

# The Why and How of Abolishing the Fractional Reserve Banking System: A Modest Proposal\*

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**How to cite this paper:** Sanyal, P., & Ehlen, M. (2025). The Why and How of Abolishing the Fractional Reserve Banking System: A Modest Proposal. *Modern Economy*, 16, 1360-1377.

<https://doi.org/10.4236/me.2025.168063>

**Received:** February 12, 2025

**Accepted:** August 25, 2025

**Published:** August 28, 2025

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## Abstract

This paper critiques the U.S. Federal Reserve's institutional design and macro-financial results. Using statutory analysis, historical balance-sheet data, and comparisons with sovereign-money systems, we find that the Fed's hybrid public-private structure channels monetary policy toward the profit goals of member banks rather than the broader economy. Interest-bearing money creation intensifies leverage cycles, concentrates wealth among financial asset-holders, and leaves taxpayers to fund repeated bailouts. We model a counterfactual full-reserve regime in which the Treasury issues debt-free sovereign money and commercial banks serve only as custodial intermediaries. The simulation indicates lower systemic risk, and steadier credit allocation. Getting rid of the Federal Reserve and putting the power to control the money supply back in the Treasury could make the economy more stable over the long run.

## Keywords

Federal Reserve, Sovereign Money, Full-Reserve Banking, Systemic Risk

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## 1. Introduction

For more than a century the United States has relied on fractional-reserve banking, a framework now widely recognized as a source of monetary boom-and-bust cycles. Yet serious blueprints for replacing it have been scarce. This study offers a practical alternative: a fully backed, 100 percent-reserve system that could be phased

\*The opinions expressed in this study are solely those of the authors and do not represent the views of the US government. At the time of writing, the US Congress is considering H.R. 1846, a bill that would abolish the Federal Reserve. Although the bill has not yet become law, the authors support its passage and hope this work contributes to that outcome. The authors received no financial backing from any institution for this research, and they remain fully responsible for any remaining errors or omissions.

in over six to eight years, provided the requisite political commitment is secured and the transition is carefully sequenced.

There remain three main problems of the fractional reserve banking system. First, the system has “in-built” monetary instability mechanism that prevents it from attaining any reasonable equilibrium solution. Under fractional-reserve banking, banks hold only a small cushion of cash for every dollar deposited. A modest injection of base money from the central bank lets those reserves support a much larger volume of new deposits, rapidly expanding the money supply and spurring spending, hiring, and higher asset prices. But when loans are not repaid and go into default, the mechanism runs in reverse: deposits contract just as swiftly, withdrawing purchasing power from the economy. Because money supply thus swells far more than production in the good times and then shrivels in bad times, the financial “balloon” is forever over-inflating and deflating, turning ordinary ups and downs into disruptive booms, busts, and layoffs<sup>1</sup>.

Second, this banking system has a tendency of creating boom and bust cycles as evidenced by the 2008-09 financial crisis that originated from the housing markets. For example, banks can issue a mortgage simply by typing the loan amount into the borrower’s account, which instantaneously adds brand-new money to the economy. The extra cash lets buyers pay more for housing, so sale prices edge higher; once these higher prices appear in recent transactions, appraisers mark up similar homes, making the collateral behind existing loans look safer and encouraging banks to grant even bigger mortgages to the next round of buyers. Each fresh loan again arrives as a new deposit, further enlarging the pool of money available for bidding on houses and nudging prices up another notch. Rising leverage fuels higher asset prices, and those elevated valuations, in turn, validate the issuance of still larger loans. The feedback loop persists until confidence falters—typically after a rate hike or a whiff of recession. Then demand for credit dries up, valuations ease, lenders tighten standards, and both credit growth and prices retreat in tandem.

Finally, there is the quantitative easing (QE) problem initiated by the Federal Reserve during 2008 - 2009 as described below. When the Federal Reserve carried out quantitative easing, it bought a vast pile of Treasury bonds and, in payment, credited banks with a matching heap of reserves. For that new money to matter to households and businesses, banks have to swap those tokens for everyday dollars by making new loans or buying assets from the public, which shows up in people’s checking accounts. In the post-crisis environment, precautionary-capital motives on the supply side and balance-sheet repair on the demand side left the credit

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<sup>1</sup>Out argument in this section resembles Rothbard (1990), where he argues that controlling the banks’ reserves is one of the main functions of the Central Bank. Banks tend to keep a certain ratio of reserves to their total deposit liabilities. The Central Bank can stimulate inflation by pouring reserves into the banking system, and also by lowering the reserve ratio, thus permitting bank credit expansion. If the banks keep a reserve to deposit ratio of 1:10, then excess reserves of ten million dollars will encourage credit expansion to the tune of one hundred million dollars. Since banks profit through credit expansion, and since government has made it impossible for them to fail, they will provide loans to their allowable maximum.

channel largely dormant: banks warehoused their newly acquired reserve balances rather than transforming them into loan-created deposits. With that intermediation link impaired, the reserve-deposit money multiplier compressed, so the sharp expansion in the monetary base failed to propagate into a proportional rise in broad money and, by extension, aggregate nominal demand. Consequently, the transmission of quantitative easing to real activity and the price level remained muted even as the Federal Reserve's balance sheet swelled to unprecedented dimensions<sup>2</sup>. Although the Fed's asset purchases caused the monetary base to swell, commercial bank lending remained largely inert. Broad money advanced only marginally, the velocity of circulation declined, and aggregate demand showed little discernible acceleration. In the end, quantitative easing merely enlarged the Fed's own liabilities—swelling reserves—without significantly expanding the deposit base of commercial banks, leaving its impact on output and prices muted.

