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Markets and Volatile Monetary Policy: Empirical Lessons from Banking Instability

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Volatile monetary policy meaningfully contributed to the distress at the Silicon Valley Bank (SVB), and in the financial system more broadly. Yet, the impact of monetary policy on the banking system was shockingly absent from Fed's "Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank (SVB)."[1]

Extension of the monetary misdiagnosis over the last several months explains the recent lift in the stock market – at a time when growth and inflation are slowing. It also offers a solution for officials and an opportunity for investors to profit.

At the Center for Financial Stability (CFS), we see the world through monetary goggles – not at the exclusion of other variables, but from a different perspective.[2] Quite frankly, we were very right for months and through cycles in real time since 2020 and before.[3] Hence, we document select reports in the paper, but include a more comprehensive set of references in Appendix 1.

Key issues and **CFS differences** include:

- The Fed's misdiagnosis of inflation was without doubt a major driver behind 1) the rapid deposit growth and then depletion at SVB as well as 2) swings in the value of SVB's Treasury bond holdings beginning in 2022. **In advance, I clearly stated and warned in *The Wall Street Journal* how and why Treasury yields would rise and a soaring stock market would reverse – using money supply, economic, and fiscal metrics.**[4]

- **After the Federal Open Market Committee (FOMC) press conference on March 17, 2021 and over a month before Fed officials first used the word "transitory," we noted**

With thanks to Sheila Bair, William A. Barnett, John D. Feldmann, Charles Goodhart, Randal K. Quarles, Kurt Schuler, and Yubo Wang for comments. The views expressed are those of the author.

[1] *Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank,* Board of Governors of the Federal Reserve System, April 28, 2023.
[2] We are mindful of the proverb that "those who live in glass houses should not throw stones." Hence, we are documenting how and why we saw the post-Covid world differently. These differences are essential for officials to design a stronger and safer system that also more actively promotes growth as well as profit-seeking investors.
[3] For months, CFS was clear about underlying dynamics (see Appendix 1) and a separate advisory business wrote actively about investment implications and opportunities.
[4] Lawrence Goodman, "How the Fed Rigs the Bond Market," *The Wall Street Journal,* November 18, 2021.

how the Fed would "run it hot" and "the lift of inflation would be greeted almost enthusiastically and it is simply a 'transitory effect.'" The first use of the word "transitory" was over a month later – at the next FOMC meeting on April 28, 2021.[5]

- By April 2021, money supply measures clearly indicated the need for a tighter policy stance. **A "data-dependent" Fed would have changed its rhetoric and characterization of risks in April 2021 and reduced the size of its balance sheet expansion by the summer of 2021.**

- The fortunes of both SVB and the ARKK Innovation Exchange Traded Fund's (ETF)[6] were tethered to Fed monetary policy with roughly a one-year lag. SVB deposit outflows were hence to be expected. SVB was the ARKK Fund of banks.

- **Lack of a consistent "data-dependent" stance by the Fed in February 2023 likely accelerated Treasury loses at SVB, after the Fed reacted in less than one month to faulty January data. In contrast, the Fed's "data-dependent" reaction function exceeded eight months in 2021.**

Crucially, the addition of better data and analytics – such as CFS Divisia money supply measures – would limit monetary policy volatility. It would also help develop a more reliable and accountable data-dependent framework for policy and facilitate clearer communication with the public.

For additional background, please see "A Story of Money, Inflation, and the CFS," published on June 6, 2023.[7]

Case study: The Markets, Fed, and Banking Instability

The Fed's assessment was overwhelmingly focused on regulatory and supervisory activities to the exclusion of its own market-driving policies that caught SVB by surprise. Here, the words of one-time Harvard professor and economic advisor to president John F. Kennedy, John Kenneth Galbraith, are clear and compelling:

> ***"Regulation and more orthodox economic knowledge are not what protect the individual or financial institution when euphoria returns. … There is protection only in a clear perception of the characteristics common to these flights."***[8]

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[5] Lawrence Goodman, "Powell confirms view…," Globalecon LLC, March 17, 2021.
[6] ARKK is an actively managed Exchange Traded Fund (ETF) that seeks long-term growth of capital by investing under normal circumstances primarily (at least 65% of its assets) in domestic and foreign equity securities of companies that are relevant to the Fund's investment theme of disruptive innovation… or a high Beta investment vehicle tethered to technology.
[7] Lawrence Goodman, "A Story of Money, Inflation, and the CFS," Center for Financial Stability, June 6, 2023.
[8] John Kenneth Galbraith, *A Short History of Financial Euphoria,* Penguin Books, 1990.

