 Printed in U.S.A.
Vol. 119, No. 6

AGAINST MONETARY PRIMACY

Yair Listokin & Rory Van Loo

ABSTRACT—To reduce inflation, the Federal Reserve (Fed) raises interest rates. But every month with high interest rates increases the risk of a devastating recession. Recessions impose not only short-term pain in the form of widespread unemployment but also lifelong harm for many, as vulnerable workers and those who start their careers during a downturn never fully recover. Yet hiking interest rates is the centerpiece of U.S. inflation-fighting policy. When inflation is high, the Fed raises interest rates until inflation is tamed, regardless of the consequent sacrifices. We call this inflation-fighting paradigm "monetary primacy." Despite its great risks, monetary primacy has remained unchallenged by either political party and largely ignored by legal scholars.

This Article exposes monetary primacy's incoherence and proposes an alternative framework that relegates interest rate hikes to a supporting role in the fight against inflation. Governments possess other policy tools for controlling inflation that are better situated to lead. Examples include supply-side reforms to sectors facing bottlenecks, tighter fiscal policy, and more vigilant antitrust and consumer law enforcement. Between 2021 and 2023, the United States deployed many of these tools, albeit not necessarily motivated by inflation concerns. And while the Fed has received much attention for lowering inflation during this period, it likely had limited impact. Thus, our framework has descriptive power for the astonishing recent success in moderating excess inflation without causing a recession. That reality has, however, been missed—increasing the chances that the Fed keeps rates too high as the economy slows.

Instead of monetary primacy, the Fed should set interest rates at a level that is best for long-term employment and price stability, known as the "natural" rate of interest. If inflation remains too high when interest rates equal the natural rate, then the Fed, the Executive Branch, and Congress should compare the sacrifice associated with raising interest rates above their natural rate to the alternative policy tools and choose the least costly option. We assert that, in many but not all cases, the preferred option will not be elevated interest rates, and we propose reforms to enable other institutions to respond effectively to inflation alongside the Fed. This proposal would shift U.S. policy from monetary primacy to macroeconomic pluralism, which means leveraging an array of economically beneficial (or at least less

harmful) tools. In both the short term and the long term, moving away from monetary primacy will help increase the chances of conquering inflation, avoiding a recession, and expanding economic opportunity.

AUTHORS—Yair Listokin, Professor, Yale Law School; Rory Van Loo, Professor, Boston University School of Law. We are grateful to Oren Bar-Gill, Robert Bishop, Glenn Cohen, Adam Cox, Christine Desan, Jonathan Gould, Howell Jackson, Kathy Spier, Lawrence H. Summers, and participants in the Conference on Law and Macroeconomics for valuable input. Ashlee Fox and Fred Halbhuber provided excellent research assistance.

INTRODUCTION

The United States and world economies have recently experienced an inflation roller coaster. After over thirty years of relative price stability,[1] inflation returned with a vengeance in 2021–2023. In the United States, prices of certain necessities, such as shelter, increased at an annual rate of over 7%, and at one point, the overall annual rate of inflation for goods and

[1] We follow the Federal Reserve in defining annual inflation of approximately 2% as "consistent with . . . price stability." *Why Does the Federal Reserve Aim for Inflation of 2 Percent over the Longer Run?*, BD. OF GOVERNORS OF THE FED. RSRV. SYS. (last updated Aug. 27, 2020), https://www.federalreserve.gov/faqs/economy_14400.htm [https://perma.cc/C2GS-43LC].

services hit 9.1%—the highest level since the early 1980s.[2] Citizens resented the uptick in prices, with Americans in 2022 collectively perceiving "inflation as the top problem facing the country today."[3] The historically high inflation quickly subsided, however. By summer 2024, annual inflation fell below 3%.[4] But victory is not yet assured. At the end of January 2024, Federal Reserve (Fed) Chair Jerome Powell announced that "inflation is still too high, ongoing progress in bringing it down is not assured, and the path forward is uncertain. I want to assure the American people that we're fully committed to returning inflation to our 2 percent goal."[5] The "last mile" will likely be the hardest, risking a resurgence in inflation or a painful economic downturn.[6] But almost nobody predicted the economy would be where it was by late 2024, poised to conquer inflation without a recession or excess unemployment—a combination so miraculous that economists describe it as "immaculate disinflation."[7]

How did the United States achieve this stunning success that almost nobody saw coming?[8] As a rhetorical matter, the American policy response to excess inflation was simple but potentially painful. The Federal Open Market Committee (FOMC) raised short-term interest rates dramatically: rates hovered near zero in March 2022,[9] but less than a year and a half later,

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[2] Rob Wile, *Inflation Remained Elevated in July at 3.2% – and Prices Are Unlikely to Return to Pre-Pandemic Levels Anytime Soon*, NBC NEWS (last updated Aug. 10, 2023, 7:32 AM), https://www.nbcnews.com/business/economy/inflation-rate-july-2023-how-high-low-will-interest-rates-rise-again-rcna99015 [https://perma.cc/F2EV-B5UE].

[3] Carroll Doherty & Vianney Gómez, *By a Wide Margin, Americans View Inflation as the Top Problem Facing the Country Today*, PEW RSCH. CTR. (May 12, 2022), https://www.pewresearch.org/short-reads/2022/05/12/by-a-wide-margin-americans-view-inflation-as-the-top-problem-facing-the-country-today/ [https://perma.cc/8GKK-J3MK].

[4] *Consumer Price Index for All Urban Consumers: All Items in U.S. City Average*, FED. RSRV. BANK OF ST. LOUIS (last updated Jan. 15, 2025, 7:40 AM), https://fred.stlouisfed.org/series/CPIAUCSL [https://perma.cc/583P-J2PY] (citing statistics produced by the U.S. Bureau of Labor Statistics).

[5] Jerome Powell, Chair, Bd. of Governors of the Fed. Rsrv. Sys., Transcript of Chair Powell's Press Conference 1 (Jan. 31, 2024), https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20240131.pdf [https://perma.cc/SJ8F-RPT6].

[6] Isabel Schnabel, *The Last Mile*, FED. RSRV. BANK OF ST. LOUIS REV. Apr. 15, 2024, at 72, 73, http://files.stlouisfed.org/files/htdocs/publications/review/2024/01/10/the-last-mile.pdf [http://perma.cc/ZDG2-L8GM].

[7] *See* John Cassidy, *Economists Struggle to Come to Terms with "Immaculate Disinflation,"* NEW YORKER (Nov. 17, 2023), https://www.newyorker.com/news/our-columnists/economists-struggle-to-come-to-terms-with-immaculate-disinflation [https://perma.cc/AF79-CT6C].

[8] *See* Paul Krugman, Opinion, *Beware Economists Who Won't Admit They Were Wrong*, N.Y. TIMES (Dec. 18, 2023), https://www.nyt.com/2023/12/18/opinion/inflation-economists.html [https://perma.cc/6RE2-AGTV].

[9] *Federal Funds Effective Rate (FEDFUNDS)*, FED. RSRV. BANK OF ST. LOUIS (last updated Nov. 1, 2024, 3:18 PM), https://fred.stlouisfed.org/series/FEDFUNDS [https://perma.cc/RF9J-5NLF].

by May 2023, they reached 5%.[10] The rate hikes represented the FOMC's fastest monetary tightening since the 1980s.[11] As these rate hikes began, Chair Powell warned that, "[w]hile higher interest rates, slower growth, and softer labor market conditions will bring down inflation, they will also bring some pain to households and businesses. These are the unfortunate costs of reducing inflation."[12] This Fed-centered, inflation-fighting paradigm amounts to "monetary primacy."

This Article exposes monetary primacy as analytically flawed and normatively problematic. It proposes a new macroeconomic regime called macroeconomic pluralism. In "macro" pluralism, the government leverages multiple policy levers to control inflation rather than relying overwhelmingly on the Fed's manipulation of interest rates. In addition, this Article claims that macro pluralism better characterizes the 2021–2023 policy success than the monetary primacy regime championed by the Fed does, which better characterizes policy in late 2023–2024.

Macro pluralism does not ignore money. Indeed, it would require the Fed to target the "natural rate" of interest, which can be thought of as the optimal interest rate for sustainable economic growth.[13] If inflation nevertheless rises above a socially desirable rate, the Fed should not immediately jump into the fray with higher "real" interest rates. (The real interest rate equals the interest rate set by the Fed minus the inflation rate.)[14] Instead, government should consider other policies such as permanent or temporary reforms that alleviate the bottlenecks holding back the supply of goods and services. Promoting immigration from workers in a sector with skyrocketing wages or removing regulatory red tape causing a supply shortage, for example, promotes inflation reduction much more precisely than bludgeoning the broader economy with the blunt hammer of high interest rates. Even if these tailored responses fail, fiscal policy—most

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[10] *Open Market Operations*, BD. OF GOVERNORS OF THE FED. RSRV. SYS. (last updated Sept. 18, 2024), https://www.federalreserve.gov/monetarypolicy/openmarket.htm [https://perma.cc/KV4X-E989].

[11] Jessica Dickler, *The Federal Reserve's Period of Rate Hikes May Be Over. Here's Why Consumers Are Still Reeling*, CNBC (Dec. 13, 2023, 2:16 PM), https://www.cnbc.com/2023/12/13/the-federal-reserve-held-rates-steady-heres-what-that-means-for-you.html [https://perma.cc/EMU4-W5EU].

[12] Jerome Powell, Chair, Bd. of Governors of the Fed. Rsrv. Sys., Remarks at the Jackson Hole Economic Policy Symposium: Monetary Policy and Price Stability (Aug. 26, 2022), https://www.federalreserve.gov/newsevents/speech/files/powell20220826a.pdf [https://perma.cc/CG66-ASJH].

[13] *See infra* Section I.A (summarizing the natural interest rate analysis, which seeks to balance full employment with stable inflation).

[14] This calculation uses the expected rate of inflation. N. GREGORY MANKIW, MACROECONOMICS 413–14 (7th ed. 2010). To keep real interest rates at the natural rate in the face of rising inflation, the Fed may need to raise nominal interest rates. But the increase should simply offset the increase in expected inflation rather than raising the real rate above the natural rate.

notably cutting back government spending—also offers a more effective and democratically legitimate means of curbing excess price pressures than interest rate increases alone.

Perhaps surprisingly, we argue that this pluralistic response to inflation reduction better characterizes U.S. policy from 2021 to mid-2023 than monetary primacy does. The Fed's vaunted interest rate hikes amounted to "running to keep still," ending a period of very loose monetary policy and then keeping monetary policy at a level unlikely to reduce inflation. In real, inflation-adjusted terms, interest rates were low during this period.[15] Indeed, since the Fed's interest rate hikes did not cause the sacrifices foretold by Chair Powell—especially a rise in unemployment necessary to drive down prices—they could not have caused the decline in inflation.[16] Unless we make unsupported assumptions that the Fed's rhetoric, rather than its actions, has substantial effects on public inflation expectations, we must look elsewhere to explain the "immaculate disinflation" of 2023.[17]

Recognizing the reality of what has been working is crucial to enabling the economy to continue to ameliorate the dire consequences of monetary primacy. Raising interest rates above the natural rate—hereinafter referred to as interest rate hikes—requires sacrifice in the form of excess unemployment.[18] Other inflation-fighting policies, by contrast, benefit the economy rather than hurt it—or at least hurt it less.[19] Monetary primacy thus demands a heavy sacrifice to the inflation gods, borne primarily by low-income households and workers in capital-hungry sectors of the economy such as construction, real estate, and manufacturing.[20] While interest rates can in theory be raised quickly as an institutional matter, they affect the economy slowly.[21] This lag between institutional action and economic impact means that monetary policy can easily under- or over-tighten,

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[15] Rates were low especially when compared with interest rate benchmarks widely deployed to evaluate Fed policy. *See infra* Section I.B.

[16] On those predictions, see Powell, *supra* note 12.

[17] *Cf.* Cassidy, *supra* note 7 (exploring the puzzlement over inflation's rapid decline).

[18] *See* Horst Feldmann, *Real Interest Rate and Labor Market Performance Around the World*, 79 S. ECON. J. 659, 677 (2013).

[19] *See infra* Part II.

[20] *See, e.g.*, Daniel Ringo, *Monetary Policy and Home Buying Inequality* 3–4 (Bd. of Governors of the Fed. Rsrv. Sys., Finance and Economics Discussion Series, Working Paper No. 2023-006, 2023), https://doi.org/10.17016/FEDS.2023.006 [https://perma.cc/4Y4N-QAZT].

[21] More specifically, the higher interest rate announced refers to the rate that the Fed will pay banks holding money in its accounts and the rate that the Fed will charge banks to borrow money. Banks must then decide, based on the higher rates they receive from the Fed, whether to pay higher interest rates on customer deposits. Since the cost to banks of paying people for their deposits (or the Fed for loans) is now higher, and the appeal of simply storing money at the Fed is greater, banks raise the interest rates they charge on mortgages and other loans. *See infra* Section I.A.

sometimes allowing inflation to become entrenched while at other times inducing an unnecessarily deep recession.[22]

In short, high interest rates involve a greater overall risk of sacrifice than alternatives do, borne disproportionately by a vulnerable portion of the population. Moreover, their assumed advantages are exaggerated. Now is the time to end the conceptual and institutional stranglehold of monetary primacy.

Before critiquing monetary primacy's heavy societal costs, Part I first critically examines how it was established. Despite its costs, monetary primacy is not the product of a careful comparison between the social costs of different inflation-fighting tools. Rather, monetary primacy is an outgrowth of the "Great Inflation" of the 1970s. Part I also establishes that macro pluralism better describes inflation-fighting policy in 2021–2023.

After tracing those historical origins and summarizing the costs of monetary primacy, we begin to develop a new macro pluralism framework in Part II. That discussion also shows why the appropriate monetary policy is for the Fed to stabilize inflation by hitting the natural interest rate. In addition to our framework's economic advantages, we argue that it is more consistent with the Fed's appropriate institutional role and statutory mandate than the status quo.

Part III then develops our pluralist alternatives for reducing inflation. The most attractive policies are reforms that lower inflation while avoiding sacrifice and strengthening the economy. For example, stronger consumer law enforcement, higher immigration, and the removal of red tape raise the economy's capacity—accommodating the high demand for goods and services that otherwise fuels inflation when supply fails to keep up. If such capacity-expanding policies prove insufficient to fully bring inflation back to its target, interventions that reduce demand, such as cutting spending or raising taxes, can lower inflation with less harm than interest rate hikes. We also offer ways to design these alternatives to overcome political barriers.

To address the institutional factors reinforcing monetary primacy, Part III develops reforms to make macro policies other than interest rate hikes more feasible and systematic. A central administrative bureau should help coordinate inflation responses across agencies, including the Fed. Better legislative design also makes macro pluralism more feasible. Lawmakers should add triggers in legislation so that various policies—from tax to immigration—adjust automatically in response to inflation. These clauses

[22] *See What Are Long and Variable Lags in Monetary Policy?*, FED. RSRV. BANK OF ST. LOUIS (Oct. 12, 2023), https://www.stlouisfed.org/on-the-economy/2023/oct/what-are-long-variable-lags-monetary-policy [https://perma.cc/3VBC-SCLB].

would prevent lawmakers from needing to act in the future and thereby remove some of the institutional barriers to macro pluralism that make monetary primacy the default inflation response.

Whether through institutional reforms or a new legal analytic framework, macro pluralism is important in both the short and long run. Throughout modern history, just when inflation seemed to be vanquished, it has often roared back even worse than before.[23] And with every passing month of elevated interest rates, the overall risk of a recession increases. Indeed, even as economists celebrated the surprising "soft landing" in early 2024, they still predicted a 39% chance of a recession within a year.[24] Fears of a recession caused by high interest rates also contributed to a significant global stock market meltdown in the summer of 2024.[25] Adopting macro pluralism would significantly lessen those risks of near-term economic disaster.

Regardless of what happens in the short run, however, inflation has proven a persistently pernicious threat to civilization. Historians cast inflation as contributing to the fall of the Roman Empire,[26] the onset of the French Revolution's Reign of Terror,[27] and the rise of Hitler.[28] It is a question of when, not if, high inflation will return. When it does, monetary primacy counsels a deep recession as the cure. Although recessions harm a broad spectrum of the population, they hit vulnerable populations hardest.[29] Additionally, the millions of people who lose their jobs or graduate during recessions never fully recover, with lifetime earnings significantly diminished even decades later.[30] To sustain and replicate the astonishing

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[23] *See generally* PETER BERNHOLZ, MONETARY REGIMES AND INFLATION: HISTORY, ECONOMIC AND POLITICAL RELATIONSHIPS (1st ed. 2003) (discussing the history of inflation).

[24] Harriet Torry & Anthony DeBarros, *It Won't Be a Recession—It Will Just Feel Like One*, WALL ST. J. (Jan. 14, 2024, 5:30 AM), https://www.wsj.com/economy/it-wont-be-a-recession-it-will-just-feel-like-one-1919267a [https://perma.cc/U2UK-4XKV] (surveying economists in academia, business, and finance and finding that the average chance of a recession within the following year was 39%).

[25] *U.S. Stock Market Sees Biggest Daily Drop in Nearly 2 Years*, N.Y. TIMES (last updated Oct. 1, 2024), https://www.nyt.com/live/2024/08/05/business/stocks-market-crash-economy#heres-what-to-know-about-the-market-meltdown [https://perma.cc/484K-M3MT].

[26] BERNHOLZ, *supra* note 23, at 35.

[27] *See* R.R. PALMER, TWELVE WHO RULED: THE YEAR OF THE TERROR IN THE FRENCH REVOLUTION 384 (1st Princeton Classic ed. 2005).

[28] *See* Lewis E. Hill, Charles E. Butler & Stephen A. Lorenzen, *Inflation and the Destruction of Democracy: The Case of the Weimar Republic*, 11 J. ECON. ISSUES 299, 299, 302 (1977).

[29] *See* Michael D. Hurd & Susann Rohwedder, *Effects of the Financial Crisis and Great Recession on American Households* 5 (Nat'l Bureau of Econ. Rsch., Working Paper No. 16407, 2010).

[30] *See* Hannes Schwandt, *Recession Graduates: The Long-Lasting Effects of an Unlucky Draw*, STANFORD INST. FOR ECON. POL'Y RSCH. (Apr. 2019), https://siepr.stanford.edu/publications/policy-brief/recession-graduates-long-lasting-effects-unlucky-draw [http://perma.cc/G2KG-RAFX] ("Research

success of the early 2020s inflation battle, policymakers must resist the narrow allure of monetary primacy and instead deploy the full macro pluralist policy arsenal that government has to offer.

I. THE RISE OF MONETARY PRIMACY

To understand the current legal architecture for fighting inflation, it is necessary to grasp not only the macroeconomics but also the accompanying human experiences. The human experience with inflation informs consumer spending behavior, leader policy choices, and the stakes to society. This Part provides a missing legal institutional account of how those economic and human pieces have interacted to produce the modern era of monetary primacy. It also explains why restructuring that framework is crucial to prevent widespread economic sacrifice in the future.

A. The Law and Economics of Inflation

As backdrop for our legal institutional analysis, we begin with the basic inflation framework.[31] Inflation has three primary determinants. The first determinant of inflation is what people expect inflation to be.[32] The second is how much spending occurs.[33] The third is the economy's ability to produce the things that people want to purchase, known as production capacity.[34]

The expectations of workers, employers, and consumers influence inflation.[35] Workers and employers care about their "real wage"—meaning what they can buy with the salary they receive—often referred to as

shows that college graduates who start their working lives during a recession earn less for at least 10 to 15 years than those who graduate during periods of prosperity." (citations omitted)); *see also* Lisa B. Kahn, *The Long-Term Labor Market Consequences of Graduating from College in a Bad Economy*, 17 LAB. ECON. 303, 304 (2010) (finding a 9% wage loss, as measured by state unemployment rates, persists even fifteen years after graduation for those graduating during an economic downturn).

[31] This model is known as the "expectations-augmented Phillips curve" and is a staple of modern macroeconomics. *See* Kevin D. Hoover, *Phillips Curve*, ECONLIB, https://www.econlib.org/library/Enc/PhillipsCurve.html [https://perma.cc/2E3F-EWHN]. For an instructional video, see Everything Econ, *Expectations Augmented Phillips Curve*, YOUTUBE (June 9, 2020), https://www.youtube.com/watch?v=P9a1BEd6BSk [https://perma.cc/H3EV-4LN3].

[32] *See* Hoover, *supra* note 31.

[33] Inflation expectations can also influence spending. *See* Mary A. Burke & Ali Ozdagli, *Household Inflation Expectations and Consumer Spending: Evidence from Panel Data*, 105 REV. ECON. & STAT. 948, 948 (2023) ("[H]igher inflation expectations stimulate current consumption spending on durable goods for consumers . . . .").

[34] *See* Pejman Bahramian & Andisheh Saliminezhad, *Does Capacity Utilization Predict Inflation? A Wavelet Based Evidence from United States*, 58 COMPUTATIONAL ECON. 1103, 1106 (2021) ("[We find a] positive causal relationship running from [an economy's] capacity utilisation to inflation . . . .").