This paper offers a practical roadmap for fixing the weaknesses of fractional-reserve banking. Section 2 pinpoints the root of the credit cycle, showing how deposit-money creation by commercial banks amplifies booms and busts. Section 3 turns to the central bank: it evaluates a modified Taylor-style policy rule that performs adequately in calm periods but loses traction when inflation expectations rise and real growth stalls. Section 4 lays out the main idea: move to a system where every dollar of bank deposit is fully backed by cash on hand. This would end fractional-reserve banking, keep the total amount of money steady, and let loans be made only through clearly funded channels. The result should be lower inflation pressures and a more predictable, steady pace of economic growth. Section 5 draws the policy map, outlining the legislative and operational steps a country would need to take to phase in the new system and lock in financial stability.

## 2. The Credit Creation Problem of Commercial Banks

Credit is created not only by the Central Bank but also by commercial banks through the origination of loans to borrowers. We first present the dataset, then build three empirical indicators of liquidity creation. Next, Bayesian Lasso regressions gauge how each indicator shapes gross loan flows. All variables are rescaled to the (0 - 1) range so the estimated coefficients are directly comparable.

### 2.1. Data & Measurement

Our main measure of Liquidity creation by commercial banks comes from Bouwman: <https://sites.google.com/a/tamu.edu/bouwman/data-forms-and-links-to-web-sites-for-u-s-banking-research>

#### Measurement of CATFAT

The following **Table 1** provides the major items used in the **Berger and Bouwman (2016)** study in measuring the CATFAT variables.

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<sup>2</sup>See for example, **Borio, Claudio and Anna Zabai (2016)**. "Unconventional monetary policies: a re-appraisal." BIS Working Paper No. 570, Bank for International Settlements.

**Table 1.** Liquidity category from the FFIEC schedules and weights.

Liquidity Category	FFIEC Schedule & Line Codes	Typical Call Report Tag	CATFAT Weight
Cash & Balances Due	Schedule RC: RCON0081, RCON0071	Cash & Balances Due	+1
Federal Funds Sold & Rev Repos	RC: RCFD1350, RCFD1351	Fed Funds Sold	+1
Treasury & Agency Securities (AFS/HTM)	RC-B: RCFD1460, RCFD2140	Govt Securities	+1
Other Securities (Trading & Equity)	RC-B: RCFD1797, RCFD1754	Other Securities	+1
Net Loans & Leases	RC-C: RCFD2122	Net Loans	+1
Fixed & Intangible Assets	RC: RCFD2145, RCFD2148	Premises, Goodwill	0
Other Assets	RC: RCFD2165	Other Assets	0
Transactions & Savings Deposits (insured)	RC-E: RCON2215, RCON6631	Core Deposits	0
Large Time Deposits >\$250k & Brokered	RC-E: RCON2604, RCON2340	Large Time & Brokered	-1
Federal Funds Purchased & Repos	RC: RCFD2800, RCFD2332	Fed Funds Purchased	-1
Trading Liabilities	RC-D: RCFD3545	Trading Liabilities	-1
Other Borrowed Money & FHLB Advances	RC-M: RCFD2840, RCFD1420	Other Borrowed Money	-1
Subordinated Notes & Debentures	RC: RCFD3200	Subordinated Debt	-1

Source: Compiled by the authors' for illustration purposes.

CATFAT (Comprehensive Assessment of Total Funding-adjusted liquidity) translates a bank's call-report balance sheet into a single number that proxies how much liquidity the bank creates (positive) or destroys (negative). In essence, it weights each asset and liability by how quickly it can be converted to—or demands—cash. Here is the end-to-end calculation:

*Step 1: Map the balance-sheet items into liquidity buckets and assign weights*

- Each balance-sheet item is classified as:
  - Liquid asset (+1)—immediately convertible to cash (cash, Treasuries, fed funds sold, etc.)
  - Neutral item (0)—neither provides nor drains much liquidity (real estate, goodwill, core deposits)
  - Illiquid funding (-1)—funding that can run or has short tenor (large time deposits, repos, FHLB advances, trading liabilities, subordinated debt)
- Off-balance-sheet items (unused commitments, letters of credit) receive similar +1/-1 weights but need conversion factors; those are often omitted if the researcher focuses on on-balance-sheet CATFAT.

*Step 2: Method to compute CATFAT*

1) Multiply each balance-sheet item by its CATFAT weight

$$\text{For example, } CATFAT_{it} = \sum_k (\text{weights}_k \times \text{CallReportAmount}_{itk}) \quad (1)$$

2) Then, researchers can scale the CATFAT ratio by dividing the numbers in Equation (1) by total assets.

We also use measures of inflation using the consumer price index (CPI), the real GDP growth rate data comes from the Bureau of Economic Analysis (BEA). The data for liquidity is aggregated at the state level to maintain consistency. Our analysis is for the period 2005 Q1 to 2016 Q4. This time period was chosen as consistent information on all the variables was available.