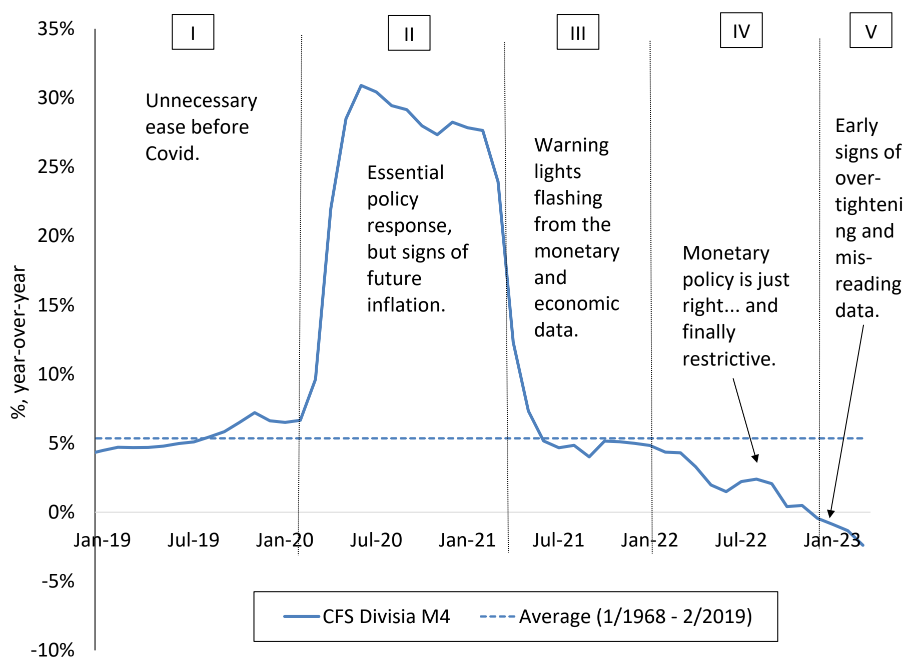
Money and credit are often the characteristics most common to these flights, financial imbalances, and speculative behavior.

The Cost of Monetary Misdiagnosis and Inflation

Volatile monetary policy[9] and macro misdiagnoses contributed to the rebirth of inflation in the United States. The Fed waited eight months too long to respond to clear price pressures. Consumer price inflation hit a stunning 9.1% on a year-to-year basis – a level not seen in 42 years. SVB's balance sheet ballooned in sympathy with the Fed's super-easy monetary stance.

Monetary measures provided clear evidence of Fed misdiagnosis and the need for a tightened policy stance in April 2021 (see Figure 1). Most importantly, CFS Divisia monetary and financial indicators, along with traditional inflation measures, provided essential data for the Fed to pursue an alternative policy path.[10,11] Evidence and data triggers were all knowable and available for officials and market participants. At the time, CFS was clear about underlying dynamics (see Appendix 1) and a separate advisory business wrote actively about investment implications and opportunities.

Figure 1. The Rise and Fall of Inflation: Five Phases



Source: Center for Financial Stability

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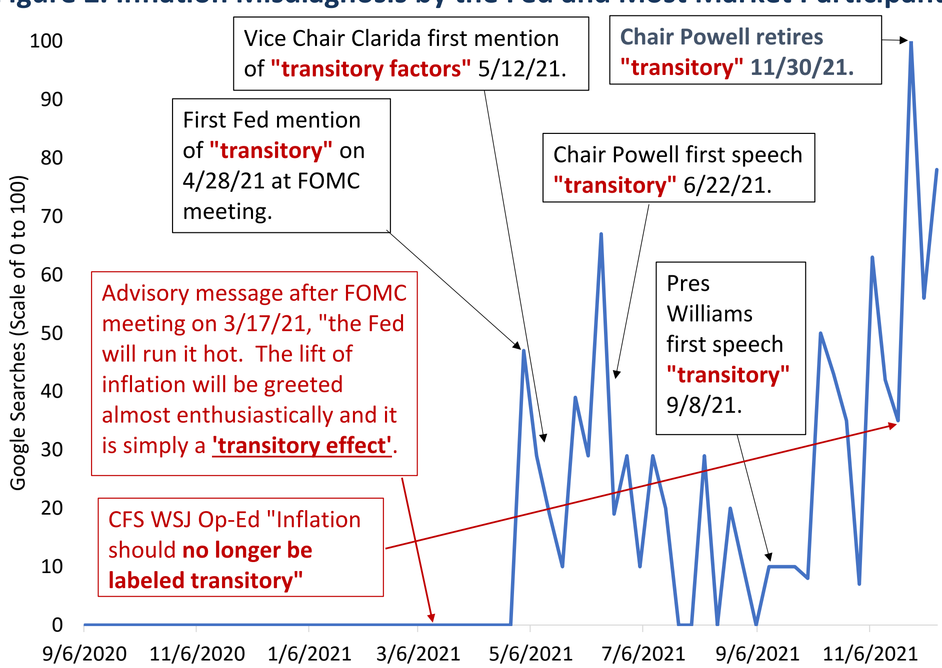
[9] Sheila Bair, "The Fed must Emulate the Tactics of Volcker's Fight against Inflation," *Financial Times,* July 22, 2022.
[10] William A. Barnett, *Getting It Wrong: How Faulty Monetary Statistics Undermine the Fed, the Financial System, and the Economy,* MIT Press, 2012.
[11] See Advances in Monetary and Financial Measurement, https://centerforfinancialstability.org/amfm_data.php.