[35] *See* Hoover, *supra* note 31.

purchasing power.[36] When the price of what they need to buy increases by 5%, their real wage declines by that amount in the sense that they can now buy less with the same wages they received before. Consequently, when workers expect that prices will rise, they will more aggressively negotiate for higher wages paid so that their real wages keep pace with inflation. When employers also expect prices to rise, they more readily agree to those wage requests because they expect to be able to charge higher prices to consumers. Having agreed to pay higher wages, the employer needs to increase these prices to retain its profit margins. High inflation expectations can thus be self-fulfilling. Prices and wages increase in this scenario due to expectations rather than anything happening in the real economy. Complicating matters, empirically compelling evidence suggests that people often get inflation expectations wrong.[37]

The second major input into inflation, the level of spending, refers to the spending and investment plans of consumers, firms, and governments in a given period.[38] Many variables influence these plans. How badly people want the latest electric vehicle, smartphone, or clothing will determine whether they are willing to spend money rather than save it. How much money people have to spend depends on whether they have jobs. And shocks like a pandemic can cause people to spend less money on discretionary areas such as travel and entertainment, leading to lower spending now and a sudden jump in spending after that period is over.[39] Importantly, interest rate levels influence these decisions because high interest rates encourage

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[36] The real wage is often contrasted with the nominal wage, or the literal amount paid viewed independently of what it purchases. *See* Orley C. Ashenfelter, *Comparing Real Wages* 2 (Nat'l Bureau of Econ. Rsch., Working Paper No. 18006, 2012).

[37] *See* Lloyd B. Thomas Jr., *Survey Measures of Expected U.S. Inflation*, J. ECON. PERSPS., Fall 1999, at 125, 133 ("[T]urning points in expected inflation consistently lag behind turning points in actual inflation. These regularities suggest a strong adaptive or backward-looking element in the formation of inflation expectations."). There are two primary theories about the determinants of inflation expectations. Some argue that inflation expectations are "adaptive"—people expect inflation in the current year to equal last year's inflation rate (or a weighted average of past years' inflation rates). Others contend that inflation expectations are "rational"—people account for all relevant information, like policy changes, when forming inflation expectations and get things right on average. *See generally* N. Gregory Mankiw, Ricardo Reis & Justin Wolfers, *Disagreement About Inflation Expectations*, *in* 18 NBER MACROECONOMICS ANNUAL 2003, at 209 (Mark Gertler & Kenneth Rogoff eds., 2004) (analyzing differing inflation expectations as another possible variable to consider when crafting monetary policy). We instead assume that current inflation rates affect the public's expectations of future inflation, meaning that people are looking to their recent experiences with inflation to predict what will happen next. Besides being well-supported empirically, this assumption enables us to be more precise about how current inflation affects future expectations. But at times we will consider how our conclusions depend upon this assumption.

[38] *See* Alfred G. Buehler, *The Problem of Inflation*, 326 ANNALS AM. ACAD. POL. & SOC. SCI. 1, 1 (1959) (describing spending by consumers and the government as causes of inflation).

[39] *Id.* at 3 (describing inflationary shocks after certain events, such as war).

people to keep money in their bank accounts to earn interest and discourage consumers from taking out expensive loans to purchase cars or homes.[40]

The relationship between spending and the third determinant, economic capacity, is critical.[41] If the economy could produce whatever consumers, firms, and governments demand, then prices would not necessarily go up even in the face of great increases in spending. But the economy has a specific capacity at any given moment, meaning it has constrained ability to produce goods and services.[42] The economy's capacity is determined by its stock of technology, capital, and labor.[43]

To tie these three determinants together, if the spending plans of consumers, firms, and governments exceed the economy's capacity to produce, then there are too many dollars chasing too few goods and services. Prices increase as a result.[44] At that point, inflation exceeds expectations because of the other two main determinants—excess spending relative to insufficient capacity.[45] People may form expectations for the same level of high inflation for the following year. Consequently, even if capacity quickly catches up with spending, expectations could cause inflation to persist indefinitely.

The Fed's official goal is to keep inflation stable at 2%,[46] an inflation target that most high-income democracies share.[47] Inflation stability occurs when spending and economic capacity are balanced, and people expect that existing inflation level to persist. If inflation is significantly higher or lower,

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[40] *See* N. Gregory Mankiw, *Consumer Durables and the Real Interest Rate* 25–26 (Nat'l Bureau of Econ. Rsch., Working Paper No. 1148, 1983).

[41] *See* Buehler, *supra* note 38, at 2 (describing the supply of goods available as being a determinant of inflation).

[42] *See* Bahramian & Saliminezhad, *supra* note 34, at 1104.

[43] In the short run, capacity is somewhat flexible. High demand for labor, for example, may induce workers to work more or bring retirees back into the labor force. For simplicity, however, we will assume that capacity is fixed as a function of our model. Sustaining increased labor supply to offset an increase in demand requires a sustained increase in real wages, while demand-side factors trigger inflation that offsets increased nominal wages and brings labor supply back to its previous equilibrium. In the long run, increases in labor supply requires changes in factors such as incentives to work, skills, or population growth.

[44] Prices must increase so that the nominal value of production (the price level times economic capacity) equals spending. *See* MANKIW, *supra* note 14, at 270–71.

[45] Inflation depends on spending plans relative to capacity at the current level of expected inflation.

[46] *See* Press Release, Bd. of Governors of the Fed. Rsrv. Sys., Federal Reserve Issues FOMC Statement of Longer-Run Goals and Policy Strategy (Jan. 25, 2012), http://www.federalreserve.gov/newsevents/pressreleases/monetary20120125c.htm [https://perma.cc/3ZTV-G27F].

[47] Neil Irwin, *Of Kiwis and Currencies: How a 2% Inflation Target Became Global Economic Gospel*, N.Y. TIMES (Dec. 19, 2014), https://www.nyt.com/2014/12/21/upshot/of-kiwis-and-currencies-how-a-2-inflation-target-became-global-economic-gospel.html [https://perma.cc/D2XS-WWKT].

governments—through central bank interventions or otherwise—typically try to intervene to bring inflation back toward the target level.

Those interventions can operate through any of inflation's three determinants. If a policy succeeds in lowering spending levels without any change in capacity, then deflationary pressures ensue, causing prices to fall. This deflationary pressure typically results because lower demand for companies' goods leads to layoffs. The rise in unemployment means that workers have less ability to negotiate for raises and that consumers have less to spend. Examples of policies that target lower spending levels are raising taxes, lowering government spending,[48] and increasing interest rates.[49]

Many policies might instead ease prices by increasing the economy's production capacity. Such policies include releasing petroleum reserves, allowing more immigration, granting more oil-drilling licenses, and removing red tape that impedes business operations.[50] Once a policy lowers spending or raises capacity, the resulting decrease in inflation can then establish new expectations at those lower levels.

Finally, policies can affect inflation expectations. If a policy lowers inflation expectations, then inflation goes down, even if the policy has no immediate effect on spending or capacity. Managing inflation expectations, however, is a tricky task. Policymakers have incentives to induce lower inflation expectations and thus lower inflation by promising anti-inflation policy in the future, only to avoid the pain that such policies cause when the "future" finally arrives. If the public's inflation expectations are regularly manipulated by incredible promises of future policy, however, then the public will learn to disregard the statements of policymakers and instead focus on actual inflation readings.[51]

Because monetary primacy relies almost exclusively on the Fed influencing interest rates, a deeper dive into that tool provides valuable conceptual background. By controlling the money supply, the Fed sets the

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[48] This assumes that Ricardian Equivalence does not apply. In Ricardian Equivalence, consumers cut back on spending in perfect proportion to the government's largesse so that total spending remains invariant to fiscal policy. *See* John J. Seater, *Ricardian Equivalence*, 31 J. ECON. LITERATURE 142, 145 (1993) ("[E]very new inflow is matched by an equal outflow, which means the lifetime budget constraint is unchanged and the individual will not perceive the government's refinancing scheme as altering his wealth in any way.").

[49] Interest rates and the money supply are connected. *See* Koshy Mathai, *Monetary Policy: Stabilizing Prices and Output*, INT'L MONETARY FUND: FIN. & DEV. MAG., https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Monetary-Policy [https://perma.cc/3T52-VK8Z].

[50] *Infra* Part III.

[51] Robert J. Barro & David B. Gordon, *A Positive Theory of Monetary Policy in a Natural Rate Model*, 91 J. POL. ECON. 589, 598 (1983).

short-term interest rate.[52] Macroeconomists think of interest rates relative to what is known as the "natural rate of interest."[53] The natural real rate of interest is the level that balances spending and capacity, thereby keeping inflation stable.[54]

To illustrate, if the government wants inflation to fall, then the Fed could increase real interest rates above the natural rate. The "unnaturally" high interest rates would cause people to save more, thereby lowering spending. Since inflation typically results from spending outpacing capacity, unnaturally high interest rates can thereby bring spending down to a level that falls short of capacity, lowering prices relative to expectations.[55] If interest rates are unnaturally low, people have too little incentive to save and too high of an incentive to spend, which risks overheating the economy and causing inflation to exceed expectations. When the interest rate equals its natural rate, inflation and expectations are stable because there are no interest rate imbalances pushing prices higher or lower.[56]

If interest rate increases are sufficiently high or long-lasting, they cause unemployment because spending falls short of capacity. Wage inflation pressures diminish, lowering inflation. The increases would thereby achieve an inflation reduction, but at a cost—lost economic output and employment. The cost required to achieve a given percentage of inflation reduction is called the "sacrifice ratio."[57]

If the Fed's promise to stop inflation is credible, then it may be able to lower inflation at lower unemployment cost by lowering inflation expectations without needing to induce a recession. But the Fed's credibility

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[52] Since 2008, the Fed has also used its balance sheet to influence long-term rates. When the Fed wants to stimulate the economy, it has purchased long-term bonds in large quantities, raising their price and lowering their yield. At present, the Fed is slowly reducing its balance sheet, raising long-term rates. But balance sheet operations move slowly and are not the focus of the Fed's inflation-fighting policies. Brian Galle & Yair Listokin, *Monetary Finance*, 75 TAX L. REV. 137, 168 (2022). As a result, this Article focuses on the Fed's control over the short-term interest rate.

[53] Swedish economist Knut Wicksell coined this term in the nineteenth century. *See* KNUT WICKSELL, *The Influence of the Rate of Interest on Commodity Prices* (1898), *reprinted in* SELECTED PAPERS ON ECONOMIC THEORY BY KNUT WICKSELL 67–92 (Erik Lindahl ed. 1958). For a primer on the ongoing value of the natural rate of interest concept, see generally Jeffery D. Amato, *The Role of the Natural Rate of Interest in Monetary Policy* (Bank for Int'l Settlements, Working Paper No. 171, 2005), https://www.bis.org/publ/work171.pdf [https://perma.cc/A9BK-9JN2].

[54] *See* Amato, *supra* note 53, at 1.

[55] The increase in interest rates could also affect inflation in subsequent periods by changing inflation expectations.

[56] Amato, *supra* note 53, at 1.

[57] The sacrifice ratio depends on the sensitivity of the price level to inadequate demand. Laurence Ball, *What Determines the Sacrifice Ratio?*, *in* MONETARY POLICY 155, 161 (N. Gregory Mankiw ed., 1994).

ultimately rests on its willingness to raise interest rates above the natural rate and induce a recession if necessary.[58]

It should be clear from this discussion that many policy variables beyond interest rates have the potential to change expectations, total spending, or economic capacity—and thereby move inflation. So how did the United States arrive at monetary primacy? We now turn to that question.

B. The Origins of Monetary Primacy

Inflation was "a growing, pernicious problem" during colonial times,[59] caused "untold human suffering" during the Civil War,[60] and then again plagued policymakers in the periods of World Wars I and II.[61] Although historical causal links are necessarily speculative, what is certain is that people hate inflation.

That hatred matters because it has made governmental leaders desperate to bring inflation under control, both as a matter of political pressure and for fear of repeating history's catastrophes. Prior to 1980, that desperation typically prompted significant congressional and presidential action.[62] Concerns about inflation at least partly spurred Congress to return the U.S. currency to the gold standard following the Civil War.[63] As another example, in the midst of World War II, President Franklin D. Roosevelt created the Office of Price Administration, and Congress gave it the authority to

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[58] *See* Robert J. Barro & David B. Gordon, *Rules, Discretion and Reputation in a Model of Monetary Policy*, 12 J. MONETARY ECON. 101, 118 (1983) (observing that it is sometimes worthwhile for policymakers to "bite the bullet"—create and suffer negative inflation shocks—to invest in credibility).

[59] *See* OWEN F. HUMPAGE, PAPER MONEY AND INFLATION IN COLONIAL AMERICA (Fed. Rsrv. Bank of Cleveland, Econ. Comment. No. 2015-06, May 13, 2015), https://www.clevelandfed.org/en/publications/economic-commentary/2015/ec-201506-paper-money-and-inflation-in-colonial-america [http://perma.cc/5B7L-XM6Z]; ALBERT S. BOLLES, THE FINANCIAL HISTORY OF THE UNITED STATES, FROM 1774 TO 1789: EMBRACING THE PERIOD OF THE AMERICAN REVOLUTION 38 (1879) (attributing the inflation problem to the Legislature simply printing money).

[60] *See* Michael Burlingame, *Abraham Lincoln: The American Franchise*, UNIV. OF VA. MILLER CTR., https://millercenter.org/president/lincoln/the-american-franchise [https://perma.cc/3KW9-ZGHP] (describing severe inflation during colonial times).

[61] *See* MILTON FRIEDMAN & ANNA JACOBSON SCHWARTZ, FROM NEW DEAL BANKING REFORM TO WORLD WAR II INFLATION 152–53 (1980) ("In the World War I inflation (1914–20), the total money stock increased $6.92 for every dollar of government-created money (high-powered money minus the gold stock), in the World War II inflation (1939–48), $4.74.").

[62] *See, e.g.*, Elmus Wicker, *Roosevelt's 1933 Monetary Experiment*, 57 J. AM. HIST. 864, 867–68 (1971) (discussing President Roosevelt's monetary policy actions, including taking the United States off of the gold standard).

[63] *See* James K. Kindahl, *Economic Factors in Specie Resumption the United States, 1865–79*, 69 J. POL. ECON. 30, 47 (1961) ("The relative rise in the American price level made the maintenance of the gold standard at the prewar parity rate impossible."). The United States returned to the gold standard with the Specie Payment Resumption Act of 1875, which required the Treasury to redeem greenbacks in specie on demand. *See* Specie Payment Resumption Act, ch. 15, § 2, 18 Stat. 296, 296 (1875).

investigate and enforce price controls.[64] In terms of the current inflation framework, however, the significant moves made in the face of the Great Inflation of the 1970s form the most important historical backdrop.

Toward the end of the 1960s, an escalating Vietnam War pumped billions of dollars in governmental spending into the economy.[65] Inflation steadily crept up, from under 2% for the first half of the decade to almost 6% by 1970.[66] As alarm about inflation grew, Congress felt pressure to act. It responded by passing the Economic Stabilization Act, which granted the President extraordinary authority to freeze prices and wages.[67] A Democratic Congress assumed that President Richard Nixon, a Republican, would never take such extreme market interventions as freezing prices.[68] Democrats believed that they could then use the President's inaction, in contrast to their own legislative leadership, to punish him in the upcoming elections. In the words of top White House official George Shultz, Democrats passed the Act in "a political dare."[69]

Nixon called their bluff. He decided to use price controls because his close defeat a decade earlier to President John F. Kennedy had haunted him ever since.[70] Nixon had been Vice President during the Eisenhower Administration, whose austerity in public spending contributed to high unemployment rates and recessions in 1957–1958 and again in 1960, the year of the Nixon–Kennedy election.[71] There is good reason to think that President Dwight D. Eisenhower could have easily tipped the scales in candidate Nixon's favor had he done what almost every other President does in an election year—"use expansionary policies before the presidential election to reduce unemployment and reap the electoral rewards of an

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[64] *See* Meg Jacobs, *"How About Some Meat?": The Office of Price Administration, Consumption Politics, and State Building from the Bottom Up, 1941–1946*, 84 J. AM. HIST. 910, 910, 914 (1997) ("[T]he burden of fighting inflation fell directly on price controls.").

[65] *U.S. Spent $141-Billion in Vietnam in 14 Years*, N.Y. TIMES, May 1, 1975, at 20.

[66] *See U.S. Inflation Rate 1960-2024*, MACROTRENDS, http://www.macrotrends.net/countries/USA/united-states/inflation-rate-cpi [https://perma.cc/75VN-ESME].

[67] *See* Economic Stabilization Act of 1970, Pub. L. No. 91-379, 84 Stat. 799. For a general discussion of the Economic Stabilization Act and the economic controls that it enabled, see generally John J. Rigby, Note, *The Administration of Economic Controls: The Economic Stabilization Act of 1970*, 29 CASE W. RSRV. L. REV. 458 (1979).

[68] George P. Shultz & Kenneth W. Dam, *Reflections on Wage and Price Controls*, 30 INDUS. & LAB. RELS. REV. 139, 141 (1977).

[69] *Id.*

[70] *See* DANIEL YERGIN & JOSEPH STANISLAW, THE COMMANDING HEIGHTS 60–64 (1998) ("Nixon certainly believed that mismanagement of the economy had also cost him the [1960] election. . . . Nixon was not going to let that happen again.").

[71] *See* Ann Mari May, *President Eisenhower, Economic Policy, and the 1960 Presidential Election*, 50 J. ECON. HIST. 417, 419 (1990).

expanding economy."[72] Regardless, Nixon adamantly believed that the economy cost him the 1960 election.[73]

Consequently, a decade later when President Nixon faced rising inflation, escalating unemployment, and an upcoming reelection, he was determined not to let an economic downturn doom his election prospects again.[74] Thus, rather than tightening economic policy, as would have been called for in the face of rising inflation, Nixon took extreme expansionary initiatives. In 1971, he ended the gold standard—which had tied the dollar to gold—leaving the dollar's value more dependent on people's faith and allowing the U.S. government more freedom to spend excessively.[75] He also pressured the Fed chair to *lower* interest rates.[76] These moves should have driven up inflation even further.

Instead, Nixon stunned the nation in the summer of 1971 by suddenly announcing on national television, "I am today ordering a freeze on all prices and wages throughout the United States."[77] The move was by all accounts radical.[78] By executive order, every shopkeeper, manufacturer, and other business owner throughout the country was forbidden from raising prices.[79] For political purposes, the gambit worked. It brought inflation down to 3.3% in the election year.[80] Consumers seething about years of eroding purchasing power applauded the move.[81] Nixon won in a landslide.[82]

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[72] *Id.* at 417 (summarizing historical evidence of Eisenhower's inaction on Nixon's election). *See generally* William D. Nordhaus, *The Political Business Cycle*, 42 REV. ECON. STUD. 169 (1975) (providing evidence of this presidential tendency).

[73] *See* RICHARD M. NIXON, SIX CRISES 310 (1st ed. 1962) (attributing his defeat in large part to the economy).

[74] YERGIN & STANISLAW, *supra* note 70, at 60–64.

[75] Address to the Nation Outlining a New Economic Policy: "The Challenge of Peace," 1 PUB. PAPERS 886, 888 (Aug. 15, 1971) [hereinafter Nixon Address].

[76] *See* Burton A. Abrams, *How Richard Nixon Pressured Arthur Burns: Evidence from the Nixon Tapes*, J. ECON. PERSPS., Fall 2006, at 177, 178.

[77] Nixon Address, *supra* note 75, at 888.

[78] William N. Walker, Opinion, *Nixon Taught Us How Not to Fight Inflation*, WALL ST. J. (Aug. 13, 2021, 5:11 PM), https://www.wsj.com/articles/nixon-fight-inflation-price-controls-stagflation-gas-shortages-biden-democrats-reconciliation-bill-federal-reserve-11628885071 [http://perma.cc/VFK2-MWFB].

[79] *See* Exec. Order No. 11,615, 36 Fed. Reg. 15727, 15727 (Aug. 17, 1971).

[80] *U.S. Inflation Rate 1960-2024*, *supra* note 66.

[81] And the accompanying tax cuts, federal spending, and low interest rates stabilized employment and boosted economic prospects. *See* Walker, *supra* note 78 (crediting Nixon's "landslide re-election in 1972" to the price stabilization measures—including price and wage freezes—he implemented under the Economic Stabilization Act).

[82] *Id.*

As predicted by leading economists at the time, President Nixon's collective policies did not bring lasting economic benefits.[83] Soon after his reelection, he ended the broad price controls, causing monthly inflation to shoot up to a yearly rate of 7.4%.[84] During the price freezes, demand had soared in a manner not unlike what might happen during a pandemic.[85] Yet the price freeze meant that businesses had not expanded capacity to produce more goods or offer more services, as they would have needed higher profits to justify those expenditures. Thus, as soon as the price controls ended, excess demand immediately ramped up prices, whereas ramping up supply would have taken years of hiring workers, building factories, and making other investments. In other words, spending greatly exceeded economic capacity.

Further exacerbating the imbalance between supply and demand, in late 1973, influential members of the Organization of Petroleum Exporting Countries (OPEC) imposed an embargo against the United States.[86] Oil is a highly visible and key input into inflation expectations and capacity, as it factors into the costs of delivery, travel, manufacturing, and so many other expenditures throughout the economy.[87] Inflation reached 11% in 1974,[88] causing widespread alarm, as demonstrated by a *New York Times* article that year describing double-digit inflation as "a world from which there is no sure exit for a modern industrialized country without a major economic collapse or a very long recession."[89]

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[83] *See* Milton Friedman, *Why the Freeze Is a Mistake*, NEWSWEEK, Aug. 30, 1971, at 22 ("[I]t will end . . . in utter failure and the emergency into the open of the suppressed inflation."); *see, e.g.*, Benjamin C. Waterhouse, *Mobilizing for the Market: Organized Business, Wage-Price Controls, and the Politics of Inflation, 1971–1974*, 100 J. AM. HIST. 454, 455 (2013) (noting that the wage–price freeze was "highly controversial among the president's advisers").