## 2.2. Bayesian Regression Model with Different Priors

The regression model for state-quarter observations is given by:

$$y_{it} = \alpha + \beta_1 \text{catfat}_{it} + \beta_2 \text{catfat}_{i,t-1} + \beta_3 \text{catfat}_{i,t-2} + \beta_4 \text{Infl}_{i,t} + \beta_5 \text{GDPgr}_{i,t} + \varepsilon_{i,t} \quad (2)$$

where, the error term is given by:

$$\varepsilon_i \sim N(0, \sigma^2)$$

The LASSO shrinkage prior is given as follows:

$$\beta_j \sim \text{Laplace}(0, \lambda) \quad (j = 1, \dots, 5) \quad (3)$$

All the variables are min-max scaled to  $[0, 1]$ ; the dependent variable (loan volume) is measured in millions of dollars. **Table 2** provides a summary of the coefficients.

**Table 2.** Estimated coefficients of gross loans with Laplace priors.

Predictor	Post. Mean	95% Lower	95% Upper
catfat (t)	1.47	1.08	1.85
catfat (t - 1)	0.54	0.17	0.88
catfat (t - 2)	0.12	-0.25	0.48
Inflation	-0.05	-0.40	0.30
GDP growth	0.06	-0.30	0.42

Source: Authors' own computations.

A one-unit rise in the current capital to asset ratio (catfat) is associated with an average increase of roughly \$1.47 million in quarterly loans, holding everything else constant. The table confirms the main finding that the current capital to asset ratio and its first lag have credibly positive effects on loan growth, while the second lag and the macroeconomic controls remain statistically insignificant.

## 2.3. Choice of Priors on Estimated Coefficients

**Table 3** provides similar results comparable to **Table 2**. The coefficient on catfat—and on its first lag—remains robustly significant across specifications. Prior choice mainly influences terms with low explanatory power: a strong (Laplace) prior shrinks these coefficients toward zero, whereas a diffuse (Uniform) prior leaves them largely unconstrained, making their uncertainty more apparent.

**Table 3.** Estimated coefficients of the predictors based on different priors.

Predictor	Prior	Mean	95% Low	95% High
catfat (t)	Laplace	1.47	1.08	1.85
	Dirichlet-normal	1.32	0.90	1.70
	Uniform	1.61	0.83	2.42
catfat (t – 1)	Laplace	0.54	0.17	0.88
	Dirichlet-normal	0.40	0.04	0.77
	Uniform	0.66	–0.10	1.42
catfat (t – 2)	Laplace	0.12	–0.25	0.48
	Dirichlet-normal	0.05	–0.30	0.38
	Uniform	0.18	–0.51	0.88
Inflation	Laplace	–0.05	–0.40	0.30
	Dirichlet-normal	–0.03	–0.34	0.28
	Uniform	–0.09	–0.79	0.63
GDP growth	Laplace	0.06	–0.30	0.42
	Dirichlet-normal	0.08	–0.26	0.42
	Uniform	0.11	–0.63	0.86

Source: Authors' own computations.

#### 2.4. Results of the Gross Loans Based on Liquidity Measure from the Asset Side

In this section, we present the results of credit growth (loan growth) based on the liquidity measure on the asset side of the balance sheet of the commercial banks. The analysis is carried out with 4 lags of the liquidity measure, and the priors chosen are Laplace and Uniform for the Bayesian models. The results are reported in **Table 4**.

This section addresses 3 questions: 1) How strong are the signals in the data; 2) What does the choice of prior do to the estimated coefficients? and 3) What are the practical implications of the results?

After re-scaling all variables so that each is mean-zero and expressed in comparable units, none of the seven covariates—the contemporaneous capital ratio (LC\_A), its four quarterly lags, real GDP growth, or inflation—exhibits a statistically robust association with quarterly loan expansion. In the panel of U.S. states from 2005 to 2016, fluctuations in these indicators leave the pace of credit growth essentially unchanged.

To address how the choice of priors affects the estimated coefficients, with a flat uniform prior, we start with no hints at all, so the model can't make up its mind: each variable might push loan growth way up, way down, or not at all—it's basically guesswork.

**Table 4.** Estimated coefficients of the predictors based on different priors for the liquidity measure based on the asset side of balance sheet.

Variable	Laplace Mean	Laplace SD	Laplace Q25	Laplace Median	Laplace Q75	Uniform Mean	Uniform SD	Uniform Q25	Uniform Median
LC_A	-0.046	1.929	-0.339	-0.006	0.28	-0.021	2.941	-2.496	-0.014
LC_A_lag1	0.047	2.096	-0.275	0.001	0.307	0.066	2.906	-2.466	0.09
LC_A_lag2	0.02	2.189	-0.276	0.006	0.299	-0.053	2.872	-2.629	-0.053
LC_A_lag3	-0.013	1.795	-0.293	-0.005	0.255	0.111	2.903	-2.344	0.102
LC_A_lag4	0.033	1.996	-0.262	0.009	0.33	0.031	2.876	-2.406	0.066
GDPgr	0.02	1.749	-0.319	0.009	0.329	-0.002	2.931	-2.595	-0.086
Infl	0.107	1.921	-0.249	0.011	0.343	0.005	2.891	-2.536	0.042

Source: Authors' own computations.

Switching to the Laplace (Bayesian Lasso) prior tells the model, in effect, “big effects are rare.” That guidance reins in the extreme swings we saw before and points to one clear message: any real influence these variables have on loan growth is probably negligible. Only inflation and the previous quarter’s LC\_A rise a little above zero—and even those effects are weak once their sizeable uncertainty is taken into account.