In the early post-pandemic period, the sizable liquidity infusion that the Fed provided was essential to prevent a dangerous freeze in the financial system (see Zone II in Figure 1). However, policy was far too loose for far too long. For instance, CFS Divisia M4 growth exceeded 30% year-over-year — roughly three times the peak monetary growth in the 1970s before the Volcker Fed needed to slam the brakes on inflation. Starting in March 2020, CFS Divisia M4 expanded by over 10% for 25 consecutive months. **Inflation was inevitable.**

The Fed ignored or dismissed other key signals of trouble (see Figure 2). By April 2021, CFS Divisia M4 was still growing by 23% year-over-year, while monthly gains exceeded a 0.5% threshold by over three times. Policy was extremely loose. Even the most common inflation measures were high. The consumer price index (CPI), personal consumption expenditure (PCE), and personal consumption expenditure excluding food and energy (core PCE) were all at least 100 basis points over the Fed's target of 2%.

<u>**In April 2021, a data-dependent Fed would have acted by altering its rhetoric and characterization of risks. By the summer of 2021, a data-dependent FOMC would have started to reduce the size of the Fed's balance sheet.**</u>

Figure 2. Inflation Misdiagnosis by the Fed and Most Market Participants



Source: Google Analytics and Globalecon LLC.

Policy and forecasting errors were costly – not only for banks such as the SVB, but for the U.S. economy. Inflation, peaking at over four times the Fed's 2% target, ultimately added to the fiscal burden of bank and depositor bailouts as well as to the uneven impact on lower-income populations.[12]

The SVB Story: The ARKK Fund of Banks

SVB was the ARKK Innovation Exchange Traded Fund (ETF)[13] of banks. Both SVB and the ARKK fund's fortunes were tethered to Fed monetary policy.[14, 15] The share price of the ARKK fund increased from $34.69 to $156.58, or nearly five-fold, between March 2020 and February 2021.

SVB deposits followed a similar pattern with a lag of roughly one year, as earnings and available funds in tech companies accumulated over time and deposits at SVB increased in tandem (see Figure 3).[16] After the price of the ARKK fund retreated to below $40, the liquidity in disruptive and highly innovative tech firms diminished with the need to meet payroll and fixed expenses. **Hence, SVB's deposit outflow was a natural consequence.**

Figure 3. SVB and the ARKK Fund: Similar Risk Dynamics

> **Advisory Message – 3/17/21** [13]
>
> *"Chair Powell confirms view...the Fed will run it hot. The lift of inflation will be greeted almost enthusiastically and it is simply a 'transitory effect.'"*
>
> *"Tech stocks are going to get shelled…especially the ARKK fund. The big trigger will be inflation and inflation expectations. For now, expectations have caught up with the actual. But this will change in coming months."*

Source: Bloomberg L.P. and Center for Financial Stability.

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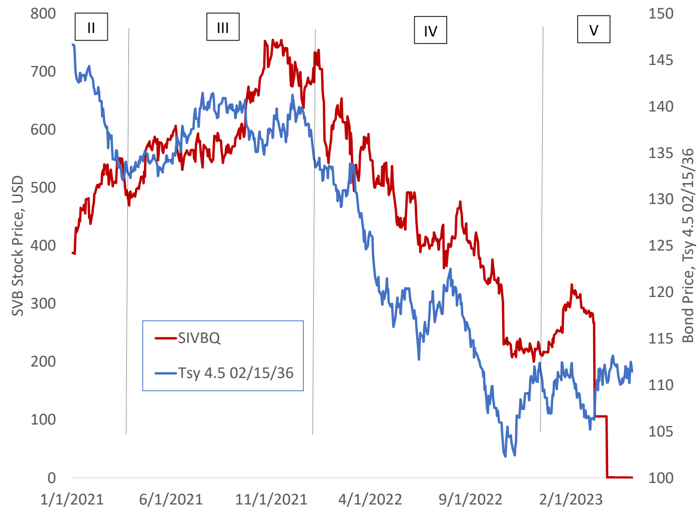
[12] Robert Hormats and Yves-André Istel, "Inequality Perils from Lower Interest Rates," Center for Financial Stability, December 16, 2019.
[13] ARKK is an actively managed ETF that seeks long-term growth of capital by investing under normal circumstances at least 65% of its assets in equity securities of companies relevant to the Fund's investment theme of disruptive innovation. It is a high-beta investment vehicle tethered to technology.
[14] Sheila Bair, "US Regulators Are Setting a Dangerous Precedent on Silicon Valley Bank," *Financial Times,* March 14, 2023.
[15] Lawrence Goodman, "Powell confirms view…," Globalecon LLC, March 17, 2021.
[16] This lag is roughly consistent with the lag between CFS Divisia M4 and the real economy.