[84] *See 1973 CPI and Inflation Rate for the United States*, CPI INFLATION CALCULATOR, https://cpiinflationcalculator.com/1973-cpi-inflation-united-states [https://perma.cc/D4LY-Q9HA]; Paul W. McCracken, *Economic Policy in the Nixon Years*, 26 PRESIDENTIAL STUD. Q. 165, 175 (1996) ("Whatever its effects the controls program obviously did not restore a reasonably stable price level.").

[85] McCracken, *supra* note 84, at 175; Ben Casselman & Jeanna Smialek, *Price Controls Set Off Heated Debate as History Gets a Second Look*, N.Y. TIMES (Jan. 13, 2022), https://www.nytimes.com/2022/01/13/business/economy/inflation-price-controls.html [https://perma.cc/EJT7-35SP].

[86] *Oil Embargo, 1973–1974*, U.S. DEP'T OF STATE OFF. OF THE HISTORIAN, https://history.state.gov/milestones/1969-1976/oil-embargo [https://perma.cc/246S-3F72].

[87] *See, e.g.*, Ben S. Bernanke, Mark Gertler & Mark W. Watson, *Systematic Monetary Policy and the Effects of Oil Price Shocks*, BROOKINGS PAPERS ON ECON. ACTIVITY, no. 1, 1997, at 124 (summarizing the economic impact of oil shocks on the short run and long run).

[88] *See Inflation, Consumer Prices (Annual %) - United States*, WORLD BANK GRP., https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?locations=US [https://perma.cc/73TP-GCD4].

[89] Soma Golden, *U.S. Economists Divided on How to Curb Inflation*, N.Y. TIMES, Apr. 1, 1974, at 65.

A key stretch in the institutional history of inflation then occurred. Leaders tried various policies throughout the 1970s—including more price freezes. Notably, however, they kept real interest rates below, and often well below, the natural interest rate.[90] Those policies, however, ultimately had an insufficient effect on inflation. The 1974–1975 economy was in a recession, during which time inflation subsided somewhat but remained high.[91] Beginning in 1976—another election year—inflation steadily rose each year, hitting 13.5% in 1980.[92] The economy entered again into recession that year, seemingly demanding expansionary policies at a time when inflation required the opposite. After a decade of futile and counterproductive policy interventions, despair had begun to set in about the prospects of overcoming inflation.[93]

It was against this backdrop of desperation that an economic folk hero was born.[94] Recently appointed, cigar-smoking, taciturn Fed Chair Paul Volcker came to believe that a big part of the inflation problem was the public's entrenched expectation that high inflation would persist.[95] With the inevitable threat of recessions looming, people assumed politicians would continue to do what Nixon did prior to his reelection—adopt expansionary policies to avoid political backlash.[96]

To counter that thinking, Volcker decided the nation needed a kind of economic shock therapy. Over several years, he raised interest rates even as

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[90] *Compare* Edward N. Gamber, *The Historical Decline in Real Interest Rates and Its Implications for CBO's Projections* 23 (Cong. Budget Off., Working Paper No. 2020-09, 2020), https://www.cbo.gov/system/files/2020-12/56891-real%20-interest-rates.pdf [https://perma.cc/3QQ2-EXAX] (showing real interest rates ranging from 2% to below 0% during the 1970s), *with Measuring the Natural Rate of Interest*, FED. RSRV. BANK OF N.Y., https://www.newyorkfed.org/research/policy/rstar [https://perma.cc/ZH82-BRW3] (estimating natural real rates of interest of approximately 3%–4% during the 1970s).

[91] *See 1975 CPI and Inflation Rate for the United States*, CPI INFLATION CALCULATOR, https://cpiinflationcalculator.com/1975-cpi-inflation-united-states/ [https://perma.cc/VXJ5-C5YW] (indicating that the yearly inflation rate fell from 11.8% at the start of 1975 to 6.9% by the end of the year).

[92] *U.S. Inflation Rate 1960-2024*, *supra* note 66.

[93] Many economists believe that part of the problem was that the public was not persuaded that the federal government was taking inflation seriously enough. *See* Riccardo DiCecio & Edward Nelson, *The Great Inflation in the United States and the United Kingdom: Reconciling Policy Decisions and Data Outcomes* 16 (Nat'l Bureau of Econ. Rsch., Working Paper No. 14895, 2009).

[94] *See generally* JOSEPH B. TREASTER, PAUL VOLCKER: THE MAKING OF A FINANCIAL LEGEND (2004) (describing the ascent of Paul Volcker).

[95] *See* Scott Horsley, *Memories of the 1970s Haunt the Fed, Pushing Its Aggressive Rate Moves*, NPR (Sept. 29, 2022, 5:00 AM), https://www.npr.org/2022/09/29/1125462240/inflation-1970s-volcker-nixon-carter-interest-rates-fed [https://perma.cc/WW4B-RVEU].

[96] *See* Marvin Goodfriend & Robert G. King, *The Incredible Volcker Disinflation*, 52 J. MONETARY ECON. 981, 985 (2005) ("[T]he transcripts of the Federal Open Market Committee indicate that Volcker and other FOMC members thought that acquiring credibility for low inflation was central to the success of their disinflation.").

inflation persisted, saying in 1982, "At some point this dam is going to break and the psychology is going to change."[97] By the time he raised interest rates to over 20%, Volcker had proven himself correct, and inflation quickly dropped to just over 3% by 1983.[98] The longest period of stable inflation in U.S. history followed, lasting nearly four decades.[99] That resounding success against inflation not only established Volcker as an economic legend, but also ushered in an era of Fed dominance, where interest rate hikes became the default option for combating inflation.[100]

Through most of the 1970s, the intellectual paradigm had been Keynesian economics, which emphasized tools other than monetary policy to combat inflation.[101] John Maynard Keynes had once observed that inflation "engages all the hidden forces of economic law on the side of destruction, and does it in a manner which not one [person] in a million is able to diagnose."[102] Paul Volcker became seen as that one-in-a-million person.[103] Since the 1970s, the public policy response to increased inflation and inflation expectations has been simple. When inflation rises above the 2% target, the Fed raises interest rates above the natural rate, causing excess unemployment and reducing inflation. In turn, lower inflation reduces inflation expectations, bringing inflation in future periods down to the Fed's target level.[104] Congress and administrative agencies no longer play any meaningful role in addressing inflation.[105] "It is the Fed's job to bring

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[97] Horsley, *supra* note 95 (quoting Fed Chair Paul Volcker).

[98] *U.S. Inflation Rate 1960-2024*, *supra* note 66.

[99] Horsley, *supra* note 95.

[100] *See* Peter Conti-Brown, Yair Listokin & Nicholas R. Parrillo, *Towards an Administrative Law of Central Banking*, 38 YALE J. ON REGUL. 1, 41 (2021) (stating that the Fed tried "to anchor low inflation expectations, which push inflation downwards, whatever happens to output and unemployment" by controlling interest rates).

[101] *See* ROBERT L. HETZEL, THE MONETARY POLICY OF THE FEDERAL RESERVE: A HISTORY 150 (2008).

[102] John Maynard Keynes, *Inflation* (1919), *in* 9 THE COLLECTED WRITINGS OF JOHN MAYNARD KEYNES 57, 57–58 (Elizabeth Johnson & Donald Moggridge eds., 2012) (ebook).

[103] *See generally* TREASTER, *supra* note 94 (providing a historical account of Volcker obtaining legendary status through his stewardship of monetary policy at the Fed).

[104] The FOMC's mandate prescribes monetary policy focused on both inflation and unemployment. 12 U.S.C. § 225a. The FOMC, however, issues a formal target for inflation (2%) but not unemployment, and insists that "[t]he Committee's employment and inflation objectives are generally complementary," leaving it free to focus on inflation. *See* BD. OF GOVERNORS OF THE FED. RSRV. SYS., STATEMENT ON LONGER-RUN GOALS AND MONETARY POLICY STRATEGY (Jan. 24, 2012), https://www.federalreserve.gov/monetarypolicy/files/fomc_longerrungoals.pdf [https://perma.cc/T7S8-THHV]. For a discussion of how this approach conflicts with the Fed's statutory mandate, see *infra* Section II.A.

[105] Conti-Brown, Listokin & Parrillo, *supra* note 100, at 4 ("[G]iven the importance of [the Fed's] interpretations and policy choices for the global economy and for nearly every American, the Fed's exercise of administrative power is more momentous than nearly all other administrative agencies.").

inflation down to our 2 percent goal," Fed Chair Powell said in 2023, "and we will do so."[106]

A central banker thus inaugurated a new intellectual and institutional framework centered on monetary primacy.[107] Many credited him with using Fed interest rates to save the country from economic calamity when nothing else had worked.

C. The Enduring Rhetoric of Monetary Primacy in 2021–2024

Although the Fed continues to describe its inflation-fighting paradigm in terms consistent with monetary primacy, the reality at times has strayed from the rhetoric. After inflation began to rise in 2021, the Fed flaunted its intention to raise interest rates and bring inflation down to its 2% target, even at the cost of excess unemployment.[108] And the Fed's interest rates indeed soared, going from 0% in early 2022 to over 5% just fifteen months later.[109]

The rise in interest rates was dramatic, but as a demonstration of monetary primacy, it amounted to much less than the Fed's tough rhetoric suggested. One way to measure the "toughness" of the Fed's monetary policy is to analyze the "real interest rate." The real interest rate equals the interest rate set by the Fed minus the inflation rate.[110] It reflects the true cost of money in inflation-adjusted terms. To illustrate, if the "nominal" interest rate set by the Fed is 5% and inflation is 5% as well, then a household will not be any better off by saving money, in the sense that the money gained in interest will not allow for purchasing more than before those interest payments were made on the savings. Prices will go up by the same amount as the interest payments. It is only a nominal—in name only—interest rate of 5% because, from the perspective of the person holding that money, this outcome amounts to a real interest rate of 0% regardless of whatever the bank or the Fed said was the level of interest. Under these circumstances, the household would not have economic incentives to save, as doing so would not improve one's economic position. Spending then becomes more appealing.[111]

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[106] Jerome Powell, Chair, Bd. of Governors of the Fed. Rsrv. Sys., Remarks at the Jackson Hole Economic Policy Symposium: Inflation: Progress and the Path Ahead (Aug. 25, 2023), https://www.federalreserve.gov/newsevents/speech/files/powell20230825a.pdf [https://perma.cc/D28A-Y45V].

[107] *See* HETZEL, *supra* note 101, at 150.

[108] Powell, Remarks, *supra* note 12.

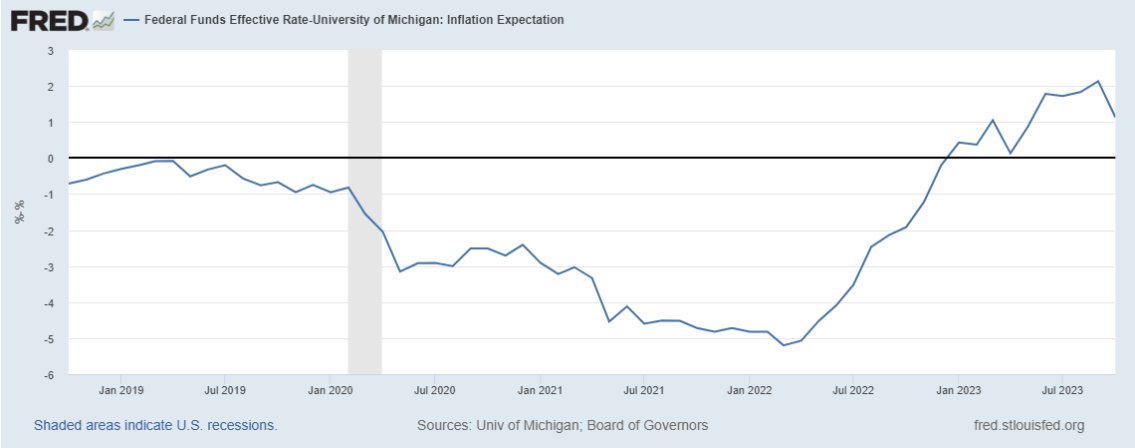
[109] *See Open Market Operations*, *supra* note 10.

[110] This calculation uses the expected rate of inflation. *See* MANKIW, *supra* note 14, at 96–97.

[111] *See* N. GREGORY MANKIW, MONETARY POLICY 4 (1994); Sarah Sharkey, *Understanding Real Interest Rate*, BUS. INSIDER (July 18, 2024, 3:38 PM), https://www.businessinsider.com/personal-finance/investing/what-is-real-interest-rate [https://perma.cc/RX7Q-JKU8].

Real interest rates are thus a better benchmark for measuring the "toughness" of the Fed's policy than the prominently announced and widely disseminated interest rate figures set by the Fed. Figure 1 depicts the real interest rate.[112] Figure 1 reveals that the real interest rate indeed increased quickly from early 2022 to late 2023—but from an extremely low base. In early 2022, the real interest rate was below –5%.[113] This was well below the natural interest rate, which at that time would have required a real interest rate above 0%.[114] Thus, Fed inflation policy was extraordinarily accommodative during the COVID-19 pandemic and its aftermath in that the Fed's interest rates were encouraging people to spend rather than save.

FIGURE 1: SHORT-TERM REAL INTEREST RATE[115]



Consequently, contrary to popular belief and its own rhetoric, the Fed's sharp increase in nominal interest rates did not reflect a functional turn to particularly tough monetary policy. Rather, the increase was necessary to shift monetary policy from that remarkably accommodative policy closer to the natural interest rate. The Fed's monetary stance only approached the

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[112] This is the short-term real interest rate, calculated as the nominal Federal Funds Rate minus a widely used measure of one-year inflation expectations. *See Federal Funds Effective Rate (FEDFUNDS)*, *supra* note 9; *University of Michigan: Inflation Expectation (MICH)*, FED. RSRV. BANK OF ST. LOUIS (last updated Oct. 25, 2024, 10:01 AM), https://fred.stlouisfed.org/series/MICH [https://perma.cc/ZR26-HK2J] (showing the first series minus the second series).

[113] *See infra* Figure 1.

[114] For comparison, the estimated natural real rate of interest during this period was roughly 1.5%, meaning that the Fed's policy was more than 6% below the natural rate. *See Measuring the Natural Rate of Interest*, *supra* note 90 (describing the Holston–Laubach–Williams estimates of the natural interest rate).

[115] *Federal Funds Effective Rate (FEDFUNDS)*, *supra* note 9; *see University of Michigan: Inflation Expectation (MICH)*, *supra* note 112 (showing the first series minus the second series).

natural rate of interest in mid- to late 2023.[116] One implication of this fact is that the Fed's interest rate policies should not have begun to put downward pressure on spending until at least mid-2023, yet inflation had already begun to stabilize and even drop by then.[117]

Another way to assess monetary policy is the Taylor Rule.[118] The Taylor Rule offers a well-established economic formula for evaluating monetary policy under monetary primacy, in which the Fed's interest rates are assumed to be appropriately deployed as the primary tool to manage inflation.[119] Under the Taylor Rule, the Fed's interest rates should exceed the natural rate when inflation is high and unemployment is low, as was the case in 2021–2023.[120] If the Fed's interest rate targets are below the Taylor Rule benchmark, then the Fed's policy is more accommodative, at least temporarily, than would be expected by a widely accepted benchmark.

Figure 2 compares the Fed's interest rates (the Federal Funds Rate, in purple) with three different estimates for Taylor Rule rate benchmarks for the years 1985–2023—the era of monetary primacy.[121] Note the similarity between all three series and the path of the Federal Funds Rate—indicating the Taylor Rule's efficacy as a benchmark for evaluating interest rate policy. From 2021 to mid-2023, however, the Federal Funds Rate sat below—often well below—the Taylor Rule benchmarks. This means that for these two years, as inflation was rising at an unprecedented rate and the Fed was talking tough, the Fed's policy lagged well behind the rates prescribed by the rates of inflation and employment. Indeed, the Fed's monetary policy equaled the rate prescribed by these Taylor Rule formulas *only in late 2023*.[122] Since it takes about a year for interest rate hikes to meaningfully impact inflation, it

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[116] *Infra* Figure 2.

[117] *See Consumer Price Index for All Urban Consumers*, *supra* note 4.

[118] *See* Ben S. Bernanke, *The Taylor Rule: A Benchmark for Monetary Policy?*, BROOKINGS INST. (Apr. 28, 2015), https://www.brookings.edu/articles/the-taylor-rule-a-benchmark-for-monetary-policy/ [https://perma.cc/AWU9-SKPY].

[119] More precisely, the Taylor Rule prescribes that the nominal interest rate set by the Fed should be a function of the natural interest rate, the inflation rate relative to the target inflation rate, and the unemployment rate. *Id.* Unlike the real interest rate presented above, the Taylor Rule formula adjusts for the state of the economy, grading monetary policy on a curve. *See id.*

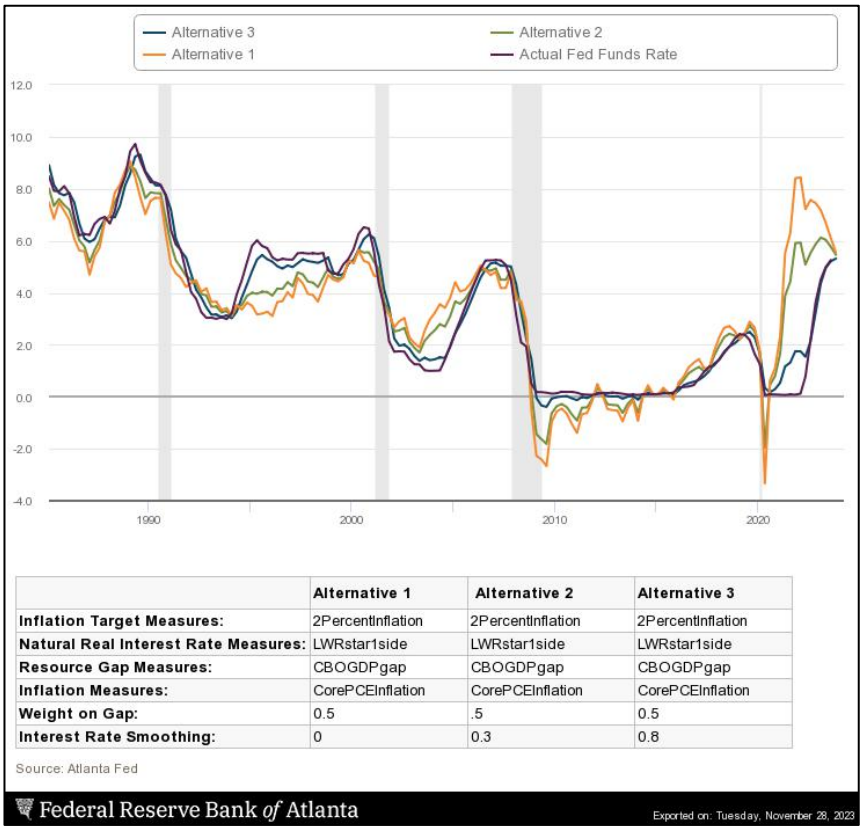
[120] When the economy is slumping, by contrast, the Fed's interest rates should be lower than the natural rate. *See id.*

[121] The three alternatives use identical estimates for the natural rate of interest, the Fed's inflation target, and the economy's noninflationary maximum employment/output capacity. The estimates for each of these quantities are described in the Figure. Alternative estimates can be explored using the Federal Reserve Bank of Atlanta's "Taylor Rule Utility." *See Taylor Rule Utility*, FED. RSRV. BANK OF ATLANTA (Oct. 31, 2024), https://www.atlantafed.org/cqer/research/taylor-rule#Tab1 [https://perma.cc/FT5E-7UY4]. These three benchmarks differ with respect to several considerations. *See infra* note 128 and accompanying text.

[122] *See* Figure 2.

is unclear whether the Fed's policies made any contribution to the stunning drop in inflation through late 2023.[123] In the post-COVID-19 world, the Fed spoke loudly but carried a small stick.[124]

FIGURE 2: ACTUAL FED FUNDS RATE AND TAYLOR RULE ESTIMATES[125]



	Alternative 1	Alternative 2	Alternative 3
Inflation Target Measures:	2PercentInflation	2PercentInflation	2PercentInflation
Natural Real Interest Rate Measures:	LWRstar1side	LWRstar1side	LWRstar1side
Resource Gap Measures:	CBOGDPgap	CBOGDPgap	CBOGDPgap
Inflation Measures:	CorePCEInflation	CorePCEInflation	CorePCEInflation
Weight on Gap:	0.5	.5	0.5
Interest Rate Smoothing:	0	0.3	0.8

Source: Atlanta Fed

Federal Reserve Bank *of* Atlanta

Exported on: Tuesday, November 28, 2023

Why was monetary policy so tame despite widespread perceptions to the contrary? First, Fed interest rates started at such a low rate in 2021 that

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[123] *See* Tomas Havranek & Marek Rusnak, *Transmission Lags of Monetary Policy: A Meta-Analysis*, INT'L J. CENT. BANKING, Dec. 2013, at 39, 57 tbl.6; ZOË ARNAUT & LEILA BENGALI, HOW QUICKLY DO PRICES RESPOND TO MONETARY POLICY? (Fed. Rsrv. Bank of S.F., Econ. Letter No. 2024-10, Apr. 8, 2024), https://www.frbsf.org/wp-content/uploads/el2024-10.pdf [https://perma.cc/Q2XC-675N] ("Month-to-month price changes start falling after a little over a year . . . .").