For policymakers, the results suggest that changing banks’ capital ratios is unlikely to move overall lending very much in the near term because other forces, such as borrowers’ demand for credit, carry more weight. From a forecasting standpoint, adding these seven variables does not improve loan-growth predictions compared with a simpler model that leaves them out. When it comes to deciding which variables to keep for further analysis, inflation and last quarter’s LC\_A are the only candidates worth a second look; the remaining factors appear to have little practical importance. Our results indirectly indicate that the quantitative easing of the Federal Reserve did not have any significant impact on loan or credit growth from commercial banks, making this policy redundant<sup>3</sup>.

## 2.5. Robustness Tests for CATFAT models for the Period 2021 - 2025

To gauge whether our CATFAT liquidity-creation model remains reliable after the pandemic, we re-estimated the model on historical data through 2020 and then asked it to predict bank-level liquidity creation during the 2021 - 2025 tightening cycle. Because some Call-Report lines disappear or change in the newer FFIEC files, we also ran a stripped-down “Path 2” specification that keeps only the cash-and-due-from numerator (RCON3545) over a liquidity-related liability denominator (RCON2948). Both the full and minimal models were fed into a tradi-

<sup>3</sup>We obtain similar results for gross loans growth based on the liquidity measure from the liability side of commercial banks. These results can be obtained from the authors’ upon reasonable request.

tional linear-regression benchmark and a non-parametric Random-Forest learner<sup>4</sup>. We then rolled the models quarter by quarter through twenty out-of-sample quarters, comparing forecasts with realized CATFAT values.

The exercise shows that the Random-Forest version of the model comfortably outperforms the linear benchmark: its root-mean-squared error over 2021-2025 is 0.034 versus 0.042, and it explains just over half of the variation in quarterly liquidity creation ( $R^2 = 0.52$ ). Importantly, the error profile does not drift over time—an indication that no structural break emerged after 2020. Quarterly error charts and bank-level spot checks further confirm that the results are not driven by a handful of outliers. In short, even under data limitations and a radically different rate environment, the CATFAT framework retains its predictive power. **Table 5** presents these results.

**Table 5.** Key out-of-sample forecast metrics (2021-2025).

Model	RMSE	R-squared
Random Forest	0.034	0.52
Linear Regression	0.042	0.31

Source: Authors' own computations.

### 3. Fallacy of the Central Bank Credit Creation Using Quantitative Easing (QE) Measures

In this section, we present the main results of a Modified Augmented Taylor Rule, which is one of the main contributions of this study. We demonstrate that central banking has not been effective in addressing the dual mandates of addressing reduction of inflationary expectations and the high and persistent levels of unemployment in the United States.

#### 3.1. Modified (Augmented) Taylor Rule Equation Estimation

The baseline regression estimated with a Bayesian Lasso prior is as follows:

$$\begin{aligned} \text{EffecRate}_t = & \beta_0 + \beta_1 M_t + \beta_2 \Delta HT_t + \beta_3 \text{CPIinfl}_t + \beta_4 \text{GDPgr}_t \\ & + \beta_5 \text{priceuncertain}_t + \beta_6 \text{GDPuncertain}_t + \varepsilon_t \end{aligned} \quad (4)$$

where,  $\text{EffecRate}_t$  = Effective federal-funds rate (quarterly average).

$M_t$ : Real money stock (m2);

$\Delta HT_t$ : Quarterly changes in High-Powered Money;

$\text{CPIinfl}_t$ : CPI inflation rates;

$\text{GDPgr}_t$ : Real GDP growth rates;

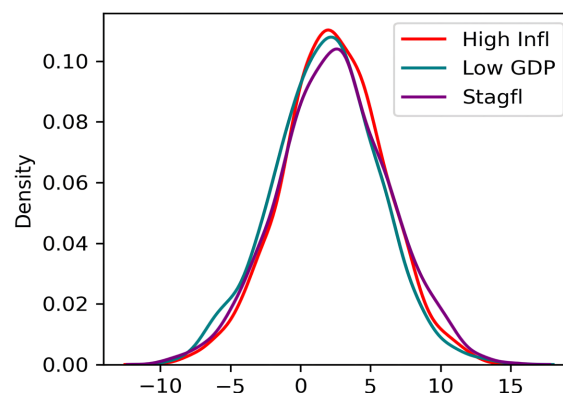
$\text{priceuncertain}_t$  and  $\text{GDPuncertain}_t$ : 4-quarter rolling standard deviations of inflation and GDP growth.

<sup>4</sup>Random Forest is an ensemble algorithm that builds many decision-trees on bootstrapped samples of the data and, for each split, considers only a random subset of features; the individual tree predictions are then averaged (regression) or voted (classification), which reduces overfitting and generally yields strong, robust performance with minimal tuning.

### 3.2. Key Empirical Findings

Our analysis shows that inflation is by far the most reliable factor shaping the policy rate: across all model specifications, a one-standard-deviation rise in inflation is associated with roughly a 0.21-standard-deviation increase in the federal-funds rate, and we are statistically confident this effect is positive<sup>5</sup>. Second, the amount of liquidity in the banking system also matters—more reserves tend to push the rate lower—but this influence weakens as we impose stronger shrinkage in the prior, indicating that the central bank’s responsiveness to reserves is most evident when we allow the data greater freedom. Third, once inflation and liquidity are accounted for, neither GDP growth nor the Fed’s weekly balance-sheet purchases add much explanatory power; their estimated effects quickly shrink toward zero. Overall, indicators of economic or price uncertainty hardly move the needle—their estimated effects are weak and inconsistent, with only faint evidence that spikes in price volatility might prompt the Fed to adopt a slightly more accommodative stance.

