics also do not obviate the broader point of this Article, which is that the economywide inflationary impact of public spending is often far smaller than its budgetary price tags imply, and that they can and should be mitigated through targeted demand-offsets, including fiscal and non-fiscal payoffs, rather than reflexive balanced-budget requirements and dollar-for-dollar revenue offsets.

V. Conclusion

Macroeconomic policy is in a state of flux, with sustainability and climate change increasingly central concerns. Although the Fed is ostensibly responsible for price management, its monetary policy toolkit is limited and overly reliant on labor market discipline to constrain excess demand, and emergency, ad hoc fiscal support to prevent deflation.

Recent experience has revealed that inflation, not funding, is the practical limit on large-scale public spending. At the same time, public concern for inflation can generate

190. See, e.g., Klaus Hubacek et al., *Russia-Ukraine War Has Nearly Doubled Household Energy Costs Worldwide—New Study*, WORLD ECON. F. (Feb. 20, 2023), <https://www.weforum.org/agenda/2023/02/russia-ukraine-war-energy-costs> [https://perma.cc/PP6J-YQD8].

191. See *supra* notes 7–28.

192. See generally *supra* notes 87–130.

193. Counterintuitively, equitably reducing energy demand will involve increasing the relative—and in some cases, absolute—energy consumption of currently under-resourced populations.

194. See, e.g., Kate Abnet, *EU Countries Agree Gas Price Cap to Contain Energy Crisis*, REUTERS (Dec. 19, 2022), <https://www.reuters.com/business/energy/eu-countries-make-final-push-gas-price-cap-deal-this-year-2022-12-19/> [https://perma.cc/S3SM-YLYG]; Weber, *supra* note 127.

195. See, e.g., Tankus, *supra* note 64.

opposition to large budget deficits and public investment out of the mistaken belief that they are inherently inflationary. In reality, different forms of both public expenditure and revenue collection have different effects on overall price dynamics. Moreover, there are many sources of demand- and non-demand-driven inflationary pressure beyond public spending.¹⁹⁶

Consequently, formalistic requirements of budget-neutrality do not necessarily guarantee inflation-neutrality.¹⁹⁷ Instead, they mostly function to obstruct important spending initiatives and obscure possibilities for both non-inflationary fiscal expansions, and non-fiscal “payfors”¹⁹⁸—like credit and non-financial regulations—as a demand-offset instead of taxes or other traditional sources of revenue.

Climate activists should embrace a functional approach to price stabilization, whereby individual spending proposals are evaluated individually for their inflationary impact. Doing so would reveal new possibilities for high-impact, low-inflation fiscal interventions that do not require corresponding fiscal or non-fiscal offsets, notwithstanding their large sticker price.

One such intervention is the nationalization of fossil fuel reserves and related infrastructure through the compulsory public acquisition of shares and other governing interests in fossil fuel companies. Despite its large budget cost, nationalization would likely exert minimal upwards pressure on consumer spending or overall demand conditions, and thus could be implemented without few or no corresponding demand offsets. At the same time, it would afford the government greater control and discretion over the pace and form of fossil fuel industry wind down and green energy transition.

Beyond the merits of the proposal itself, nationalization represents an example and model of how to transform the U.S. economy through large-scale public spending with minimal impact on currently produced goods and services or prices. By adopting a functional macroeconomic framework, grounded in a multidimensional and proactive approach to systemic price stability, climate activists and public policymakers open the door to radical new possibilities for bold public investment and economic transformation.

196. See, e.g., Paz, *supra* note 104.

197. See, e.g., *supra* notes 62–67 and accompanying text.

198. See definition of “payfor,” *supra* note 19.