[124] *See* The Canadian Press, *'Speak Softly and Carry a Big Stick': Today in History*, CALGARY HERALD (Sept. 2, 2022), https://calgaryherald.com/news/local-news/speak-softly-and-carry-a-big-stick-today-in-history [https://perma.cc/4AJQ-79MD].

[125] *See Taylor Rule Utility*, *supra* note 121 (select "create your own calculation" tab, and set parameter values as presented in Figure 2).

the Fed needed to tighten markedly to return merely to the natural rate of interest.[126] Second, rising inflation meant that, in real terms, interest rates needed to increase just to stay in place. As inflation over the next year increased from 2% in the beginning of the pandemic to over 5% in mid-2022, the nominal Federal Funds Rate needed to increase by the same amount simply to maintain the real rate.[127] Third, Figure 2 indicates that the Fed's policy is not a creature of macroeconomic fundamentals, which is reflected in Alternatives 1 and 2.[128] Instead, the Fed's monetary policy post-COVID-19 is best approximated by Alternative 3, in which the most important consideration for setting interest rates is keeping them smooth.

In other words, the Fed eventually reached a position consistent with monetary primacy, but it took a very slow path to get there. This delay occurred because the Fed prioritized a smooth transition to interest rates that would begin to tighten the economy. Despite this departure from monetary primacy, inflation fell markedly. While the annual inflation rate exceeded 8% in June 2022, it only slightly exceeded 3% for the latter half of 2023.[129]

If we cannot attribute this inflation success to monetary primacy and decisive monetary tightening, what worked? To some extent, the fall in inflation globally and in the United States reflects the resolution of supply-side shocks that drove inflation up in the first place. The pandemic wreaked havoc on global supply chains, driving up the prices of many goods.[130] As

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[126] *See supra* Figure 1.

[127] *See Open Market Operations*, *supra* note 10.

[128] They differ in terms of the "smoothing rule" they use for interest rate adjustment. Alternative 1 (gold) is the interest rate that the Taylor Rule prescribes based exclusively on the macroeconomic fundamentals and no smoothing. Alternatives 2 and 3, by contrast, prescribe interest rates based on two broad considerations—macroeconomic fundamentals and last period's interest rate. This formula "smooths" interest rate movements by anchoring this period's interest rate with last period's rate. Alternative 2 weights macroeconomic fundamentals and interest rate smoothing equally, while Alternative 3 places much greater weight on last period's interest than on macroeconomic fundamentals, producing a much smoother interest rate series.

[129] *Current US Inflation Rates: 2000-2025*, US INFLATION CALCULATOR, https://www.usinflationcalculator.com/inflation/current-inflation-rates/ [https://perma.cc/NK2L-RTAB]. *See generally Consumer Price Index, 1913-*, FED. RSRV. BANK OF MINNEAPOLIS, https://www.minneapolisfed.org/about-us/monetary-policy/inflation-calculator/consumer-price-index-1913- [https://perma.cc/DYS5-44U8].

[130] *See* Veronica Guerrieri, Guido Lorenzoni, Ludwig Straub & Iván Werning, *Macroeconomic Implications of COVID-19: Can Negative Supply Shocks Cause Demand Shortages?*, 112 AM. ECON. REV. 1437, 1437 (2022); Julian di Giovanni, *How Much Did Supply Constraints Boost U.S. Inflation?*, FED. RSRV. BANK OF N.Y.: LIBERTY ST. ECON. (Aug. 24, 2022), https://libertystreeteconomics.newyorkfed.org/2022/08/how-much-did-supply-constraints-boost-u-s-inflation [https://perma.cc/3APD-BWKP].

these supply chain problems resolved themselves, price pressures subsided of their own accord. In part, inflation fixed by itself.[131]

But this is only part of the story. The supply-side expansion reflects not only the natural resolution of supply chain disruptions, but also government policies. Immigration rose considerably post-pandemic after falling significantly during the first Trump Administration and the pandemic, mitigating labor-force bottlenecks.[132] The Biden Administration, together with Congress, reacted decisively to mitigate other bottlenecks, reforming port rules that slowed delivery of goods[133] and outlawing a threatened railroad-worker strike that would have thrown supply chains into turmoil.[134] The White House also pushed hard on a whole-of-government policy to improve competition, and it appointed heads of the Consumer Financial Protection Bureau and Federal Trade Commission (FTC) who aggressively enforced consumer protection and antitrust laws.[135] As oil prices rose, President Joe Biden released supply from the Strategic Petroleum Reserve, temporarily reducing gas prices at the pump by as much as 40 cents per gallon.[136]

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[131] For a popular summary of this conclusion, see Nick Timiraos, *The Hidden Hero Fueling Soft-Landing Hopes: A Boost in Supply*, WALL ST. J. (Nov. 19, 2023, 8:30 AM), https://www.wsj.com/economy/central-banking/the-hidden-hero-fueling-soft-landing-hopes-a-boost-in-supply-3a32bf3e [https://perma.cc/KHV8-P89F].

[132] *See* EVGENIYA A. DUZHAK, THE ROLE OF IMMIGRATION IN U.S. LABOR MARKET TIGHTNESS (Fed. Rsrv. Bank of S.F., Econ. Letter No. 2023-06, Feb. 27, 2023), https://www.frbsf.org/wp-content/uploads/sites/4/el2023-06.pdf [https://perma.cc/6L78-KXEB].

[133] *See Fact Sheet: Biden Administration Efforts to Address Bottlenecks at Ports of Los Angeles and Long Beach, Moving Goods from Ship to Shelf*, THE WHITE HOUSE (Oct. 13, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/10/13/fact-sheet-biden-administration-efforts-to-address-bottlenecks-at-ports-of-los-angeles-and-long-beach-moving-goods-from-ship-to-shelf/ [https://perma.cc/HXQ9-QXDY].

[134] *See* Katy Stech Ferek & Tarini Parti, *Biden Signs Legislation Preventing Railroad Strike*, WALL ST. J. (last updated Dec. 2, 2022, 4:31 PM), https://www.wsj.com/articles/biden-signs-legislation-preventing-railroad-strike-11669996971 [https://perma.cc/PA4E-Q368].

[135] *See* Exec. Order No. 14,036, 86 Fed. Reg. 36987 (July 9, 2021); Statement of Lina M. Khan, Chair, U.S. Fed. Trade Comm'n, In the Matter of Deere & Company, Commission File No. 2110191 (Jan. 15, 2025), https://www.ftc.gov/system/files/ftc_gov/pdf/deere-lina-khan-statement-final.pdf [https://perma.cc/DW22-ZB85] ("In recent years, the Commission has made it a priority to protect Americans' right to repair their products . . . ."); Statement of Rohit Chopra, Director, Consumer Fin. Prot. Bureau, Regarding the CFPB's Inquiry into Big Tech Payment Platforms (Oct. 21, 2021), https://www.consumerfinance.gov/about-us/newsroom/statement-regarding-the-cfpbs-inquiry-into-big-tech-payment-platforms/ [https://perma.cc/8RDV-GK5R].

[136] *See* Press Release, Benjamin Harris, Assistant Secretary for Economic Policy, and Catherine Wolfram, Deputy Assistant Secretary for Climate and Energy Economics, U.S. Dep't of the Treasury, The Price Impact of the Strategic Petroleum Reserve Release (July 26, 2022), https://home.treasury.gov/news/press-releases/jy0887 [https://perma.cc/PZT5-WJU9].

Government policy also reduced spending pressures. Fiscal policy became tighter (in relative terms[137]) as pandemic-era stimulus programs expired.[138] Finally, federal student loan payments that the government had stalled during the pandemic restarted in the fall of 2023, removing billions of dollars that could have gone toward purchasing various goods and services.[139] Such policies reduced discretionary income and spending.

Due to the Fed's rhetoric, many economists and others nonetheless mistakenly believe that it was interest rate hikes that stamped out inflation.[140] While some might argue that the Fed's tough rhetoric kept inflation expectations in check, there is limited evidence to support this position.[141] Indeed, the claim that public inflation expectations stayed in check because of the Fed's tough talk is belied by the Fed's muted (at least in real terms) interest rate response in 2022–2023. Policies built on cheap talk are unlikely to be robustly successful.

Concerningly, the rhetoric appears to be more than cheap talk in 2024–2025. The Fed's actions now finally reflect its words, with real interest rates in late 2023 at their highest point in decades.[142] True to that history, the Fed continues to emphasize its mission to bring inflation to 2%, despite the pain that may result.[143]

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[137] The federal budget deficit exceeded $3 trillion in fiscal year 2020 and $2.8 trillion in 2021. By 2022 and 2023, it was "down" to approximately $1.5 trillion. *See Federal Surplus or Deficit [-]*, FED. RSRV. BANK OF ST. LOUIS (last updated Oct. 18, 2024, 4:01 PM), https://fred.stlouisfed.org/series/FYFSD [https://perma.cc/DYA5-A5AF]. While this time series indicates a significant drop in demand in relative terms, in absolute terms the 2022–2023 deficits remained unsustainably high.

[138] *See* Katie Lobosco & Tami Luhby, *These Covid-19 Pandemic-Era Relief Programs Are Expiring Soon*, CNN (July 25, 2023, 5:04 AM), https://www.cnn.com/2023/07/25/politics/covid-19-relief-programs-ending/index.html [https://perma.cc/2KBQ-SQWE].

[139] *See* Gabriel T. Rubin & Joe Pinsker, *Student-Loan Restart Threatens to Pull $100 Billion out of Consumers' Pockets*, WALL ST. J. (Sept. 16, 2023, 9:00 PM), https://www.wsj.com/personal-finance/student-loan-repayment-consumers-economy-2218ca25 [https://perma.cc/SG6J-5UGV] ("The restart of student-loan payments could divert up to $100 billion from Americans' pockets over the coming year, leaving consumers squeezed and some of the nation's largest retailers fearing a spending slowdown.").

[140] *See* James Surowiecki, *Don't Read His Lips*, ATLANTIC (Feb. 8, 2023), http://www.theatlantic.com/ideas/archive/2023/02/jerome-powell-federal-reserve-interest-rates/672990/ [https://perma.cc/5XDK-EL4S] ("Investors have been betting that the Fed's tough talk is just a bluff . . . ."); *see also* Peyton Forte & Emily Graffeo, *Wall Street Shrugs Off 'Fed's Tough Talk' to Cheer Smaller Hikes*, BLOOMBERG L. (Feb. 1, 2023, 3:48 PM), http://www.bloomberg.com/news/articles/2023-02-01/wall-street-shrugs-off-fed-s-tough-talk-to-cheer-smaller-hikes [https://perma.cc/BS6C-4EEL].

[141] *See* Cassidy, *supra* note 7, and accompanying text; *see also* Karl Evers-Hillstrom, *The Fed Can't Fix Inflation Alone. Here's Why*, HILL (Feb. 1, 2023, 11:00 PM), https://thehill.com/business/3839773-the-fed-cant-fix-inflation-alone-heres-why/ [https://perma.cc/H4YR-8PDY] (explaining how the Fed alone cannot curb inflation).

[142] *1-Year Real Interest Rate*, FED. RSRV. BANK OF ST. LOUIS (last updated Oct. 10, 2024, 3:33 PM), https://fred.stlouisfed.org/series/REAINTRATREARAT1YE [https://perma.cc/2GR3-GH5A].

[143] *See* Powell, *supra* note 5.

All of this emphasis suggests that tough monetary policy and elevated interest rates will endure until that 2% goal is reached. The pain that the Fed predicted may lie in the near future, risking a repeat of Volcker's approach. Thus, it is vitally important to understand the consequences of monetary primacy and examine whether it is the best available option.

D. The Costs of Monetary Primacy

The historical narrative of Volcker's legacy is incomplete without acknowledging the untold human suffering that resulted in the 1980s from high interest rates.[144] Those interest rates drove the economy into two recessions.[145] Over four million jobs were lost as a direct result.[146] Many children went hungry, students dropped out of school, and families lost their homes.[147]

The indirect costs are more subtle but nonetheless significant. Workers who keep their jobs are not insulated from the pain, because they tend to receive lower pay as unemployed people sit on the sidelines ready to take their jobs.[148] Job-loss figures also do not communicate the better job opportunities and upward mobility that never materialized. Even a few years of missed opportunities during a recession can last a lifetime. For instance, students who graduate in a recession have lower total earnings even decades later relative to comparable students who graduated before and after them in normal economic times.[149]

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[144] *See* Lois M. Plunkert, *The 1980's: A Decade of Job Growth and Industry Shifts*, MONTHLY LAB. REV., Sept. 1, 1990, at 3, 4 (stating that 4.2 million total jobs were lost, with a net loss of 3.89 million jobs, in 1980 and 1981).

[145] *Id.*

[146] *Id.*

[147] *See* William S. Woodside, *Hunger in America Is Real: Millions Go Hungry Because the Government Has Cut Back Too Far on Food Programs*, FORTUNE, June 24, 1985, at 127, 127 ("We found abundant evidence of increased hunger in America, due partly to continuing unemployment . . . ."); Patrick Jackman, *Consumer Prices in the 1980's: The Cooling of Inflation*, MONTHLY LAB. REV., Aug. 1, 1990, at 19, 19 ("The reduction in the rate of inflation from 1979 through 1983 was not costless. Two recessions (January 1980–July 1980 and July 1981–November 1982), the second a particularly severe one, resulted in double-digit unemployment rates, reduced incomes, and a decline in output.").

[148] *See* William D. Ferguson, *Explaining the Rising Wage-Productivity Gap of the 1980s: Effects of Declining Employment and Unionization*, REV. RADICAL POL. ECON., June 1996, at 77, 79 ("[D]eclining employment within unionized industries explains 18% of the post-1981 increase in the [wage-productivity] gap."); LAWRENCE MISHEL, ELISE GOULD & JOSH BIVENS, ECON. POL'Y INST., WAGE STAGNATION IN NINE CHARTS 12 (Jan. 6, 2015), https://files.epi.org/2013/wage-stagnation-in-nine-charts.pdf [https://perma.cc/2Q2W-TN9T] ("Excessive unemployment, not only during and after the Great Recession but over most years since 1979, has suppressed wage growth, adversely affecting low-wage workers . . . .").

[149] *See* Schwandt, *supra* note 30; Kahn, *supra* note 30, at 304.

Volcker was well aware of the pain his policies caused. Automotive dealers mailed him car keys inside coffins to communicate what high interest rates were doing to their sales.[150] Others sent death threats.[151] Lawmakers in both parties assailed him in hearings, with one member of Congress saying, "We are destroying the small business man. We are destroying Middle America. We are destroying the American dream."[152]

Despite this widespread discontent, however, lawmakers were hesitant to intervene due to the failed legislative attempts of the 1970s, especially the extension of price-control authority to President Nixon.[153] Elected officials were also politically insulated from the Fed's moves, whereas if they had taken legislative action and failed, they would be held responsible. Thus, despite bills circulating around Congress to rein in the Fed, lawmakers ultimately did nothing to stop Volcker from plunging the economy into a deep recession.[154]

Although some job losses and a recession may have been unavoidable given the economic challenges of the 1970s, institutional reasons suggest that the default to interest rates does not minimize economic harms as much as possible. Importantly, nowhere does the Fed justify the harms it is inflicting on the economy through cost–benefit analysis. It does not announce why the sacrifice ratio of interest rate hikes is better than that of alternatives. Nor is it clear that anyone in government ever engaged in such a comprehensive analysis of society's best interests to inform the move to monetary primacy. Instead, as explained above, the regime resulted from the dysfunctions and happenstance of history, especially the resolute will of a single central banker.

Monetary primacy is insensitive not only to the total sacrifice required compared to alternatives, but also to the distribution of sacrifice. Recessions hit vulnerable groups hardest, including underrepresented minorities and poor households.[155] If one tool for fighting inflation disproportionately

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[150] *See* TIM TODD, THE BALANCE OF POWER: THE POLITICAL FIGHT FOR AN INDEPENDENT CENTRAL BANK, 1790 - PRESENT 43 (2d ed. 2012).

[151] ALAN S. BLINDER, A MONETARY AND FISCAL HISTORY OF THE UNITED STATES, 1961–2021, at 123 (2022).

[152] TODD, *supra* note 150, at 44 (quoting Rep. George Hansen (R-Idaho)).

[153] *See* Andrew H. Bartels, *Volcker's Revolution at the Fed*, CHALLENGE, Sept.–Oct. 1985, at 35, 38 ("Members of Congress apparently decided that the requirement of periodic Fed reports to them on monetary policy offered enough influence over policy without the onus of actually having to make decisions on monetary tightening or easing.").

[154] *See, e.g.*, BLINDER, *supra* note 151, at 121–28 (summarizing the historical policy responses).

[155] *See* Fabian T. Pfeffer, Sheldon Danziger & Robert F. Schoeni, *Wealth Disparities Before and After the Great Recession*, 650 ANNALS AM. ACAD. POL. & SOC. SCI. 98, 102 (2013) ("Less educated, minority, and low-wage workers typically experience greater increases in unemployment and reductions in work hours and earnings during recessions . . . .").

burdens the most vulnerable members of society, that provides an additional reason to try to avoid it. Yet the Fed does not explain how interest rates compare to other inflation-fighting tools in terms of the extent of harm to vulnerable groups.

Another way of thinking about the distribution of sacrifice is by asking how broadly that sacrifice is distributed. The spreading of costs throughout society is a fundamental tenet of good governance and is the basis, for instance, of the tax system. To illustrate, a million dollars is a lot for a random household to pay in an arbitrary fine, but distributed across a million households each paying one dollar, the fine is negligible in terms of societal harm. Interest rates fail on this measure of good governance in that they disproportionately hit sectors of the economy sensitive to interest rates, such as construction, real estate, and manufacturing.[156] Interest rate hikes also burden renters hoping to transition to home ownership, who may be unable to buy first homes when mortgage rates are much higher than expected.[157]

Another reason to think that the harms of Volcker's approach may have been greater than necessary is that interest rates are not well calibrated to adjust when the problem of inflation is solved. To see why, consider again the main appeal of interest rates—their institutional speed.

Figure 2 suggests this vaunted advantage may matter less than many think. Although the Fed can act quickly, it is committed to interest rate smoothing, limiting the size of any interest rate changes.[158] When inflation surged in 2021–2022, this commitment meant that the Fed did not respond decisively in real terms to the surge, even if it could have. The Fed's commitment to interest rate smoothness constrained its policy at precisely the moment when a decisive response was most urgently needed. Instead, the Fed moved slowly in reaching a contractionary monetary stance with real interest rates above the natural rate of approximately 1% only in late 2023, when inflation had already largely subsided.[159]

Moreover, even this account of the Fed's institutional swiftness is deceptive. Importantly, there is a significant gap between when the Fed

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[156] *See* Abbigail J. Chiodo & Michael T. Owyang, *Monetary Policy: The Whole Country Gets the Same Treatment, but Results Vary*, REG'L ECONOMIST, Jan. 2003, at 12, 12.

[157] Theron Mohamed, *Buying a First Home Is 'Prohibitively Expensive' and 'Almost Impossible' for Many, Says Janet Yellen*, BUS. INSIDER (May 3, 2024, 7:43 AM), https://www.businessinsider.com/housing-market-home-prices-mortgage-interest-affordability-crisis-janet-yellen-2024-5 [http://perma.cc/H947-EULZ].

[158] Alex Cukierman, *Why Does the Fed Smooth Interest Rates?*, *in* MONETARY POLICY ON THE 75TH ANNIVERSARY OF THE FEDERAL RESERVE SYSTEM 111, 111 (Michael T. Belongia ed., 1991) ("The tendency to revert to a policy of interest rate smoothing seems to be rather tenacious and as old as the Fed.").

[159] *See supra* Figure 2.

decides to raise interest rates and when that decision reduces inflation.[160] This lag occurs because those rates only hit the real economy through commercial banks deciding to subsequently pay higher interest rates on deposits and increase the interest rates they charge for loans.[161] Those responses mean fewer people will want to take out higher priced loans, and more people will want to save money to earn higher interest. Thereafter, people spend less of their deposits and take out fewer loans to buy durables, such as cars and homes.[162] Many businesses that subsequently earn lower revenues cut hiring and give fewer raises, which further decreases spending. The average time between a central bank's announcement of interest rate changes and peak impact on inflation is twenty-nine months.[163]

That long economic lag means it is easy for the Fed to overshoot its rate increases and impose more pain than necessary to reduce inflation. Also, high inflation persists for some time before interest rates work, creating the risk that inflation expectations become entrenched.[164] Consequently, to bring this inflation back down, the FOMC may need to raise rates well above the natural interest rate to counter established expectations that inflation will persist.[165]

Indeed, although Volcker did not at the time admit this to the public, it later emerged that he believed the main purpose of his interest rate gambit to be changing people's expectations about inflation. Asked by a friend years later whether he had believed the interest rate hikes were necessary for reducing spending levels, he answered, "Nah, I just wanted to shake 'em up."[166] In other words, he needed to overshoot the amount necessary to bring spending into line with full employment and capacity—or overshoot the natural interest rate—to dislodge people's entrenched expectations about

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[160] Economists refer to this as the "inside lag," or the "time between a shock to the economy and the policy action responding to that shock." MANKIW, *supra* note 14, at 447.