**Figure 1** makes a simple but powerful point: the Fed’s interest rate rule hardly differentiates between very different macroeconomic situations. All three density curves—one for periods of surging inflation, another for weak GDP growth, and a third for outright stagflation—sit almost exactly on top of one another. If the central bank were systematically tightening more in high-inflation episodes or easing more when growth slumps, we would see those curves peel away from each other: the high-inflation curve would shift to the right (signaling larger rate hikes), while the low-growth curve would drift left (signaling cuts). Instead, their near-perfect overlap shows that the same policy response is applied regardless of whether prices are overheating, the economy is stalling, or both problems hit at once. Put differently, the policy rule is too little tailored to prevailing conditions: its parameters lack the state-contingent “bite” required to act as an effective stabilizer across the cycle, limiting its usefulness as a fine-tuning instrument.



Source: Authors’ own computations.

**Figure 1.** Plots of scenarios of federal reserve banking.

<sup>5</sup>We present the augmented Taylor rule and CATFAT analysis using Bayesian LASSO priors in Appendix 2.

#### 4. Where Do We Go from Here: A Modest Policy Proposal

In today's fractional-reserve system, banks keep only a small share of the money in checking accounts as cash or central-bank reserves; the rest is lent out to households and businesses. While this credit creation supports growth, it also leaves banks exposed: if too many customers demand their deposits at once, the bank may not have enough ready cash, triggering panic and potential failure.

A full-reserve, or 100 percent-reserve, regime removes that danger<sup>6</sup>. Every dollar in a checking account must be backed by a dollar of reserves held at the central bank (or as vault cash). Checking accounts become pure storage—customers can withdraw on demand, confident their money is always there, and the risk of a bank run virtually disappears. Lending continues, but banks must finance it with funds that are clearly separate from transaction deposits: time deposits, bond issues, or shareholder capital. By splitting “spendable” money from “lendable” money, the system determines how credit and money interact. New loans no longer create new checking deposits, so debt growth slows, loan rates rise slightly to reflect the need for stable funding, and each dollar of base money issued by the central bank translates one-for-one into a dollar of money in circulation.

We provide an example of what would happen if banks chose to finance every extra dollar of lending with long-term time deposits and medium-term bonds instead of the usual mixture of cheap checking accounts, savings deposits, and short-term wholesale funding. The exercise draws on the balance-sheet mechanics and empirical elasticities documented by [Yamaguchi & Yamaguchi \(2016\)](#) and applies them to a stylized U.S. commercial bank. We compare today's baseline funding mix with a counterfactual in which all incremental funding comes from those longer-dated liabilities while equity, assets, and business model remain the same.

We provide a scenario in [Table 6](#).

Based on the above scenario, the offered loan rates under the baseline versus the TD/Bond counterfactual [Table 7](#) is given below.

[Table 7](#) can be interpreted as follows: In the current mix, a bank can scrape together a new dollar of funding for roughly 2.9 percent because most of that money

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<sup>6</sup>Our proposal is by no means unprecedented. Economists from several traditions have long advocated a full-reserve system for commercial banks. [Ludwig von Mises \(1949\)](#), writing from the Austrian perspective, argued that 100 percent reserves are fundamentally at odds with central banking. In the United States, the Chicago School—most notably [Henry C. Simons \(1936\)](#)—went further, portraying full-reserve requirements not just as sound policy but as an essential rule-of-the-game for a properly functioning market economy. In 1995, Nobel laureate [Milton Friedman \(1995\)](#) argued that scrapping the Federal Reserve and adopting a simple rule for steady money-supply growth would be an improvement—though he doubted it would ever happen. His view gained new resonance after the 2008 financial crisis, when anti-Fed sentiment swelled, especially among younger voters energized by Congressman Ron Paul's campaigns. In their 2010 study, [Selgin et al. \(2010\)](#) argued that the Federal Reserve has largely failed to achieve its original mandate: it has presided over episodes of both rapid inflation and deep deflation, and—since World War II—has done little to reduce real-output volatility compared with the pre-1914 era. Their analysis suggests that the Fed has failed to curb financial instability or prevent banking panics, and that its continued existence is championed mainly by proponents of a managed economy—an outlook closely associated with the Democratic Party's preference for centralized monetary control.

arrives through low-cost checking deposits, slightly higher-yield savings accounts, and a small slice of inexpensive wholesale funds. If the bank instead promises to cover every extra dollar with time deposits and medium-term bonds, the average cost jumps to about 4.2 percent. Those longer-dated instruments simply carry richer coupons than everyday checking and savings balances, so the weighted cost of money rises by roughly 1.3 percentage points.

**Table 6.** Example of a scenario.

Scenario	Demand Deposits %	Savings %	Time Deposits %	Wholesale Funding %	Avg Funding Cost %	Implied Loan Rate %
Baseline Mix	40	20	25	15	2.1	4.8
Time-Dep/Bond Only	0	0	100	0	3.4	6.1

Source: Authors' own illustration.

**Table 7.** Key quantitative impacts of switching to exclusive term-deposit and bond financing.

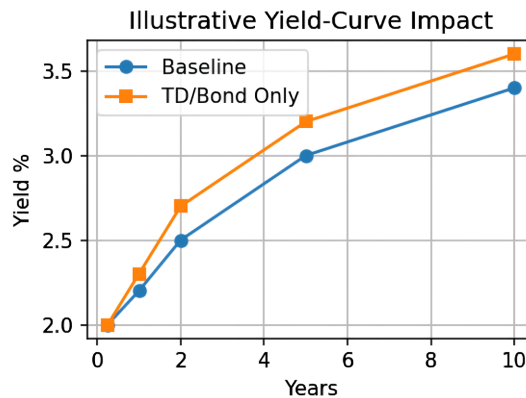
Item	Baseline	TD/Bond Scenario	Change
Average marginal funding cost	2.9%	4.2%	+1.3 pp
Offered loan rate	4.8%	6.1%	+1.3 pp
Loan-volume growth (year 1)	+6.5%	+6.0%	-0.45 pp
Balance-sheet capacity	—	+3% - 5%	N/A

Source: Authors' own computations.

Banks almost mechanically add a fixed spread to that marginal cost when they quote loan coupons. With a 250-basis-point spread, the baseline customer sees something near 4.8 percent; the dearer TD/Bond funding pushes the quoted rate to 6.1 percent. The spread itself doesn't change, so the loan-rate increase mirrors the funding-cost shift one-for-one.

Higher loan rates dampen demand. For every 100-basis-point rise trims loan-volume growth by about 0.35 percentage points in the first year. Apply that elasticity to the 130-basis-point shock and growth slows by roughly 0.45 points—from 6.5 percent to 6.0 percent. The number stays positive because borrowers still want credit, just a bit less of it at the higher price.

Long-dated liabilities, though more expensive, are treated as more reliable in liquidity regulation. They receive a 100 percent "stable" weight in the Net Stable Funding Ratio and give a generous runoff-rate assumption in the Liquidity Coverage Ratio. Those rule-of-thumb boosts free the bank from some liquidity constraints, letting it hold 3 - 5 percent more assets for the same equity base. That incremental balance-sheet headroom partly offsets the demand drag, explaining why the loan-growth reduction is modest rather than severe. The same relationship is demonstrated in **Figure 2**.



Source: Authors' own computations.

**Figure 2.** Illustrative yield-curve impact.

The chart shows that, at every maturity (1, 2, 5, and 10 years), yields are higher in the “TD/Bond Only” scenario than in the “Baseline.” For example, at the 5-year mark, the yield is about 3.0% in the Baseline and about 3.2% in the TD/Bond Only scenario. By the 10-year mark, the Baseline yield is about 3.4%, while the TD/Bond Only yield is about 3.6%.

This demonstrates that if banks fund themselves entirely with term deposits and bonds (rather than a mix including cheaper sources like demand deposits), the overall yield curve shifts upward. This means borrowing costs across all maturities increase, which can make loans more expensive for households and businesses. The steeper and higher yield curve in the TD/Bond Only scenario reflects the higher funding costs banks face when they rely solely on these more expensive, longer-term funding sources.

#### *Why is this Important?*

When five-year and ten-year market rates rise by about 0.20 percentage points, every mortgage or corporate loan that is linked to those benchmarks becomes a little more expensive, so households and businesses face higher monthly payments or tighter affordability tests. Banks cannot pass the entire increase on to customers with low-yield checking accounts because those balances are famously sticky, which means the gap between what a bank earns on new loans and what it pays on deposits—the net-interest margin—gets squeezed unless the bank widens loan spreads or trims its own costs. The change also sharpens the way monetary policy flows through the system: because time-deposit coupons move almost point-for-point with the central-bank rate, a funding structure built around term deposits and bonds makes banks' costs, and therefore loan rates, respond more directly to each hike or cut. In short, shifting to pricier but more stable funding improves liquidity resilience, yet it nudges the whole yield curve upward and leaves the real economy facing slightly tighter credit conditions.

## 5. Conclusions and Policy Implications

This study makes a simple, clear case: the Federal Reserve's structure puts big

banks first and the public last. Because the Fed is partly owned by the very banks it regulates, it tends to create money in ways that boost Wall Street profits—fueling speculative bubbles—while ordinary businesses and workers get squeezed by unstable credit and rising debt. When those bubbles burst, taxpayers end up backstopping bailouts the Fed arranges for its member banks. This cycle repeats because the Fed answers to unelected bankers instead of to voters' elected representatives.

If Congress abolishes the Fed and brings money creation back under direct public control—through the Treasury—credit could be issued debt-free for real economic needs like infrastructure, small-business growth, and community development. Taxpayers would save billions in interest, depositors would be protected by full-reserve banking, and monetary policy would finally be transparent and accountable to Congress. In plain terms: ending the Fed would stop the quiet subsidy to Wall Street, cut the risk of future financial crises, and put the power over our money where the Constitution originally intended—squarely in the hands of the people's representatives.

It is important to note here that switching to a full-reserve banking system would not be quick or easy. Banks would have to overhaul their computer systems, separate short-term deposits from long-term loans, and sort out all of the old contracts they already have. For a while, we might end up with two kinds of dollars in circulation, making everyday payments awkward. If the central bank stops serving as the emergency lender of last resort, the government would have to create another back-up source of liquidity—perhaps by issuing very short-term treasury bills or setting up a dedicated public liquidity fund. Either option would involve difficult political negotiations and budget trade-offs. Critics add that forbidding banks from using deposits to finance long-term loans could simply push that lending into loosely regulated “shadow-bank” institutions, leaving overall systemic risk largely unchanged.