[161] *See Inflation Can Cause Banks to Cut Back on Lending, Further Harming Economy: Study*, UBC SAUDER SCH. OF BUS. (Nov. 15, 2022), https://www.sauder.ubc.ca/news/insights/inflation-can-cause-banks-cut-back-lending-further-harming-economy-study [https://perma.cc/Y6FN-PD52].

[162] *See* MANKIW, *supra* note 14, at 447–48 (describing how the time between a policy action and its influence on the economy arises because policies do not immediately influence spending).

[163] *See* Havranek & Rusnak, *supra* note 123, at 41, 57 tbl.6 (finding that a meaningful impact on inflation does not occur for a year).

[164] *See id.* at 39 (finding the transmission lag of monetary policy to be twenty-five to fifty months in developed economies); Tom Fairless, *Higher Interest Rates Can Take a Long Time to Bring Down Inflation*, WALL ST. J. (Oct. 23, 2022, 5:30 AM), https://www.wsj.com/articles/higher-interest-rates-can-take-a-long-time-to-bring-down-inflation-11666517405 [https://perma.cc/SE7P-3PC2].

[165] *See* MANKIW, *supra* note 14, at 457.

[166] BLINDER, *supra* note 151, at 127 (quoting Fed Chair Paul Volcker).

inflation.[167] A rigorous weighing of economic suffering simply was not part of the decision. Rather, he based the decision on a belief that tight monetary policy and excess unemployment was the only recourse.

The sudden rise in interest rates can also cause harmful economic distortions to asset prices. The most straightforward example of this distortion is that buying homes becomes significantly more expensive for most consumers, as monthly mortgage payments increase considerably with interest rate increases. After leading the interest rate hikes, Volcker "read heartbreaking letters that people wrote to him—about how they had saved for years to buy a house for their parents, but now, because of the high rates, could not."[168] Interest rate hikes can also lead to a dramatic decline in available homes, as happened in 2023,[169] because so many owners are benefiting from lower interest rates than they would get if they sold and repurchased. Thus, the interest rate increases lower the supply of homes and artificially increase borrowing costs, putting many homes out of reach arbitrarily depending on when someone happens to choose or be able to purchase a home.

Asset-price distortions also compromise the stability of the financial system. One of the major reasons Silicon Valley Bank collapsed in 2023 is that the bank purchased significant quantities of treasury bonds when interest rates were low.[170] When many of the bank's struggling tech entrepreneur customers withdrew their deposits, it forced the bank to sell treasury bonds when interest rates were high. As a result, the bank had to sell them at a significant loss.[171] The Silicon Valley Bank failure—as well as the related failure of First Republic Bank around the same time—not only necessitated a costly bailout, but also increased the likelihood of a financial crisis by

[167] Goodfriend & King, *supra* note 96, at 985–87 (summarizing evidence from historical Fed transcripts).

[168] YERGIN & STANISLAW, *supra* note 70, at 334.

[169] *See Economic, Housing and Mortgage Market Outlook – August 2023*, FREDDIE MAC (Aug. 17, 2023), https://www.freddiemac.com/research/forecast/20230817-economic-housing-and-mortgage-market-outlook-august-2023 [https://perma.cc/YL58-F45K] (noting that the "[housing] market remains undersupplied" due to high interest rates); Nicole Friedman, *Higher Interest Rates Hit Home Prices Again*, WALL ST. J. (June 22, 2023, 1:26 PM), https://www.wsj.com/articles/higher-interest-rates-hit-home-prices-again-e6f57f55 [https://perma.cc/Z5N8-8TEY].

[170] *See* Abdulla Saif. S.S. Al-Sowaidi & Ahmad M.W. Faour, *Causes and Consequences of the Silicon Valley Bank Collapse: Examining the Interplay Between Management Missteps and the Federal Reserve's Floundering Decisions*, 12 J. WORLD ECON. RSCH. 38, 40–41 (2023). Better regulation might have enabled the government to identify and address.

[171] *Id.* at 41.

threatening fiscal stability.[172] Financial crises are dangerous in part because they can spark major economic downturns, as did the 2008 financial crisis.[173]

To summarize, the near exclusive reliance on interest rates for combating inflation entails great harm and risks. Yet, no part of government explains what justifies these harms and risks in light of the alternatives. Instead, political leaders now simply default to following the lead of Fed Chair Powell, who has confidently reiterated that interest rates are the solution to inflation, even while saying, in the summer of 2023, "As is often the case, we are navigating by the stars under cloudy skies."[174] Since the full economic effects of interest rate increases above the natural rate may not be felt for years, monetary primacy sets an economy up for years of forging ahead in the dark with the risk of falling off a recessionary cliff at any moment.

II. A FRAMEWORK FOR MACRO PLURALISM

So far, we have shown how monetary primacy risks imposing great sacrifice, with the already-vulnerable suffering the most pain. Rapid interest rate movements also distort the economy in unpredictable ways, potentially harming society through financial crises and fewer economic opportunities. Monetary primacy imposes these sacrifices for the sake of expediency, bypassing governmental mechanisms that would give people a greater say in the heavy sacrifices thrust on them to combat inflation. In this Part, we develop an alternative framework to control inflation with less sacrifice and greater responsiveness to markets, people, and the law.

A. A "Natural" Framework for Monetary Policy

The starting point for thinking about how to address inflation should not be interest rate hikes. Policymakers should instead comprehensively consider which policy paths are best situated to lower inflation with the least societal harm. That initial diagnosis maintains an important role for the Fed's interest rates, but we assert that lowering inflation should not be the exclusive province of the Fed. The alternatives to interest rate adjustments are discussed in Section II.B. Some of them, such as expanding economic

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[172] *See* Andrew Metrick, *The Failure of Silicon Valley Bank and the Panic of 2023*, J. ECON. PERSPS. Winter 2024, at 133, 134 (finding that the combination of a high percentage of uninsured deposits and unrealized losses on assets, present in both the Silicon Valley Bank and First Republic Bank failures, is associated with most financial panics).

[173] *See* Robert E. Hall, *Why Does the Economy Fall to Pieces After a Financial Crisis?*, J. ECON. PERSPS., Fall 2010, at 3, 6 (finding most macroeconomists believe financial crises cause economic collapse by increasing frictions, where the "cost to one side of a transaction . . . is not a benefit to the other side").

[174] Powell, *supra* note 106.

capacity by allowing more immigration, reduce inflation without net sacrifice or provide net economic benefits that society would want even if inflation were not an issue.[175] Other policies, such as increasing taxes and lowering spending, entail sacrifice but may still be preferable to interest rate hikes because the total sacrifice is smaller, and that sacrifice is spread out across more of the population.[176] In short, policymakers should use the lowest cost policy for achieving their target inflation rate.

As straightforward as this may sound, our proposal differs significantly from the current diagnostic process. Currently, the Fed's main diagnosis examines the immediate causes of inflation, such as a pandemic, war, oil embargo, or stimulus spending.[177] However, the purpose of that diagnosis is to determine what level of inflation is likely to persist and thus whether and to what extent to raise interest rates.[178] For instance, if the main cause of inflation was a post-pandemic spending increase likely to return to normal, little if any interest rate hike might be needed because the inflation would be seen as transitory. Alternatively, if the causes will likely persist, then the Fed would conclude it needs to raise interest rates in response. What is missing from this process is that the Fed does not undertake an analysis of the potential inflation responses beyond interest rates.[179]

In contrast, our proposed analysis begins by looking beyond immediate contributors to inflation to also consider areas of law and policy—ranging from immigration law to fiscal policy—that may seem at first irrelevant to the rising inflation. This broad purview may appear counterintuitive at first glance, because it means looking beyond the policies and world events that

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[175] *See infra* Section II.B.

[176] *See infra* Section II.B.

[177] *See What Is Inflation and How Does the Federal Reserve Evaluate Changes in the Rate of Inflation?*, BD. OF GOVERNORS OF THE FED. RSRV. SYS. (last updated Sept. 9, 2016) [hereinafter *What Is Inflation?*], https://www.federalreserve.gov/faqs/economy_14419.htm [https://perma.cc/ELS5-8YG8] (describing the process Fed policymakers undertake to understand the rate of inflation, including examining "unique events"); Press Release, Bd. of Governors of the Fed. Rsrv. Sys. (Apr. 29, 2020), https://www.federalreserve.gov/monetarypolicy/files/monetary20200429a1.pdf [http://perma.cc/NP2Q-HBRR] (considering the COVID-19 pandemic, associated weaker demand, and significantly lower oil prices as the causes of consistently low inflation); Press Release, Bd. of Governors of the Fed. Rsrv. Sys. (July 27, 2022), https://www.federalreserve.gov/monetarypolicy/files/monetary20220727a1.pdf [https://perma.cc/S9AY-RE5K] (finding the Russian invasion of Ukraine and related events have placed additional upward pressure on inflation); Memorandum of Discussion, Fed. Open Mkt. Comm. 48 (Dec. 17, 1973) (statement of Senior Economist J. Charles Partee) (predicting inflation rate will rise due to the oil embargo and subsequent higher oil prices). The Fed also looks at the magnitude of inflation. *See id.*

[178] *What Is Inflation?*, *supra* note 177.

[179] *See Why Does the Fed Care About Inflation?*, FED. RSRV. BANK OF CLEVELAND, https://www.clevelandfed.org/center-for-inflation-research/inflation-101/why-does-the-fed-care-start [https://perma.cc/WC6D-YXNU] (explaining that the Fed asserts control over inflation through interest rates alone).

most immediately cause inflation. However, it often is not possible to address the immediate causes of rising inflation, such as by ending an OPEC oil embargo, stopping a war in Ukraine, or making people pay back the stimulus checks they received two years prior. Indeed, interest rate adjustments do not directly address the causes of inflation, yet they are currently used as the solution, which helps to demonstrate that policymakers cannot limit the analysis to only the immediate causes of inflation in identifying solutions. A major difference in our approach is that it emphasizes an object of study often missing or covered only in small part in inflation analyses: the legal system, ranging from consumer law to taxing and spending.[180]

Within this framework, what is the role for the Fed's interest rate instrument? Our simplest proposal is that the Fed set interest rates at their natural rate—the rate at which spending equals capacity over the long run, creating no pressure for inflation to diverge from expectations. This policy framework differs significantly from the interest rates the Fed set during the 1970s, which consistently fell short of the natural rate, thus fueling inflation.[181] Although there is some debate as to what the natural rate of interest should be,[182] the Fed currently estimates it as a real interest rate of slightly below 1%.[183] Thus, with its expected inflation target level of 2%, the Fed should aim to set interest rates at slightly below 3%, thereby yielding a real rate just below 1%. When inflation and inflation expectations exceed the 2% target, the Fed should increase the nominal rate above 3% to keep the real interest rate at the natural rate. And when inflation falls short of 2%, the nominal interest rate should correspondingly decrease to keep the real interest rate at slightly below 1%.

This proposal diverges significantly from the Fed's current policy. Most importantly, the goals in raising interest rates differ between the Fed's current approach and our proposal. Under a natural interest rate framework,

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[180] For critiques of the conventional approach, see Yair Listokin, *Law and Macroeconomics: The Law and Economics of Recessions*, 34 YALE J. ON REGUL. 791, 793–800 (2017), and Yair Listokin, *A Theoretical Framework for Law and Macroeconomics*, 21 AM. L. & ECON. REV. 46, 48 (2019). For an intellectual history of the separation between law and macroeconomics, see generally Yair Listokin, *Law and Macro: What Took So Long?*, 83 LAW & CONTEMP. PROBS. 141 (2020).

[181] *See* Gamber, *supra* note 90, at 23, 27 (demonstrating that real interest rates during the 1970s fell well below the natural rate).

[182] *See, e.g.*, James D. Hamilton, Ethan S. Harris, Jan Hatzius & Kenneth D. West, *The Equilibrium Real Funds Rate: Past, Present and Future* (Nat'l Bureau of Econ. Rsch., Working Paper No. 21476, 2015), https://www.nber.org/papers/w21476 [https://perma.cc/WKK6-UH9V] (finding uncertainty in the equilibrium rate).

[183] Or slightly above 1%, but this figure varies over time, and the Federal Reserve Bank of New York indicated that the natural rate of interest was 1.5% in the first quarter of 2023. *See Measuring the Natural Rate of Interest*, *supra* note 90.

the Fed would raise interest rates when it must do so to reach the most productive economic level consistent with stable inflation. It would not, as it currently purports to do, increase them as the first response to fight inflation and until the point at which inflation is vanquished. The result would generally be a smaller, but still nonzero, increase in interest rates in response to inflation than the monetary primacy regime.[184] Conversely, when the economy is in recession, the Fed would also do less, relying on other policy levers and coordinating with other areas of the government in areas, such as fiscal policy, to stimulate the economy.

Even though it represents a significant change from the status quo (at least rhetorically), targeting the natural real rate of interest does not represent a return to the monetary regime of the 1970s. By keeping rates at the natural real rate of interest, the Fed limits inflationary pressures. In the inflationary 1970s, by contrast, the Fed kept rates well below the natural rate.[185]

As we demonstrated in Figure 1, the Fed's post-pandemic interest rate policy was, for a sustained period, consistent with our proposal, despite the Fed's tough rhetoric.[186] The real interest rate only exceeded 1% mid-2023; until that point, the Fed was functionally returning interest rates to the natural rate. At that point, our natural rate framework would have called for the Fed to stop increasing real interest rates, even faced with inflation still above the target rate. The Fed's policy, by contrast, kept interest rates well above the natural rate in response to high inflation throughout late 2023 and 2024.[187] This tight monetary stance may bring inflation down to 2%, but at the cost of excess unemployment and possibly a recession, even if there are means of reducing inflation that entail less societal sacrifice.

Under our framework, interest rates would only be raised above the natural rate if that is determined to be the best way to address inflation. For instance, after exhausting other options, or if Congress is politically unable to pass inflation-fighting reforms, then the Fed, in conjunction with other experts, such as those in the Macro Coordinating Office we propose below—may determine that interest rates exceeding the natural rate are the policy with the least economic sacrifice.

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[184] Estimates of the natural rate of interest change with the state of the economy, going down in recessions and up in periods of inflation, but much less than Fed interest rates tend to fluctuate. *See id.* (demonstrating a consistent decrease in the natural interest rate during recessions).

[185] *See supra* note 90 and accompanying text.

[186] *See supra* Section I.C.

[187] In Q1 2024, the natural real rate of interest was approximately 1%. *See Measuring the Natural Rate of Interest*, *supra* note 90. The short-term (1-year) real rate of interest exceeded 2.5% during this period. *1-Year Real Interest Rate*, *supra* note 142.

We focus here on the analytic side of our proposal. As an institutional matter, however, this framework could be implemented either through coordination among existing entities, including the Fed and the White House, or led by a new macroeconomic-policy-coordinating body we propose in Part III.[188] Either way, the decision to raise interest rates should be made only in conjunction with other Executive Branch economic policymakers. Absent such a collective determination, the Fed would not move away from the natural interest rate as a reflexive response to inflation.

While we have focused on the effect of our natural interest rate in responding to inflation, the proposal would also affect monetary policy when the economy requires a boost. Instead of a heroic Fed keeping nominal interest rates at zero for extended periods of time, offering a feeble stimulus to the economy at the cost of distorting asset prices and promoting bubbles such as the cryptocurrency fad of 2020–2022, our policy prescribes positive nominal interest rates in weak economies. To promote employment, macroeconomic policy should instead rely on fiscal and regulatory policy, which are much more effective stimulus tools when interest rates are low.[189]

A strict adherence to pure natural interest rates is not the only way to shift the U.S. inflation-fighting regime away from monetary primacy. Any lessening of reliance on interest rates to combat inflation would be an improvement. Given the institutional constraints facing the alternatives to interest rates—most notably, a Congress that faces difficulty passing any new legislation—a more moderate approach that still relies somewhat on interest rates may be more realistic. Since every fraction of a percent of an interest rate increase can translate into significant job losses and heighten the risk of recession,[190] even a more moderate reliance on interest rates could yield significant societal benefits. For simplicity, our discussion below focuses on a pure natural interest rate target, even if this proposal is more extreme than it needs to be to change the status quo. This proposal should,

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[188] *See infra* Part III.

[189] *See* Silvana Tenreyro & Gregory Thwaites, *Pushing on a String: US Monetary Policy Is Less Powerful in Recessions*, AM. ECON. J.: MACROECON., Oct. 2016, at 43, 43 (arguing that monetary policy is not as effective during economic downturns); *see also* YAIR LISTOKIN, LAW AND MACROECONOMICS: LEGAL REMEDIES TO RECESSION 175 (2019) (advocating the use of fiscal and regulatory stimulus when monetary policy is constrained by the zero lower bound). Here, we argue for the use of these alternatives even when nominal interest rates exceed zero. *Cf.* Galle & Listokin, *supra* note 52, at 140–41 (arguing that there is a fiscal effect of low interest rates that makes the two policy tools interdependent when the Fed's balance sheet grows sufficiently large).

[190] *See* Powell, *supra* note 12 (referencing the job costs associated with lowering inflation); Plunkert, *supra* note 144; *see also* N. Gregory Mankiw, *Alan Greenspan's Tradeoff*, FORTUNE, Dec. 8, 1997, at 36, 36 ("[W]hen the Fed wants to fight inflation, it reduces growth in the money supply. Yet this causes a rise in interest rates, which depresses spending and increases unemployment.").

however, be viewed as just one item on a menu of alternatives that all restructure the inflation-fighting framework away from monetary primacy.

B. Policy Alternatives to Interest Rates

With interest rates and the Fed doing less, how will inflation be tamed? With a macro pluralist approach. This means choosing the lowest cost inflation-reduction techniques from a menu of options, including (but not limited to) those described in this Section.

The best inflation-fighting techniques expand the economy's capacity. This type of reform is the most attractive because it lowers inflation not by causing risks and sacrifice, but through policies that would benefit society overall. More people benefit in this scenario because the economy has more jobs, and for a given level of income, people can purchase more goods and services. In other words, these reforms overall increase societal prosperity. We begin with two categories of capacity-expanding reforms—better competition law and deregulation of labor markets—that reduce inflation by expanding economic capacity.

Capacity-expanding policies differ in several respects from some of the policies mentioned later in this Section, such as contractionary fiscal policy. First, supply-capacity-enhancing reforms should be pursued in any state of the business cycle—they enable net benefits rather than costs and thus reduce inflation without requiring sacrifice. The barriers to their enactment are political rather than economic, and unpopular inflation may unlock political gridlock that previously prevented reforms. Reducing inflation can catalyze urgently needed reform. Second, permanent capacity-enhancing reforms are "one-trick ponies"—the same reform cannot be repeated in a subsequent round of inflation since the reform's capacity gains have been realized. As a result, our examples of capacity-enhancing reforms are illustrative rather than exclusive. Even if the benefits of particular reforms have been exhausted when a future bout of inflation arrives, there will almost certainly be different capacity-expanding reforms available to policymakers—making capacity expansion a robust policy response to inflation despite the one-off nature of individual reforms. Finally, the strength of the political factors blocking capacity-enhancing reforms may vary over the business cycle. Immigration, for example, is likely more politically toxic when jobs are scarce than when they are plentiful. Temporary immigration expansion to mitigate labor bottlenecks may be politically palatable even if permanent immigration expansion is impossible. If so, repeated application of the same capacity-enhancing policies becomes feasible.

1. Antitrust and Consumer Law

A threshold question is whether consumer law and antitrust can lower prices at a significant enough magnitude across the economy to meaningfully lower inflation. One helpful perspective on the possible magnitude comes from research showing how the average business priced its goods at 21% above costs in 1980, while by 2016 the average business set its price at 61% above costs.[191] Thus, in recent decades some businesses have arguably obtained greater ability to markup their products than the business should need to operate profitably. Those 40 percentage points of increased markup since 1980 are relevant to inflation because they suggest that there are ways to significantly lower the prices paid while still allowing businesses to be profitable. To illustrate, consider again how inflation was about 7% and above multiple times between 2021 and 2023, or 5 percentage points above the Fed's target.[192] If consumer law and antitrust were to lower markups by 5 percentage points in 2021 and 2022, it would keep inflation in check for a substantial portion of the economy, while still allowing businesses to have markups well above those that existed in 1980. Thus, the rise in markups suggest that (one-off) large-scale reductions in inflation over a sustained period may be possible through consumer law and antitrust.

Turning now to the specific reforms that might prevent anticompetitive business conduct, we begin with the most familiar: antitrust. Antitrust law seeks to address problems such as monopoly power and collusion by competitors to fix prices at an elevated level. Monopoly power often results from mergers. The studies on the price effects of various anticompetitive practices face methodological limitations, but there is some evidence suggesting that antitrust overall could do more.[193] For instance, a longitudinal study of ninety-seven hospital mergers concluded that they increased prices by an average of 40%.[194] One cross-industry study of fifty questionable mergers found that they increased prices by about 10%.[195] Assuming a higher percentage of anticompetitive mergers could be blocked without obstructing beneficial mergers, or that prior consummated mergers could be undone, antitrust could hold down some portion of inflation that would otherwise result.

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[191] Jan De Loecker, Jan Eeckhout & Gabriel Unger, *The Rise of Market Power and the Macroeconomic Implications*, 135 Q.J. ECON. 561, 562 (2020).