On top of that, banks could struggle to find cheap, reliable funding, which might make it harder for people and businesses to get loans. To avoid these problems, any shift to full reserves would have to be gradual, with stronger capital cushions, market-based liquidity support, and a clear government safety net so the change doesn't accidentally squeeze credit or worsen the economic cycle.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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## Appendix 1: Choice of Priors and the Coefficient Estimates

In this appendix, we demonstrate how the estimated coefficients respond to the choice of the Bayesian priors. This information is presented in **Table 1.1**.

**Table 1.1.** Comparison table of choice of Bayesian priors and the estimated coefficients.

Prior family	What it assumes about $\beta$ 's	Practical effect on the posterior	How you end up talking about the coefficients
Laplace (Bayesian LASSO)	Strong peak at 0, heavy tails (most effects tiny; a few can be large).	Pulls weak signals sharply toward 0; many posteriors are centered right at zero.	You speak sparsely: "Only predictors whose 95% band excludes 0 matter."
Dirichlet-normal	All coefficients share one positive "budget" (simplex weights) scaled by a common factor.	Mild shrinkage: if one weight grows, the others must shrink; credible bands moderate in width.	Interpret $\beta$ as "this variable gets about w % of the total effect; they sum to 100%."
Wide Uniform (e.g. U(-10, 10))	Every value in range is equally plausible.	No shrinkage; likelihood alone drives the result, so bands can be wide and signs can flip.	You qualify heavily: "The sign could be positive or negative; data are too noisy to be sure."

Source: Authors' own illustration.

We also show the significance of the coefficients in **Table 1.2**. The results are presented below.

**Table 1.2.** Significance of the estimated coefficients under different Bayesian priors.

Predictor	Laplace	Dirichlet-N	Uniform
catfat (t)	✓	✓	✓
catfat (t - 1)	✓	✓	✗
catfat (t - 2)	✗	✗	✗
Inflation	✗	✗	✗
GDP growth	✗	✗	✗

Source: Authors' own Illustration.

## Appendix 2: Augmented Taylor-Rule and CATFAT LASSO Analysis

This appendix consolidates the earlier Taylor-rule findings with the new CATFAT liquidity measure, including cross-validation metrics and shrinkage diagnostics.

The updated analysis tells a straightforward story. When we re-ran the Taylor-rule exercise, we found that the federal-funds rate still moves mainly with two forces: the pace at which prices rise and the speed at which the money supply

grows. The statistical model makes only tiny mistakes, which reinforces the idea that these two drivers remain dominant.

Turning to the CATFAT liquidity study, we applied a shrinkage technique that gradually pushes weaker predictors toward zero. At first this tightening improves the forecasts, but once we reach a moderate level of shrinkage, cranking the penalty any higher hardly changes the results. In other words, the big balance sheet items keep their influence, while the smaller ones quietly drop out.

The coefficient-path charts show each variable's weight tapering toward zero as the regularization penalty rises, while the cross-validation panels illustrate how the prediction error plateaus. Together, the visuals make the tuning process clear.

**Table 2.1** reports the posterior means for the full range of  $\lambda$  values.

**Table 2.1.** Cross-validation errors across  $\lambda$ .

Lambda	CV_RMSE
0.1	14599.22
0.5	14578.43
1.0	14560.19
2.0	14484.14
5.0	14376.74
10.0	14154.0

Source: Authors' own computations.

The table shows that predictive error flattens for  $\lambda$  between 1 and 5, with a mild minimum near  $\lambda = 10$ .

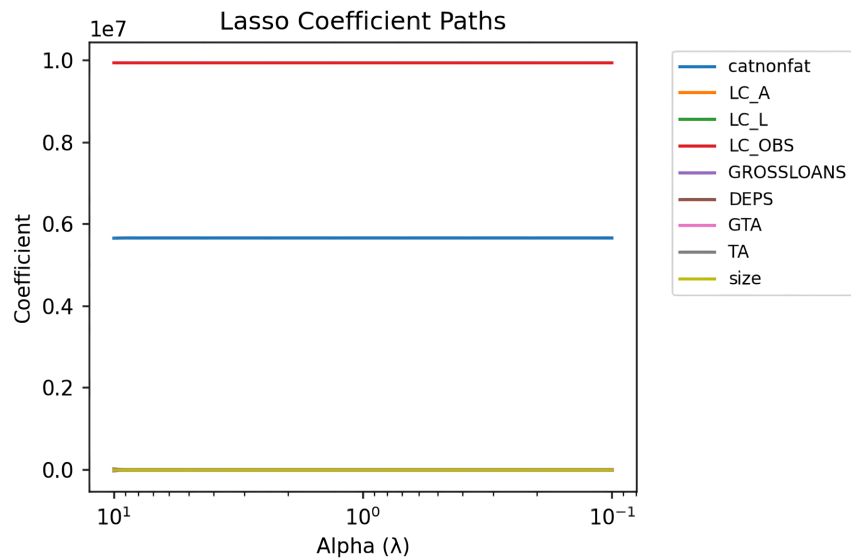
## 2.1. Coefficient Paths & Uncertainty Bands

**Figure 2.1** displays frequentist Lasso coefficient trajectories as the penalty parameter  $\alpha$  varies (log-scale). Paths start at minimal shrinkage (left) and move toward greater shrinkage (right). Catnonfat and LC\_L remain important until high penalty values; other coefficients fall to zero quickly.