[192] *Compare Current US Inflation Rates: 2000-2025*, *supra* note 129 (recording rates at or above 7% from 2021 to 2023), *with* Powell, *supra* note 5 (setting the target at 2%).

[193] *See* JOHN KWOKA, MERGERS, MERGER CONTROL, AND REMEDIES: A RETROSPECTIVE ANALYSIS OF U.S. POLICY 39–46 (2014).

[194] *See* Leemore Dafny, *Estimation and Identification of Merger Effects: An Application to Hospital Mergers*, 52 J.L. & ECON. 523, 528, 530, 544 (2009).

[195] *See* KWOKA, *supra* note 193, at 155.

Stopping existing monopoly power is more difficult. Breakups may take years to implement and are difficult to get right.[196] Other remedies, such as mandating interoperability to allow competitors to access platforms, are quicker but also face limitations.[197] Nonetheless, antitrust interventions to reduce monopoly power have, in some contexts, brought down prices. For instance, the requirement that customers be able to keep their own phone number while switching carriers was found to significantly lower prices paid for cell phone services.[198] And in the Netherlands, after major retail gasoline brands were randomly forced to divest some of their highway outlets, the prices at those outlets subsequently decreased by 1.3%–2.3%.[199]

Collusion may also be widespread in today's economy. Antitrust scholars have estimated that cartels raise prices in various U.S. industries by between 18% and 37%.[200] Moreover, the magnitude of collusion may be becoming more acute as companies rely on artificial intelligence pricing algorithms, which can discover mechanisms for collusion and thereby help to move prices toward monopoly levels.[201] For instance, when gas station owners moved to algorithmic pricing, their margins were estimated to have gone up by between 9% and 28%.[202] Yet most cartels go undetected,[203] and antitrust law has yet to invest in prosecuting algorithmic collusion.[204]

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[196] The extent of difficulty is, however, exaggerated. *See* Rory Van Loo, *In Defense of Breakups: Administering a "Radical" Remedy*, 105 CORNELL L. REV. 1955, 1955–56 (2020).

[197] *See* Herbert Hovenkamp, *Antitrust Interoperability Remedies*, 123 COLUM. L. REV. F. 1, 11 (2023) (noting limits and successes of interoperability mandates).

[198] *See* Minjung Park, *The Economic Impact of Wireless Number Portability*, 59 J. INDUS. ECON. 714, 728–29 (2011) (finding that most cell phone plan prices decreased as a result of the portability mandates, with high volume users experiencing the largest proportional price decreases).

[199] *See* Adriaan R. Soetevent, Marco A. Haan & Pim Heijnen, *Do Auctions and Forced Divestitures Increase Competition? Evidence for Retail Gasoline Markets*, 62 J. INDUS. ECON. 467, 468–69 (2014).

[200] *See* John M. Connor & Robert H. Lande, *The Size of Cartel Overcharges: Implications for U.S. and EU Fining Policies*, 51 ANTITRUST BULL. 983, 983 (2006).

[201] *See* Emilio Calvano, Giacomo Calzolari, Vincenzo Denicolò & Sergio Pastorello, *Artificial Intelligence, Algorithmic Pricing, and Collusion*, 110 AM. ECON. REV. 3267, 3268 (2020).

[202] *See* Stephanie Assad, Emilio Calvano, Giacomo Calzolari, Robert Clark, Vincenzo Denicolò, Daniel Ershov, Justin Johnson, Sergio Pastorello, Andrew Rhodes, Lei Xu & Matthijs Wildenbeest, *Autonomous Algorithmic Collusion: Economic Research and Policy Implications*, 37 OXFORD REV. ECON. POL'Y 459, 472 (2021).

[203] *See* Peter G. Bryant & E. Woodrow Eckard, *Price Fixing: The Probability of Getting Caught*, 73 REV. ECON. & STAT. 531, 535 (1991).

[204] *See* Michal S. Gal, *Limiting Algorithmic Coordination*, 38 BERKELEY TECH. L.J. 173, 184 (2023) ("[A]lgorithmic sophistication may also help facilitate deviations from the market equilibrium ('cheating') that are not easy to detect . . . ."); Michal S. Gal & Niva Elkin-Koren, *Algorithmic Consumers*, 30 HARV. J.L. & TECH. 309, 345 (2017) ("[Algorithms] may create a higher risk of detecting deviations, given their data analysis abilities."). *See generally* ARIEL EZRACHI & MAURICE E. STUCKE, VIRTUAL COMPETITION: THE PROMISE AND PERILS OF THE ALGORITHM-DRIVEN ECONOMY (2016) (discussing "data-driven" monopolies).

Unlike antitrust, consumer law is less commonly associated with expanding economic capacity and reducing prices. A large body of literature, however, has demonstrated how businesses have become adept at exploiting consumer behavioral biases to charge higher prices.[205] Businesses commonly make it less likely that consumers will weigh the full price, such as by shifting some of the price to add-on fees for checking baggage or late fees for credit card payments.[206] Other times, businesses subtly steer consumers to higher priced items as financial institutions did to home buyers during the mortgage crisis and as companies like Amazon do currently by burying the best deals deep in the search results.[207] The consequences can be significant, with studies finding price increases of 8% on cell phone plans,[208] 21% on ticket payments on StubHub,[209] and by several percentage points even in relatively straightforward online retail settings.[210]

There is also evidence that consumer law interventions can significantly lower prices. As a few of many possible examples, Medicare recipients paid 5% less for out-of-pocket expenses after receiving more helpful messages,[211] drivers paid 0.8% less following mandatory highway billboards displaying the gas prices of nearby stations,[212] and borrowers paid 11% less in payday-loan debt costs from disclosures next to the counter.[213]

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[205] *See, e.g.*, Timothy J. Richards, Gordon J. Klein, Celine Bonnet & Zohra Bouamra-Mechemache, *Strategic Obfuscation and Retail Pricing*, 57 REV. INDUS. ORG. 859, 860–62 (2019) (summarizing the literature and finding that "strategic" "price obfuscation," a method of consumer exploitation, leads to higher profits).

[206] *See, e.g.*, Paul Adams, Benedict Guttman-Kenney, Lucy Hayes, Stefan Hunt, David Laibson & Neil Stewart, *Do Nudges Reduce Borrowing and Consumer Confusion in the Credit Card Market?*, 89 ECONOMICA S178, S178, S194 (Supp. 2022) (finding that consumers underestimate how long it will take to repay credit card debt but that nudges would help consumers make more informed estimations).

[207] *See, e.g.*, Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q.J. ECON. 505, 506 (2006) (creating a model to demonstrate that firms have an incentive to "hide information from consumers"); Rory Van Loo, *Helping Buyers Beware: The Need for Supervision of Big Retail*, 163 U. PA. L. REV. 1311, 1345–47 (2015) (discussing how Amazon and other retailers charge higher prices through obfuscation).

[208] *See* Oren Bar-Gill & Rebecca Stone, *Pricing Misperceptions: Explaining Pricing Structure in the Cell Phone Service Market*, 9 J. EMPIRICAL LEGAL STUD. 430, 453 (2012).

[209] These higher payments were driven by moving purchasers to higher priced options. *See* Tom Blake, Sarah Moshary, Kane Sweeney & Steve Tadelis, *Price Salience and Product Choice*, 40 MKTG. SCI. 619, 619, 625 (2021).

[210] *See* Glenn Ellison & Sara Fisher Ellison, *Search, Obfuscation, and Price Elasticities on the Internet*, 77 ECONOMETRICA 427, 428–29 (2009).

[211] *See* Jeffrey R. Kling, Sendhil Mullainathan, Eldar Shafir, Lee C. Vermeulen & Marian V. Wrobel, *Comparison Friction: Experimental Evidence from Medicare Drug Plans*, 127 Q.J. ECON. 199, 200–01 (2012).

[212] *See* Federico Rossi & Pradeep K. Chintagunta, *Price Transparency and Retail Prices: Evidence from Fuel Price Signs in the Italian Highway System*, 53 J. MKTG. RSCH. 407, 409 (2016).

[213] *See* Marianne Bertrand & Adair Morse, *Information Disclosure, Cognitive Biases, and Payday Borrowing*, 66 J. FIN. 1865, 1884 (2011).

Perhaps more promising are interventions that might either lessen businesses' ability to algorithmically exploit consumer biases, or even support third-party digital intermediaries that could help consumers find the best deals. For instance, an Israeli regulation mandated that stores make their price and product information digitally available.[214] Prices subsequently declined by an estimated 4% to 5%.[215] These magnitudes may have been low because instead of websites listing prices, these regulations resulted in more indirect informational improvements, such as sophisticated digital intermediaries using that information to guide consumers to the best deals.[216] As an example of what more forceful interventions might accomplish, one study of eBay's search algorithm found that changing the computer code saved consumers 5% to 15%.[217]

Once these antitrust and consumer law interventions are added together, it becomes possible to see how investments in such reforms could lead to price reductions of 5% or more across much of the economy—savings that would meaningfully lower inflation.[218] Thus, although consumer law interventions are not always successful, when designed well, they have the potential to significantly lower prices.

Additionally, consumer law interventions can be implemented on a helpful timeframe. For instance, the Israeli retail store price disclosure statute began to lower prices within eight months of enactment and reached peak price effects at around two years.[219] Prior research has also concluded that within three months of the filing of an antitrust complaint in court, many commodity prices lowered 1% to 2%, and within nine months they lowered 2% to 4%.[220] Although the institutional delays in getting to these points must also be considered, in some circumstances antitrust and consumer law may begin to lower prices faster than inflation.[221]

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[214] *See* Itai Ater & Oren Rigbi, *Price Transparency, Media, and Informative Advertising*, AM. ECON. J.: MICROECON., Feb. 2023, at 1, 2.

[215] *Id.*

[216] *Id.* at 3.

[217] *See* Michael Dinerstein, Liran Einav, Jonathan Levin & Neel Sundaresan, C*onsumer Price Search and Platform Design in Internet Commerce*, 108 AM. ECON. REV. 1820, 1821 (2018).

[218] *Cf.* Rory Van Loo, *Broadening Consumer Law: Competition, Protection, and Distribution*, 95 NOTRE DAME L. REV. 211, 229 (2019) (summarizing the magnitude of consumer law and competition laws in the context of the distribution of wealth and concluding that they are relevant to macroeconomic conversations).

[219] *See* Itai Ater & Oren Rigbi, *The Effects of Mandatory Disclosure of Supermarket Prices* 2–3 (CESifo, Working Paper No. 6942, 2018).

[220] GEORGE J. STIGLER & JAMES K. KINDAHL, NAT'L BUREAU OF ECON. RSCH., THE BEHAVIOR OF INDUSTRIAL PRICES 92 (1970).

[221] For a more in-depth discussion of timing, see *infra* Section II.D.3.

Most importantly, unlike using interest rate hikes and some other anti-inflation alternatives, consumer and competition laws do not depress jobs or wages.[222] Indeed, a more likely outcome of improving markets would be an increase in goods and services produced, potentially creating jobs.[223] Thus, regardless of uncertainty about the magnitude of price reductions, interventions that would prevent private parties from introducing market failures should be higher priority than setting interest rates.

2. Immigration, Licensing, and Oil Reserves

Other reforms also expand capacity, but not by restraining private actors' harmful conduct, as do consumer law and antitrust. Instead, these other categories of reforms rely either on removing government barriers to capacity, such as lowering immigration restrictions and deregulating occupational licensing requirements, or on the government itself supplying capacity, such as by releasing petroleum reserves. These types of reforms also differ from consumer law and antitrust in that they are more conducive to temporary implementation to keep their overall impact neutral.[224] Among policies fitting this description, immigration, occupational licensing, and strategic reserves are of a potentially large-enough magnitude to merit further discussion.

Immigration. Immigration restrictions prevent workers from adding their skills and labor to the workforce. In turn, increases in legal immigration would increase labor supply and therefore expand capacity.[225] Studies have found that increases in immigration lead to lower consumer prices.[226] Another way of thinking about the benefits of this move is as allowing new ideas, skills, and availability to bring more people the goods and services

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[222] *See, e.g.*, Bar-Gill & Stone, *supra* note 208, at 453–54 (summarizing the effects of behavioral interventions in the cell phone service market).

[223] This could mean that the overall effect on inflation is less as a result, although the literature does show price reductions from various consumer law and competition-related interventions at least in specific industries. *See* Abbott B. Lipsky Jr., *Protecting Consumers by Promoting Competition*, FED. TRADE COMM'N (Mar. 6, 2017), https://www.ftc.gov/enforcement/competition-matters/2017/03/protecting-consumers-promoting-competition [https://perma.cc/VU9T-LWZA].

[224] Consumer law and antitrust could also be implemented on a temporary basis, especially by ramping enforcement up and down. However, one would not refund the fines or allow the broken up monopoly to later recreate monopolies.

[225] *See* Adam M. Zaretsky, *A Burden to America? Immigration and the Economy*, REG'L ECONOMIST, Sept. 30, 1997, at 5 (explaining the economic benefits of immigration).

[226] *See, e.g.*, Saul Lach, *Immigration and Prices*, 115 J. POL. ECON. 548, 549 (2007) (finding 0.5% lower prices in a broad array of store items); Patricia Cortes, *The Effect of Low-Skilled Immigration on U.S. Prices: Evidence from CPI Data*, 131 J. POL. ECON. 381, 382 (2008) (finding 2% lower prices for immigration-intensive services); *see also* Zaretsky, *supra* note 225, at 5 ("In many instances, immigrants both cause prices to fall, which benefits all consumers, and enable the economy to domestically produce a wider variety of goods than natives alone could.").

they want at lower prices. Moreover, immigration policies can target the sectors in which workers are in particularly short supply—thus expanding capacity where it is hitting inflation hardest. As a result, instead of using interest rates to destroy jobs and harm the economy, immigration would improve the economy and create new jobs.[227]

Note that while immigration is a politically controversial topic, the use of immigration to combat inflation need not be controversial. The same overall level of immigration could be maintained, only with immigration increased when labor markets are tight and then lowered during periods of high unemployment. Those high and low periods of immigration could be designed to offset each other. Additionally, surveys have found that voters in both political parties prioritize fighting inflation over addressing immigration.[228] Thus, dislike of inflation may allow for at least temporary relaxation of immigration restrictions.

Occupational licensing. About 25% of occupations require a license to practice.[229] For instance, some states require licenses of fortune tellers, beekeepers, librarians, and manicurists.[230] Such requirements create barriers that keep people from contributing their skills to the economy, whether because they do not have the money, time, knowledge, or even political connections to navigate the approval process.[231] One estimate, which is rough but viewed as conservative, puts the consumer price increase at 15%, or well over $200 billion dollars annually.[232]

Some occupational licensing surely protects consumers, but there is reason to think that some schemes go too far, essentially functioning like

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[227] *See* Zaretsky, *supra* note 225 (summarizing the benefits of immigration).

[228] *See, e.g.*, JAN HATZIUS, ALEC PHILLIPS, DAVID MERICLE, SPENCER HILL, JOSEPH BRIGGS, RONNIE WALKER & MANUEL ABECASIS, GOLDMAN SACHS, COULD MORE IMMIGRATION MAKE A DENT IN THE JOBS-WORKERS GAP? 8 (May 23, 2022, 5:11 AM), https://www.gspublishing.com/content/research/en/reports/2022/05/23/e3c25903-8133-4647-91a0-db1c867e026c.pdf [https://perma.cc/VN7V-62B8] ("Inflation ranks as a higher priority than immigration among voters of all parties . . . .").

[229] *See* Morris M. Kleiner & Evgeny Vorotnikov, *Analyzing Occupational Licensing Among the States*, 52 J. REGUL. ECON. 132, 134 (2017).

[230] *See* Alan B. Krueger, *Do You Need a License to Earn a Living? You Might Be Surprised at the Answer*, N.Y. TIMES (Mar. 2, 2006), https://www.nytimes.com/2006/03/02/business/yourmoney/do-you-need-a-license-to-earn-a-living-you-might-be.html [https://perma.cc/9XNC-S2W6].

[231] *See generally* Kleiner & Vorotnikov, *supra* note 229, at 133–34 (noting that occupational licensing may create entry restrictions, thereby limiting access to occupations and reducing labor supply).

[232] *See id.* at 155 (finding that, using the analysis from Morris M. Kleiner & Alan B. Krueger, *Analyzing the Extent and Influence of Occupational Licensing on the Labor Market*, 31 J. LAB. ECON. S173 (2013), occupational licensing resulted in an annual cost to consumers of $203 billion); Aaron Edlin & Rebecca Haw, *Cartels by Another Name: Should Licensed Occupations Face Antitrust Scrutiny?*, 162 U. PA. L. REV. 1093, 1102 (2014) (describing Kleiner and Krueger's 15% estimates for price increases as "[c]onservative").

cartels.[233] One study of the removal of occupational licensing laws in the funeral-services industry, for instance, suggests that prices not only lowered by 14.6% but resulted in no measurable decrease in the quality of funeral services.[234] The industry's warnings of "significant threats to the public health, safety and welfare" never materialized.[235] If there are legitimate concerns about licensing providing quality control, one way to address the issue is to ease licensing restrictions only temporarily. For instance, during the pandemic, states removed certain nursing licensing requirements to address insufficient supply of nurses.[236]

Strategic reserves. Commodity prices are notoriously volatile.[237] Significant swings in the prices of energy or food often play an outsize role in increasing inflation.[238] Increases in oil prices, for example, are highly correlated with increases in inflation expectations.[239] Rather than responding to inflation caused by commodity price fluctuations by raising or lowering interest rates, a more direct policy response seeks to intervene in these markets to moderate price fluctuations.

Strategic reserves, such as the U.S. Strategic Petroleum Reserve, can dampen commodity price fluctuations and mitigate inflationary pressures when commodity prices rise. Research suggests that strategic petroleum-reserve releases have on average lowered the price of oil by nearly 10%.[240] And if the Strategic Petroleum Reserve was expanded so that it could respond even more decisively to oil-price spikes, then the effect could be

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[233] *But see* Press Release, Bd. of Governors of the Fed. Rsrv. Sys., *supra* note 46 (noting this does not hold if Ricardian Equivalence applies).

[234] Brandon Pizzola & Alexander Tabarrok, *Occupational Licensing Causes a Wage Premium: Evidence from a Natural Experiment in Colorado's Funeral Services Industry*, 50 INT'L REV. L. & ECON. 50, 57, 59 (2017).

[235] *Id.* at 59 (quoting COLO. DEP'T OF REGUL. AGENCIES, OFF. OF POL'Y, RSCH. AND REGUL. REFORM, FUNERAL SERVICE PRACTITIONERS 16 (Dec. 6, 2007)).

[236] *See* Lauren Bauer, Aidan Creeron, Joy Dada & Luiza Macedo, *Nurse Licensure Compacts Before, During, and After COVID*, BROOKINGS INST. (Feb. 8, 2023), https://www.brookings.edu/articles/nurse-licensure-compacts-before-during-and-after-covid/ [https://perma.cc/TBP5-UKQZ].

[237] *See* Adil Mohommad, Mehdi Raissi, Kyuho Lee & Chanpheng Fizzarotti, *Volatile Commodity Prices Reduce Growth and Amplify Swings in Inflation*, IMF: BLOG (Mar. 28, 2023), http://www.imf.org/en/Blogs/Articles/2023/03/28/volatile-commodity-prices-reduce-growth-and-amplify-swings-in-inflation [https://perma.cc/F5E2-GERX].

[238] *See* Drew Desilver, *As Inflation Soars, a Look at What's Inside the Consumer Price Index*, PEW RSCH. CTR. (Jan. 24, 2022), https://www.pewresearch.org/short-reads/2022/01/24/as-inflation-soars-a-look-at-whats-inside-the-consumer-price-index [https://perma.cc/6AEB-F8BX].

[239] This correlation is as measured by the market prices of inflation-protected assets. *See Oil Prices and Breakeven Inflation Rates Revisited*, THE FRED BLOG (June 3, 2019), https://fredblog.stlouisfed.org/2019/06/oil-prices-and-breakeven-inflation-rates-revisited/ [https://perma.cc/PD8L-NRHB].

[240] *See* Lutz Kilian & Xiaoqing Zhou, *Does Drawing Down the US Strategic Petroleum Reserve Help Stabilize Oil Prices?*, 35 J. APPLIED ECONOMETRICS 673, 684 tbl.2 (2020) (taking the average of releases).

even larger. If strategic reserves were created for other volatile commodities, especially food, then the cumulative impact on inflation would be still greater. Note that these are temporary rather than structural impacts, because the economy's capacity to produce oil would not be increased, for instance. Once the reserves are released during a given inflation fight, this lever is exhausted.

Unlike antitrust, immigration, or occupational licensing reforms, strategic reserves cannot permanently expand capacity. Moreover, the temporary capacity expansion they enable comes at a cost—the government must administer the reserves and store the commodities.[241] We discuss the trade-off between controlling inflation via interest rate hikes versus strategic reserves below.

3. Taxing and Spending

The failure of government taxing and spending to respond decisively to the Great Inflation of the 1970s diminished the perceived utility of fiscal policy in fighting inflation.[242] In particular, fiscal policy's long institutional lag—the time required for Congress to pass countercyclical fiscal policy—rendered it particularly suspect.[243]

While this critique is valid when applied to passing new legislation in response to changing macroeconomic circumstances, fiscal policy should still play an important role in fighting inflation.[244] Congress could, as a routine matter, implement "automatic" adjustments into spending laws, which would raise taxes and lower spending when inflation accelerates without any need for passing laws.[245] And the unpopularity of inflation may accelerate the normally long legislative institutional lag. There is a reason that the title of the "Inflation Reduction Act" mentioned inflation even if the law's primary purpose was not inflation reduction.[246] That law introduced

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[241] Even in the 1990s, this cost was sizable. *See* CONG. BUDGET OFF., CBO STAFF MEMORANDUM: THE SIZE AND FINANCING OF THE STRATEGIC PETROLEUM RESERVE 1 (Apr. 1990).

[242] *See* Marvin Goodfriend, *How the World Achieved Consensus on Monetary Policy*, J. ECON. PERSPS., Fall 2007, at 47, 57 ("As a variety of nonmonetary options for controlling inflation failed—including wage and price controls, credit controls, and fiscal policy—the monetarist option looked increasingly attractive.").

[243] *See* 8 JAMES M. BUCHANAN & RICHARD E. WAGNER, DEMOCRACY IN DEFICIT: THE POLITICAL LEGACY OF LORD KEYNES 85–87 (1977).

[244] *See* Yair Listokin, *Equity, Efficiency, and Stability: The Importance of Macroeconomics for Evaluating Income Tax Polic*y, 29 YALE J. ON REGUL. 45, 49 (2012) (arguing that macroeconomic stabilization is a core function of tax law and policy).

[245] U.S. GOV'T ACCOUNTABILITY OFF., GAO-24-106056, ECONOMIC DOWNTURNS: EFFECTS OF AUTOMATIC SPENDING PROGRAMS AND TAXES (2023).

[246] *See* Inflation Reduction Act of 2022, Pub. L. No. 117-169, 136 Stat. 1818.

major spending on clean energy and reductions to the deficit,[247] suggesting that discretionary fiscal policy adjustment in the face of inflation may not be as unrealistic as conventionally assumed.

Fiscal policy expansions and contractions can meaningfully affect inflation. The increased U.S. government spending in response to the COVID-19 pandemic is estimated to have raised inflation by 2.5%.[248] Assuming that fiscal contractions have a similar effect, as would be expected, fiscal contraction offers an effective means of reducing excess inflation without assistance from monetary policy.[249] Indeed, the most direct remedy for inflation fueled by government deficit spending is a reduction in the deficit.

Like interest rate hikes (but unlike capacity-expanding reforms), fiscal contractions can cause recessions and thus offer a costly means of inflation control. There are reasons, however, to suspect that fiscal policy's sacrifice ratio is lower than that of monetary policy. First, fiscal policy has a shorter "outside lag" than monetary policy. When the government collects more taxes or reduces benefit payments, disposable incomes decline immediately.[250] Interest rate hikes, by contrast, affect spending with a much longer lag, reducing the precision of monetary policy and raising the risk of under- or overstimulation. Second, monetary policy hammers interest rate-sensitive sectors but otherwise leaves spending mostly unaffected. Contractionary fiscal policy, by contrast, spreads the pain of belt-tightening throughout the economy, reducing the toll on any one sector.[251] And if contractionary fiscal policy is targeted at the most overheated sectors, then it can reduce inflation pressures with even less sacrifice by applying the brakes in areas where they are most needed.

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[247] *See, e.g.*, CONG. BUDGET OFF., ESTIMATED BUDGETARY EFFECTS OF H.R. 5376, THE INFLATION REDUCTION ACT OF 2022, at 3 (last updated Aug. 5, 2022), https://www.cbo.gov/publication/58366 [https://perma.cc/22B4-ZEZU] (estimating that the Inflation Reduction Act reduced ten-year deficits by about $90 billion).

[248] *See* François de Soyres, Ana Maria Santacreu & Henry Young, *Fiscal Policy and Excess Inflation During Covid-19: A Cross-Country View*, BD. OF GOVERNORS OF THE FED. RSRV. SYS.: FEDS NOTES fig.5 (July 15, 2022), https://www.federalreserve.gov/econres/notes/feds-notes/fiscal-policy-and-excess-inflation-during-covid-19-a-cross-country-view-20220715.html [https://perma.cc/73ZU-FX4Z] (estimating spending relative to expectations).

[249] *Cf.* Philip Arestis & Malcom Sawyer, *On the Effectiveness of Monetary Policy and of Fiscal Policy*, 62 REV. SOC. ECON. 441, 444 (2004) (discussing the economic implications of fiscal policy).

[250] *See, e.g.*, Bill Dupor, *Explaining the Long and Variable Lags in Monetary Policy*, FED. RSRV. BANK OF ST. LOUIS: REG'L ECON. (May 24, 2023), http://www.stlouisfed.org/publications/regional-economist/2023/may/examining-long-variable-lags-monetary-policy [https://perma.cc/K67J-JUHA] (explaining that Milton Friedman first identified monetary policy as having "long and variable lags" and Fed Chairs, including Chair Powell, have since continued to reiterate this point).

[251] *See supra* Section I.B.

Student loan payments on government debt offer a "quasi-fiscal" means of inflation control. Like taxes, federal-student-loan repayments reduce disposable income and shrink spending.[252] Indeed, one study estimates that restarting loan payments reduces spending by $100 billion per year.[253] The Biden Administration missed the opportunity to use this inflation-fighting technique in late 2021. At the time, student loan repayments were paused due to COVID-19.[254] Reinstating loan repayments when inflation accelerated would have introduced a powerful contractionary force into the economy at a time when spending pressures were excessive. Instead of resuming loan repayments, the Biden Administration delayed the repayment of student loans as long as possible, thereby encouraging spending and further stimulating the economy.[255] By timing loan-repayment resumptions to coincide with periods of heightened price pressures, the U.S. Department of Education can have a powerful fiscal effect.

To be clear, debt relief is an important policy tool, and it is unfortunate that "many governments have forgotten how to forgive [debt]."[256] But timing matters. When the labor market is strong and inflation is rising, as it was in 2021, it is a bad time to pursue debt relief. Indeed, in such tight labor markets, borrowers are in a stronger position to pay off loans than they would be during periods of high unemployment.[257] More importantly, the failure to recognize or prioritize the inflationary dimensions of pausing student loan payments meant the Fed had greater need to use interest rate hikes.[258] Higher interest rates have the potential to hit vulnerable student loan debtors even harder than the resumption of payments by raising their costs of other debt and possibly taking away jobs and lowering salaries.[259] Under monetary primacy, policymakers do not compare these sacrifice trade-offs.

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[252] *See* Claire Ballentine, *Student Loan Bills Will Cut Consumer Spending, Increase Recession Odds*, BLOOMBERG L. (July 21, 2023, 8:45 AM), https://www.bloomberglaw.com/product/blaw/bloombergterminalnews/bloomberg-terminal-news/RY5FJ5DWRGG0 [https://perma.cc/V472-NTP4].

[253] NANCY VANDEN HOUTEN, OXFORD ECON., STUDENT LOAN RELIEF IS ENDING – WHAT'S NEXT (July 20, 2023), https://info.oxfordeconomics.com/l/1022713/2023-07-20/9gw7/1022713/1689875907bDofpoL1/US_Student_loan_relief_is_ending_whats_next.pdf [https://perma.cc/4WTP-TPDC].

[254] *See* Press Release, U.S. Dep't of Educ., Biden-Harris Administration Continues Fight for Student Debt Relief for Millions of Borrowers, Extends Student Loan Repayment Pause (Nov. 22, 2022), https://www.ed.gov/news/press-releases/biden-harris-administration-continues-fight-student-debt-relief-millions-borrowers-extends-student-loan-repayment-pause [https://perma.cc/3CXH-9TZ7].

[255] *See id.*

[256] LISTOKIN, *supra* note 189, at 185 (summarizing the history of debt relief in the United States and observing it was once a more routine expansionary policy lever).

[257] *See generally* Roberto G. Quercia, Anthony Pennington-Cross & Chao Yue Tian, *Differential Impacts of Structural and Cyclical Unemployment on Mortgage Default and Prepayment*, 53 J. REAL EST. FIN. & ECON. 346 (2016) (describing how mortgage rate defaults are impacted by unemployment).

[258] *See supra* Section I.D.

[259] *See supra* Section I.D (summarizing the costs of high interest rates).

C. Deciding Among Policy Tools

How can policymakers avoid decision paralysis in deciding among such a dizzying array of possibilities, each with various political and economic complications? At a minimum, they should more systematically use the basic economic tool that is designed to express the costs of interest rates: the sacrifice ratio.[260] The idea here is to calculate the sacrifice ratio for a range of inflation alternatives. This application of the sacrifice ratio would mark a shift from the monetary primacy regime, under which no part of the government compares sacrifice ratios.[261] Interest rates would then be used only when the sacrifice ratio suggested it was the best option available.

Since the goal is to build a broader portfolio of anti-inflation responses, different combinations of policies would need to be compared to one another. One package might, for instance, involve a 1 percentage point increase in interest rates alongside stronger consumer law, more immigration, and various other tools. The total expected magnitude of reduction in inflation would then be considered along with the total expected impact on economic capacity. The portfolio with the most attractive sacrifice ratio and the chance to significantly lessen inflation would be chosen.

Policies that expand supply capacity mitigate inflation without net sacrifice. As a result, they are the optimal inflation-reducing policy and should be exhausted before any alternative policies are pursued. Political and distributional considerations, however, limit the feasibility of capacity expansion. As a result, a macro pluralist regime should control inflation by relying on the policies with the least sacrifice.

To illustrate how policymakers might apply the sacrifice ratio more systematically, consider how the comparison might work between investing in petroleum reserves and raising interest rates. According to one traditional estimate of the monetary policy sacrifice ratio, monetary policy needs to impose excess unemployment of 0.2% for one year to lower inflation by 0.1%.[262] Professors Jonathan Masur and Eric Posner "suggest that the cost to

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[260] *See generally* Ball, *supra* note 57, at 155 (quantifying the sacrifice ratio for the first time); Joseph P. Daniels, Sandeep Mazumder & David D. VanHoose, *Expected Inflation and the Sacrifice Ratio*, 22 INT'L FIN. 307, 307–09 (2019) (providing a brief overview of the sacrifice ratio).

[261] At least no part of the government discloses such an analysis; given the transparency surrounding Fed meetings and analyses, it would be surprising if such an analysis occurred in secret. *See, e.g.*, Eric T. Swanson, *Have Increases in Federal Reserve Transparency Improved Private Sector Interest Rate Forecasts?*, 38 J. MONEY CREDIT & BANKING 791, 791–93 (2006) (describing increases in Fed transparency since the 1990s).

[262] *See* Robert J. Tetlow, *How Large Is the Output Cost of Disinflation?* 16 fig.5 (Bd. of Governors of the Fed. Rsrv. Sys., Finance and Economics Discussion Series, Working Paper No. 2022-079, 2022), https://www.federalreserve.gov/econres/feds/files/2022079pap.pdf [https://perma.cc/E28Z-TY8F]. *See*

workers of unemployment could be as high as $100,000 per worker."[263] With a labor force of approximately 170 million,[264] this figure implies a cost of $34 billion to lower inflation by 0.1% via monetary policy.[265] To accomplish that same level of inflation reduction (0.1%), the federal government could instead invest in building up its strategic oil reserves to limit the inflationary effects of oil price increases. In deciding between these two options, the decision-maker should compare the social costs of excess unemployment of 0.2% ($34 billion) with those billions of dollars that would be spent expanding and maintaining the Strategic Petroleum Reserve to lower overall inflation by an additional 0.1%. If the costs of using the reserve to reduce inflation by 0.1% are lower than $34 billion, then the reserve should be expanded and used as an inflation-control device. Even simply calculating the sacrifice ratio for each of the leading candidates for reducing inflation would be a significant step forward.

We propose going further by using a more systematic, comprehensive, and updated application of the sacrifice ratio. A more comprehensive deployment of the sacrifice ratio would mean analyzing the full set of trade-offs involved in these various policy tools beyond the straightforward magnitude of the reduction in inflation and economic costs of intervention.

D. Advantages of Macro Pluralism

The causes of inflation are complex.[266] Inflation depends on economic capacity, desired spending, and inflation expectations, each of which depend on many other factors.[267] Despite this complexity, monetary primacy prioritizes one tool (interest rate hikes) for controlling inflation while neglecting others. Our framework, by contrast, integrates monetary policy

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generally Ball, *supra* note 57, at 155–81 (estimating the sacrifice ratio across several distinct episodes of disinflation). For modern applications of the sacrifice ratio, see Jordan Weissmann, *Why Larry Summers Thinks We Need Massive Unemployment to Beat Inflation,* SLATE (July 7, 2022, 11:25 AM), https://slate.com/business/2022/07/larry-summers-massive-unemployment-fed-inflation.html [https://perma.cc/S6XQ-83TF].

263 Jonathan Masur & Eric A. Posner, *Regulation, Unemployment, and Cost-Benefit Analysis*, 98 VA. L. REV. 579, 583 (2012).

264 *Civilian Labor Force Level*, FED. RSRV. BANK OF ST. LOUIS (last updated Nov. 1, 2024, 7:47 AM), https://fred.stlouisfed.org/series/CLF16OV [https://perma.cc/B58U-9SSF].

265 $34 billion = 168 million (size of work force) * 0.002 (fraction of work force unemployed) * $100 thousand (cost per unemployed worker).

266 *See, e.g.*, *Causes of Inflation*, RSRV. BANK OF AUSTL., https://www.rba.gov.au/education/resources/explainers/causes-of-inflation.html [https://perma.cc/L9DA-8A7C] (describing the many factors influencing inflation).

267 *Supra* Section I.A; *cf. What Is the Money Supply? Is It Important?*, BD. OF GOVERNORS OF THE FED. RSRV. SYS. (Dec. 16, 2015), https://www.federalreserve.gov/faqs/money_12845.htm [https://perma.cc/FSY8-TWE6] (explaining the close relationship between the creation of money and the economic variables that drive inflation).

with the many other policy tools available to fight inflation. This integration brings many benefits. First, our framework brings design improvements to the United States' institutional inflation response and potentially elsewhere in the legal system. Second, it creates the promise of fighting inflation with less sacrifice and a more widely spread burden. Finally, our framework would enhance the legitimacy of the U.S. inflation-fighting regime.

1. Improving Legal System Design

A natural framework for interest rates has the potential to improve the legal system's architecture in two main ways: creating a more robust diagnostic process and leveraging inflation to spur policymakers to pursue valuable legal reforms that political dysfunction might otherwise prevent.

On the first of these, the Fed's default to interest rates prevents a robust diagnosis from taking place. A fundamental problem-solving skillset taught in law schools, medical schools, and beyond involves moving from analyzing the problem to generating possible solutions.[268] Only after the alternative solutions are identified should the best solution be chosen.[269] Monetary primacy's knee-jerk default to interest rates skips the step of generating options and goes directly from a basic identification of a problem (inflation) to a solution (interest rate hikes).

The default to a single tool ignores the possibility that other responses are better suited to the inflation problem and leave the economy healthier. Our proposed framework moves closer toward that ideal legal institutional design. Rapid economy-wide price increases would signal that something is wrong, a diagnosis would follow considering all options, and then the best package of interventions would be chosen. That package would consider short-term steps, such as those that the President and administrative agencies could immediately implement, as well as medium-term options that might require legislation. If the best approach does not work or is unattainable, policymakers consider other options—including, when necessary, relying on interest rates.

Additionally, well-designed systems have backup plans in case the standard response to a problem fails. Monetary primacy puts all our inflation-fighting eggs in the Fed's basket. If something interferes with the Fed's ability to raise interest rates to control inflation, then monetary primacy means the policy regime fails. And there are many factors that could constrain monetary primacy. These include a breakdown in the relationship between interest rates and economic activity, Fed concerns about other

[268] *See* Stephen Nathanson, *The Role of Problem Solving in Legal Education*, 39 J. LEGAL EDUC. 167, 168 (1989).

[269] *Id.* at 169–70.

objectives such as financial stability, exchange rates and the cost of public debt,[270] or even Fed organizational dysfunction. Thus, monetary primacy leaves inflation control dangerously exposed to institutional idiosyncrasies. Since our natural interest rate framework charges multiple policy levers with inflation control, if the Fed cannot respond to inflation for any reason, other policymakers can respond before inflation runs amok.

A secondary institutional advantage of allowing for diverse solutions is that the diagnosis may identify policy improvements that are valuable for society but have not been adopted due to political dysfunction. In other words, a natural framework institutionalizes the advice to "never let a good crisis go to waste."[271]

Thus, the institutional problem with relying solely on the Fed's interest rates is that it disconnects the problem from the solution. Regardless of the problem's source, the Fed addresses inflation with a single tool that may have little to do with either the causes of that problem or the best available solutions.[272] This discrepancy is a breakdown in the very nature of problem-solving. By failing to undertake a holistic consideration of solutions, monetary primacy deprives society of the chance to build legal rules that effectively respond to inflationary distress signals and create a stronger economy.

2. Reducing Sacrifice and Distortions

By more thoroughly diagnosing the problem and more effectively tailoring inflation policy, macro pluralism would reduce the economic distortions that often arise from monetary primacy. As mentioned above, the overreliance on interest rates introduces numerous new distortions into the economy with varied harmful effects—unemployment, asset price fluctuations, and lower economic capacity.[273] Each of those effects in turn creates risks and harms, such as increased poverty and lower standards of living, along with the possibility of recessions and financial crises.[274]

If interest rate hikes were easily the best among inflation-fighting alternatives in terms of costs and benefits, then the prevailing monetary primacy regime would perhaps be justified. But the best alternative inflation-

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[270] *See* Galle & Listokin, *supra* note 52 (discussing the Fed's role in managing the cost of public debt).

[271] Winston Churchill is credited with this quote. He made the remark during the creation of the United Nations following World War II. *See* Guillaume Guère, Never Let a Good Water Crisis Go to Waste (Mar. 21, 2019) (originally published by OECD), https://www.researchgate.net/publication/351109953_never_let_a_good_water_crisis_go_to_waste [https://perma.cc/N2QN-6DA2].

[272] *See supra* Part I.

[273] *Supra* Section I.D.

[274] *Id.*

reduction policies explored in Section II.B expand, rather than reduce, economic capacity.[275] Even if there are costs associated with inflation reduction, addressing the causes of inflation directly is often cheaper than relying on the indiscriminate tool of interest rate hikes.

In addition to imposing significant costs on the broader economy, interest rate hikes impose particular pain on construction, housing, and banks, and more generally all firms, workers, and owners of financial assets in interest rate-sensitive sectors of the economy.[276] The recessions often caused by sudden interest rate hikes also disproportionately harm vulnerable populations.[277] In contrast, many of the policy tools described above can be more targeted or spread out. Income taxes can be raised only on middle-income households and above, for instance, thereby sparing the most vulnerable.

Thus, our proposed framework would lower the overall sacrifice needed to address a given level of inflation, sometimes by improving the economy and at other times by minimizing the sacrifice. Moreover, when there must be a sacrifice, it raises the question of how to distribute the sacrifice across the population. Monetary primacy is blind to both the question of the overall sacrifice, and the question of who bears the burden.

3. Time-Sensitive Responses to Inflation

Our framework also offers greater promise for swiftly acting on inflation. Recall that interest rates create the illusion of acting on inflation quickly because the Fed can immediately call a meeting, but, in reality, it takes years for the policy changes introduced at that meeting to reach full impact.[278] The temporal problems with interest rates run even deeper than that. Although it is true that the Fed can quickly meet and decide to change interest rates, as a practical matter, it must usually wait even after observing a period of high inflation. For instance, when inflation shot up to 4.2% in April of 2021, and then 6.2% by November of 2021, the Fed did not decide to raise interest rates until March of 2022—almost a year after the first signs

[275] *See, e.g.*, Marc Jarsulic, Ctr. for Am. Progress, Effective Inflation Control Requires Supply-Side Policy 22 (Sept. 2022) (unpublished manuscript), http://peri.umass.edu/images/jarsulic_PERI_Conf_WP.pdf [https://perma.cc/2MMB-6DJ7] (arguing that supply-side policies can help combat inflation).

[276] *See supra* Part I.

[277] *See supra* Section I.D.

[278] *Supra* Section I.C.

of inflation.[279] At that point, it only raised the rate from 0% to 0.25%.[280] It then increased rates by fractions of a percentage point in a series of meetings, only reaching 5% interest in May of 2023.[281] Once this decision-making delay is added to the twenty-nine-month delay between an interest rate decision and full reduction on inflation, interest rates are slow to impact the economy.[282]

The array of alternatives we explore above has varying timelines. Some can be deployed immediately to keep inflation from going up in the first place, such as establishing strategic reserves for inflation-prone goods and services.[283] Others would operate on similar timelines as inflation but simply at a lower sacrifice level.

Moreover, the length of time needed between first observing inflation and fully raising interest rates highlights a potentially meaningful temporal advantage for our framework that is missing from inflation conversations. The reason the Fed did not immediately raise rates in April of 2021 was that it wanted to see if inflation would be transitory or longer lasting.[284] That delay makes sense when the sole tool available would harm the economy.[285] However, when other tools exist that are beneficial or neutral for the economy—such as releasing oil reserves, improving consumer protection enforcement, or removing occupational licensing barriers—policymakers could begin to act on those reforms immediately, even if they are unsure about how long inflation will persist. Some of those policy options rely on legislatures acting, but others can be immediately pursued by administrative agencies or executive decisions.