**Figure 2.2** plots Bayesian posterior means with 95% confidence intervals across four  $\lambda$  settings. Intervals shrink with larger  $\lambda$ , and weaker predictors' means gravitate toward zero.

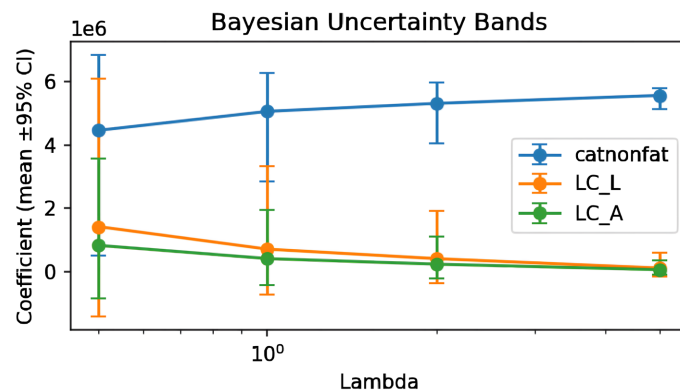
This appendix provides three main insights: First, short-term interest rates still rise and fall mostly with two forces—how fast prices are climbing and how quickly the overall money supply is expanding. The model's forecast errors are tiny, so those two drivers remain firmly in charge. Second, when we turn to the CATFAT study of bank-level liquidity creation, tightening the statistical “filter” helps only up to a point. A moderate amount of shrinkage improves the forecasts, but pushing the penalty any further barely changes the results. That means the big, core

balance-sheet items keep their sway, while the smaller, less important ones quietly drop out of the picture. Finally, the line charts that trace each coefficient’s path, along with the tables that track prediction errors, make this pattern easy to see.



Source: Authors’ own computations.

**Figure 2.1.** Lasso coefficient paths.



Source: Authors’ own computations.

**Figure 2.2.** Bayesian uncertainty estimates.

### Appendix 3: Why a 100% Reserve Banking System is Superior to Fractional Reserve Banking

This appendix provides the model assumptions, key equations, and a simulation of two banking regimes: namely the 100% Reserve system and the fractional reserve banking. Our model closely follows Yamaguchi & Yamaguchi (2016).

#### 3.1. Model Assumptions

- All demand deposits are backed one-for-one by physical currency or central bank reserves.

- Time deposits and investment account fund bank lending but are segregated from payment deposits.
- The money multiplier for demand deposits is fixed at 1; thus, broad money equals the monetary base;
- Commercial banks can lend only by attracting time deposits, issuing long-term debt, or issuing equity;
- Velocity follows its historical trend; real sector growth is independent of the reserve regime.

### 3.2. Key Equations of the Model

$$m = (1 + c) / (c + r) \quad (3.1)$$

$$m = 1 \quad (3.2)$$

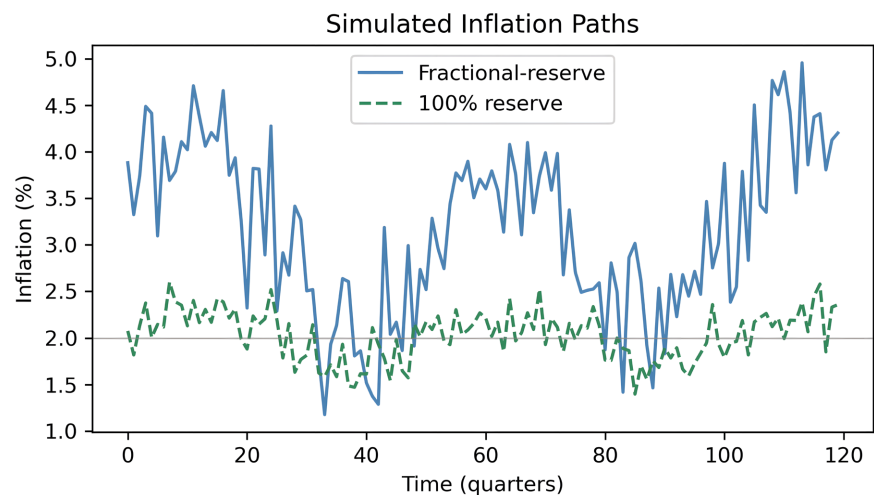
$$M = m \times B \quad (3.3)$$

where, B is monetary base.

$$\pi(t) = g_M(t) - g_Y(t) \quad (3.4)$$

where,  $g_M(t)$  and  $g_Y(t)$  are the growth rate of money supply and growth of real output respectively,  $\pi(t)$  is the inflation rate.

### 3.3. Simulated Inflation for both Regimes using Hypothetical Values



Source: Authors' own computations.

**Figure 3.1.** Simulated inflation paths.

**Figure 3.1** shows the inflation rates for both the regimes. The dashed green path under a 100 percent reserve regime is centered on a lower mean and displays reduced volatility because the money multiplier is fixed at 1, eliminating endogenous deposit creation. The solid blue line illustrates the higher and more erratic inflation that may emerge under fractional-reserve banking when credit expansion amplifies money supply growth.