To be sure, at times a reform that expands the economy will be so institutionally slow as to make it an infeasible inflation-reduction policy.

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[279] *See Consumer Prices Increase 6.2 Percent for the Year Ended October 2021*, U.S. BUREAU OF LAB. STAT. (Nov. 19, 2021), https://www.bls.gov/opub/ted/2021/consumer-prices-increase-6-2-percent-for-the-year-ended-october-2021.htm [https://perma.cc/25LX-QTU9] (indicating inflation reached 4.2% in April 2021 and 6.2% in October 2021); Press Release, Bd. of Governors of the Fed. Rsrv. Sys., Implementation Note Issued March 16, 2022 (Mar. 16, 2022), https://www.federalreserve.gov/newsevents/pressreleases/monetary20220316a1.htm [https://perma.cc/W5UN-5V5E].

[280] *Open Market Operations*, *supra* note 10.

[281] *Id.*

[282] *See* Havranek & Rusnak, *supra* note 123, at 41.

[283] There is evidence that existing reserves, such as the Strategic Petroleum Reserve, have effectively controlled prices. *See, e.g.*, Kilian & Zhou, *supra* note 240, at 674 (finding that use of the Strategic Petroleum Reserve has effectively controlled prices). The cost of establishing such reserves may be lower than the sacrifice entailed by inducing a recession to lower interest rates. *See infra* Part III.

[284] *See* Jerome Powell, Chair, Bd. of Governors of the Fed. Rsrv. Sys., Transcript of Chair Powell's Press Conference 13–15 (Apr. 28, 2021), https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20210428.pdf [https://perma.cc/47SK-GEXB].

[285] *See supra* Section I.B.

When this occurs, some sacrifice may become inevitable. However, even alternatives to interest rates that are slower should not be dismissed for that reason alone. The key heuristic becomes achieving inflation reduction at the lowest sacrifice ratio rather than defaulting to interest rates under the mistaken assumption that they are necessary because they are fast.

Moreover, since inflation battles often last years, deploying a variety of policy levers allows some to act immediately, others to act in the medium term, and others to act in the long term on prices. Thus, a natural interest rate framework allows for a staged temporal response to enduring inflation and opens the possibility of nipping inflation in the bud rather than requiring sacrifice to bring down already-entrenched inflation.

4. Legitimacy and Legality

The Federal Reserve has long faced criticisms about its independence and illegitimacy.[286] Its approach to inflation has contributed significantly to that perception. For instance, as Volcker was beginning his massive interest rate hikes, lawmakers criticized the Fed's independence. One Senator summarized the discontent at a press conference, saying, "It's inconsistent with representative democracy – and contrary to consistent fiscal policy – to have seven people appointed to 14-year terms with vast sweeping powers over the lives and fortunes of the American people who are accountable to no one, not the President, not the Congress, not the people."[287] By contrast, macro pluralism comports better with the Fed's statutory objectives.

Nowhere does any statute clearly specify that the Fed should prioritize inflation over employment.[288] Thus, the default to fighting inflation by imposing great sacrifice on an arbitrary subset of the population was never vetted by any representative political body or even candidly communicated to the public.[289]

In contrast, the natural rate framework follows from a straightforward interpretation of the Fed's statutory objectives. Its tripartite mandate provides that it should adjust the money supply to "promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates."[290] At the natural rate of interest, employment is at the highest possible without causing inflation to increase, a reasonable interpretation

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[286] *See, e.g.*, Carola C. Binder & Christina P. Skinner, *The Legitimacy of the Federal Reserve*, 28 STAN. J.L. BUS. & FIN. 1, 2 (2023).

[287] TODD, *supra* note 150, at 46 (quoting Sen. Alan Cranston (D-Cal.)).

[288] *See* Conti-Brown, Listokin & Parrillo, *supra* note 100, at 38, 44–46.

[289] On the absence of Fed's explicit consideration of comparable sacrifice ratios, see *supra* Section I.D.

[290] 12 U.S.C. § 225a.

of maximum employment in this context.[291] At the natural rate of interest, inflation is stable.[292] While not the same as stable prices, it is a reasonable modern equivalent and at least as plausible as the Fed's interpretation that "stable prices" means 2% inflation.[293] Finally, the natural rate of interest framework gives meaning to the oft-neglected third prong of the mandate: "moderate long-term interest rates."[294] Focusing the Fed's interest rate policy on achieving the natural rate moderates interest rate swings.

A natural interest rate target also contributes to legitimacy by providing a clearer objective and thus less open-ended discretion.[295] Although the use of interest rates thereby becomes more limited, the natural interest rate framework still leaves a role for Fed expertise. Interest rate expertise is still required to identify the natural interest rate, which varies over time. Instead, the Fed currently chooses how much unemployment to sacrifice to reduce inflation—the kind of trade-off best left to legislative actors and more politically accountable elements of the Executive Branch, unless they have explicitly delegated the responsibility for that decision.

Under our framework, the Fed only raises rates above the natural rate once it has the blessing of the political branches. Rather than having the Fed unilaterally impose economic sacrifice to lower inflation, the monetary path under our framework is backed explicitly by the Executive Branch and implicitly by Congress (through its inaction in the face of opportunity). This gives the resulting sacrifice democratic vetting that current unilateral Fed interest rate choices do not enjoy.

This is not to say that Congress could not choose to enact monetary primacy. If Congress wishes to impose an inflation-targeting regime for the Fed, in which the Fed's primary objective is achieving a target rate of inflation, then Congress is free to do so. In this context, the Fed would be imposing sacrifice blessed by the Legislature in order to control inflation. Congress has not, however, explicitly sanctioned prioritization of inflation over risk of recessions and unemployment—except perhaps through inaction in the face of Volcker's then-radical moves in the 1980s.[296]

One final dimension to our proposal enhances legitimacy. Currently, the Fed's approach to inflation lacks transparency. What it says it is doing

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[291] David Wessel & Peter Olson, *The Hutchins Center Explains: The Natural Rate of Interest*, BROOKINGS INST. (Oct. 19, 2015), https://www.brookings.edu/articles/the-hutchins-center-explains-the-natural-rate-of-interest [https://perma.cc/32EB-VQTZ].

[292] *Id.*

[293] *See Why Does the Federal Reserve Aim for Inflation of 2 Percent over the Longer Run?*, *supra* note 1.

[294] *See* 12 U.S.C. § 225a.

[295] *See supra* Section I.B.

[296] *See supra* Section I.B.

does not necessarily match what it actually does. Recall how Volcker did not actually believe that raising interest rates above 20% was necessary as an economic matter to subdue spending, and instead had a psychological goal to "just . . . shake 'em up."[297] In 2022, while the Fed talked tough by emphasizing its willingness to subdue inflation through high interest rates, it did not set interest rates accordingly.[298] Since its actions mapped more closely onto a natural interest rate framework,[299] adopting such a framework would increase transparency.

Even if the Fed's tough talk kept a lid on inflation expectations, which is debatable,[300] it cannot sustain that policy over the long term as the public becomes wise to the Fed's double talk.[301] Thus, there is no strong economic justification for making an exception to the democratic norm of governmental transparency for the Fed.

These issues of legitimacy are potentially even more important at a time when the Supreme Court appears inclined to curtail agency discretion.[302] Whether in adherence to centuries-old principles of good governance or to meet evolving perceptions of legitimacy, the Fed should consider adopting a natural interest rate framework that adheres more closely to its statutory authority.

III. INSTITUTIONAL DESIGN

We have so far shown how monetary primacy suffers from many deficiencies but is institutionally expedient. That expediency is largely the product of institutional design.[303] This Part examines reforms that could improve the broader institutional design of macroeconomic policy. Automatically adjusting laws would enable Congress and the Executive to sharply reduce the institutional delays that currently plague nonmonetary responses to rising inflation. And a coordinating federal office would bring rigor and consistency to inflation-fighting measures implemented by federal agencies. Moving away from monetary primacy does not depend on these

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[297] BLINDER, *supra* note 151, at 127 (quoting Fed Chair Volcker).

[298] *See supra* Section I.C.

[299] *See supra* Sections I.C, II.A.

[300] *See* Surowiecki, *supra* note 140 ("Investors have been betting that the Fed's tough talk is just a bluff . . . .").

[301] Maren Blanchard, *Dynamic Inconsistencies and Economic Lies*, MICH. J. OF ECON. (May 7, 2023), https://sites.lsa.umich.edu/mje/2023/05/07/dynamic-inconsistencies-and-economic-lies/ [https://perma.cc/6KUP-QCHV].

[302] *See, e.g.*, Loper Bright Enters. v. Raimondo, 144 S. Ct. 2244, 2273 (2024) (overruling the landmark *Chevron* doctrine of judicial deference to agencies' reasonable interpretations of their own organic statutes).

[303] *See supra* Part I.

reforms, but they would enhance macro pluralism's ability to realize its inflation-fighting promise.

A. Automatic Stabilizers

Since Congress may face delays and an inability to pass new laws in the face of inflation, it should instead design laws to respond automatically when inflation sets in. Congress already often deploys automatic-adjustment mechanisms, also known as dynamic lawmaking, for other purposes such as environmental regulation.[304] The main idea would be for inflation of some level to serve as the trigger causing the anti-inflation law to spring forth and become operative. The broader point is to design laws in a way that is sensitive to the macroeconomic context such that the overall impact of laws in the long run remains the same, but the costs are borne in good times while the benefits are felt in bad times.

Above, we explored other potential areas for automating laws, such as allowing more annual immigration when inflation rises and less when inflation is low.[305] But the most straightforward categories of automatic laws are taxing and spending.[306] To illustrate, Congress could replace the indexation of tax brackets and government spending programs with a fixed annual increase equal to expected annual inflation (e.g., 2% per year). When inflation falls short of expectations during a recession, deficits go up as average tax rates go down (because tax brackets rise "too much") and benefits go up (because they increase by more than inflation). Fiscal policy thus stimulates the moribund economy. When inflation exceeds expectations, by contrast, tax revenues rise (as brackets don't increase enough to cover for inflation) and real spending decreases (as nominal benefits rise by less than inflation). As a result, fiscal policy tightens and spending goes down, reducing inflationary pressures, potentially by a significant amount. Over an entire turn of the business cycle, taxes and benefits stay constant in real terms.

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[304] *See* Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153, 1226 (2009) (describing the automatic standards put into place if the EPA fails to promulgate regulations by the time set forth by statute); *see also* Rebecca M. Kysar, *Dynamic Legislation*, 167 U. PA. L. REV. 809, 813–15 (2019) (identifying some regulatory areas where dynamic legislation is already used); David Kamin, *Legislating for Good Times and Bad*, 54 HARV. J. ON LEGIS. 149, 153, 167 (2017).

[305] *Supra* Section II.B.

[306] Note that the income tax already functions incidentally as an automated stabilizer. As incomes rise in booms, more people move into higher tax brackets. Means-tested welfare programs also function as automatic stabilizers. When incomes rise in a boom, fewer people qualify for a means-tested benefit, decreasing government expenditures in booms characterized by inflationary spending pressures. *Cf.* David Kamin, *Basing Budget Baselines*, 57 WM. & MARY L. REV. 143, 203–10 (2015) (discussing the tax code).

These automatic laws address inflation without requiring Congress to pass new legislation. As a result, they do not suffer from the prolonged institutional delays that otherwise plague some alternatives to interest rates for fighting inflation. Indeed, because interest rates take so long to have an economic effect, automatic triggers may enable alternatives to lower inflation more rapidly than would interest rates.[307]

Automatic stabilization is most compelling when capacity-expanding reforms cannot singlehandedly keep inflation on target and when fiscal stabilization imposes less sacrifice to achieve a given amount of inflation reduction than hiking interest rates. Under these plausible assumptions, the loss of policy flexibility associated with reducing inflation automatically is worth bearing. Moreover, automatic fiscal policy can be adjusted via statute if the associated sacrifice exceeds the sacrifice associated with alternative policies.

By pursuing automatic stabilization systematically, Congress can fashion a robust response to rising inflation that minimizes, or even eliminates, the need for the Fed. Moreover, such an inflation-policy framework would be more democratically legitimate by relying on clear statutory mandates to minimize and more broadly spread out any sacrifice.

B. A Macro Coordinating Office

Not every inflation-fighting policy can be automated by statute. As a result, a Macro Coordinating Office—an office with supervisory authority over other administrative agencies on macroeconomic matters—could help address some of the primary institutional barriers to fighting inflation effectively with nonmonetary means. The Office would be charged with assisting all parts of the federal government in developing policies to respond to recessions, inflation, and other important macroeconomic problems. Such an office has been proposed before in the context of recessions,[308] but the importance of such an office in addressing inflation has not been articulated.

A Macro Coordinating Office is desirable for at least three reasons. First, unlike the Fed, other agencies do not have an explicit inflation-control mission. While these agencies can take steps to fight inflation as part of a "whole-of-government approach"[309] to an important policy aim, inflation-

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[307] *See What Are Long and Variable Lags in Monetary Policy?*, *supra* note 22.

[308] *See* LISTOKIN, *supra* note 189, at 202.

[309] The "whole-of-government approach" is often used in international economic development contexts. *See, e.g.*, ORGANISATION FOR ECON. CO-OP. & DEV., OPPORTUNITIES FOR ALL: A FRAMEWORK FOR POLICY ACTION ON INCLUSIVE GROWTH 25 (2018), https://www.oecd-ilibrary.org/economics/opportunities-for-all_9789264301665-en [https://perma.cc/9TUD-E34Y] (discussing the need for "a whole-of-government approach to the implementation, monitoring and evaluation of inclusive growth").

fighting is not their primary mission. Simply asking an agency to consider inflation in addition to its primary mission is unlikely to generate a determined response from overburdened administrators focused on other goals. A macroeconomic-policy-coordinating body, by contrast, will be focused on inflation much like the Fed. As a result, it will be motivated to work with otherwise-reluctant agencies to battle inflation.

Second, a macroeconomic-policy-coordinating body can offer expertise to agencies that lack it. As most agencies are not directed to consider inflation, they have understandably not developed the expertise to evaluate how their policy decisions affect prices. Rather than have each agency redundantly develop this expertise, they can tap the expertise housed within a professional coordinating body. In addition to assisting agencies in evaluating how their policies perform in inflationary-boom times, the macroeconomic experts at the Office will also indicate when agencies should begin to apply policies that relieve inflationary pressures, freeing each agency of the need to conduct real-time macroeconomic evaluations.

Third, nonmonetary inflation-control levers need to be coordinated. While interest rates are a powerful macroeconomic policy tool that affect every sector of the economy, the policy alternatives discussed above can be deployed in a more targeted manner. Inflation-control levers should be activated primarily in the sectors suffering from the highest inflation, mitigating their negative effects on the broader economy. A macroeconomic-coordinating body would evaluate which sectors are suffering from the strongest inflationary pressures and direct relevant agencies to implement inflation-fighting measures in these sectors, an impossible task for any agency acting alone. The body could also prioritize those markets that are most likely to influence inflation expectations because addressing those areas would have a greater impact on inflation.

To illustrate the Office's role, consider a burst of inflation triggered by a rise in energy prices. When inflation is stable, the Macro Coordinating Office should assist the Department of Energy, FTC, and other agencies in identifying policies that can mitigate energy price rises. Policies might include the release of oil from the Strategic Petroleum Reserve, regulatory changes to mitigate supply bottlenecks in the energy supply chain, and heightened antitrust enforcement against energy supply cartels. Studies should estimate how much each policy might reduce inflation and the accompanying sacrifices. When energy price shocks start affecting overall inflation and inflation expectations, the Office should direct the relevant agencies to implement the cheapest inflation-reducing policies that affect the primary cause of inflation. It should avoid policies with worse expected sacrifice ratios than monetary policy even in these inflationary periods.

A macroeconomic-coordinating body would function much like today's Office of Information and Regulatory Affairs (OIRA). Just like an executive order directs agencies to conduct cost–benefit analyses of major actions,[310] so too would a new executive order instruct agencies to identify how different regulatory measures affect inflation. As OIRA reviews cost–benefit analyses and ensures that they are well-executed and taken seriously, so too would the Macro Coordinating Office ensure that these macroeconomic reviews are well-executed and taken seriously. In addition, the Office would direct agencies to take inflation-reducing actions when inflationary pressures are elevated in a relevant sector. Like OIRA, the Macro Coordinating Office would sit within the Office of Management and Budget.

The similarity between the Macro Coordinating Office's role in macroeconomic review and OIRA's role in cost–benefit analysis represents history coming full circle. In 1974, the Ford Administration required "all major legislative proposals, regulations, and rules emanating from the executive branch of the Government include a statement certifying that the inflationary impact of such actions on the Nation has been carefully considered."[311] The purpose of these "inflation impact statement[s]" was to encourage agencies to adopt policies that eased price pressures rather than exacerbating them.[312] Inflation impact statements became a forerunner of cost–benefit analysis.[313] And the administrators charged with evaluating inflation impact statements formed the nucleus of OIRA when it was created in 1981.[314] In a new era of inflation, the time has come to learn from history and build price-easing tools that are more subtle and nimble than the brute-force method of using interest rate hikes as the exclusive response to inflation.

CONCLUSION

The reliance on a singular and economically destructive inflation policy despite the existence of more attractive options has deep roots. Monetary primacy rescued the nation from endemic high inflation in the early 1980s.[315] The end of that Great Inflation was so monumental, despite great sacrifice, that in its aftermath neither political party has dared interfere with the Fed's

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[310] *See* Exec. Order No. 12,866, 58 Fed. Reg. 51735, 51735 (Sept. 30, 1993).

[311] Exec. Order No. 11,821, 39 Fed. Reg. 41501, 41501 (Nov. 27, 1974).

[312] *See* Address to a Joint Session of the Congress on the Economy, 2 PUB. PAPERS 228, 232 (Oct. 8, 1974).

[313] *See* Edward P. Fuchs & James E. Anderson, *The Institutionalization of Cost-Benefit Analysis*, PUB. PRODUCTIVITY REV., Summer 1987, at 25, 26–28.

[314] *Id.* at 31.

[315] *See* Jackman, *supra* note 147, at 19.

monetary policy independence and the assumption that it alone is responsible for managing inflation by manipulating interest rates.[316] That rich history is accompanied by the intuitive appeal of a policy tool that seems to offer unparalleled speed and power to subdue inflation.

The reality of monetary primacy is far less rosy. For high interest rates to lower inflation, they typically raise unemployment and heighten the risk of recessions.[317] Many vulnerable households and employees, especially those who are young during the recessions, suffer greatly and many never fully recover in terms of their lifelong salaries.

We propose a different framework. The Fed, which should retain its independence, should target the natural rate of interest with its monetary policy. The other parts of the government should do more of the inflation fighting—so long as the sacrifice ratio is better for those alternatives. This framework aims to recenter our legal–economic institutional design in a more comprehensive analysis beginning with diagnosing the problem fully and then choosing the best policy intervention.

Macro pluralism better explains the incredible inflation-fighting successes of 2021–2023 than monetary primacy. The Fed's interest rate hikes had less of an impact than monetary primacy's advocates claim, as rates only were above the natural rate at the end of 2023.[318] That means the economy is only now feeling their full effect. In contrast, a variety of government actors implemented many of our recommended policies throughout this period. Unfortunately, this successful policy response was unintentional and ad hoc rather than deliberate or anchored in good institutional design.

Moreover, there is no sign that these pluralistic legal and institutional contributions to inflation's reductions are appreciated. A big part of the problem is that the Fed's real impact on inflation is shrouded.[319] The Fed's institutional speed in raising interest rates is highly salient, whereas the subsequent lengthy economic delays are obscured. Also, the intense attention to the Fed's interest rates means that those moves may receive intuitive credit for lowering inflation even when they have no real economic impact. The

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316 *See* Jeff Huther, *Monetary Policy and Presidential Politics*, ABA BANKING J. (Apr. 4, 2024), https://bankingjournal.aba.com/2024/04/monetary-policy-and-presidential-politics/ [https://perma.cc/Y2C2-YF9T] (discussing how the Fed has avoided politicization during election cycles).

317 *See supra* Section I.D.

318 *See* Sam Boocker, Michael Ng & David Wessel, *What Is the Neutral Rate of Interest?*, BROOKINGS INST. (Oct. 3, 2023), https://www.brookings.edu/articles/the-hutchins-center-explains-the-neutral-rate-of-interest/ [https://perma.cc/M6UX-6MPT].

319 *See* John H. Cochrane, *What Makes It Hard to Control Inflation*, CHI. BOOTH REV. (Nov. 3, 2021), https://www.chicagobooth.edu/review/what-makes-it-hard-control-inflation [https://perma.cc/UW5B-2MBC].

shrouded nature of interest rates risks further entrenching monetary primacy moving forward.

A better institutional design would ensure that the United States acts more deliberately next time. Automatic laws can fight inflation while bypassing the political constraints that might otherwise block Congress and dispersed administrative agencies from acting. And a central macroeconomic office would ideally coordinate anti-inflation policies across government.

Above all, however, we aim to contribute to a vital paradigm shift away from monetary primacy. Monetary primacy is analytically deficient and perilous for society. Rather than relying on the Fed to acutely and indiscriminately harm households, macro pluralism offers a more efficient and legitimate path toward reducing unnecessary sacrifice by vulnerable populations and delivering greater prosperity for all.[320]

[320] *Supra* Section I.D (discussing the costs and risks of interest rate hikes).