Similarly, Treasury holdings on the asset side of the SVB balance sheet suffered from a 30-point drop in bond prices. SVB's stock price fell in sympathy with the bond market (Figure 4).

Figure 4. US Treasury Bond and Silicon Valley Bank Stock (SIVBQ) Prices



Source: Bloomberg L.P. and Center for Financial Stability.

Accelerated Treasury Bond Loses at SVB: Lack of True "Data Dependence"

SVB's losses on its Treasury holdings and a corresponding flight of deposits likely accelerated dramatically beginning shortly after February 2, 2023 and extending to March 8, 2023 – due to two dangerous **analytic** and **policy process** errors.

In other words, the Fed did not act in a data-dependent and consistent fashion.

Analytics: The Fed and many market participants overestimated the strength of the economy and the stubbornness of inflation due to faulty January data released in February. They neglected the impact of weather on backward-looking seasonal adjustment factors.[17] For instance, the month of January was the sixth warmest since 1895. Likewise, snowfalls were far below average snowfall in the southern Plains to the Mid-Atlantic and Northeast and along parts of the West Coast.[18] And more timely shelter estimates might have pushed January inflation from the reported 6.4% on a year-to- year basis to a much lower 6.0%.

Policy Process: The Fed's policy response in February 2023 was rapid and unnecessarily hasty. The Fed reacted swiftly and shifted its rhetoric on the basis of only one month of data. This was especially troubling and ironic, as the Fed waited over eight long months to respond to inflation, macro, and monetary data before policy tightening in early 2022.

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[17] Lawrence Goodman, "Market Impact of Faulty Jan Data," Globalecon LLC, February 24, 2023.
[18] National Centers for Environmental Information and National Oceanic and Atmospheric Administration.

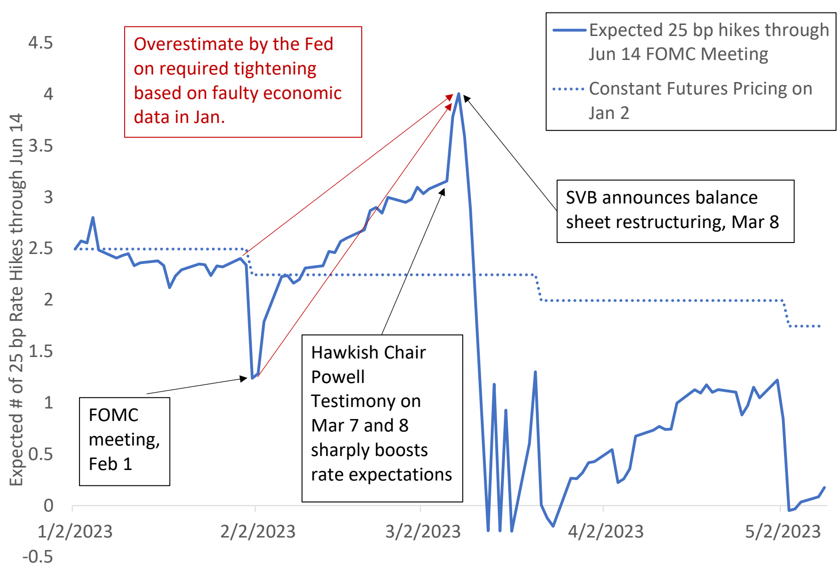
A truly data-dependent stance based on analytics and policy process would have urged caution. The Fed must better define "data-dependent." Following the analytics and policy process we have just suggested would be a good start.

Alternative View of February Data and Policy – Due to CFS Money Supply Measures

Chair Powell's testimony before Congress on March 7 – based on an inaccurate read of faulty data – sharply boosted interest rate expectations and losses at SVB.[19,20] Worse, testimony the following day to the Senate doubled down on the hawkish tone with one month's worth of data.[21]

Notably, we doubted and even opposed the Fed and market's readings of the January data, based on many quantitative measures.[22] CFS Divisia monetary and financial measures were at the top of the list. CFS Divisia M4 released on January 31 declined by the 0.9% year-over-year, the 14th largest decline on record since 1968. In contrast, data in the immediate aftermath of the Volcker policy shift on October 6, 1979 registered only the 19th biggest historic decline. **The economy and inflation were slowing, not accelerating.**

Figure 5. Sharp Shift in Fed Rate Expectations Based on Faulty Data Likely Accelerated SVB Treasury Losses



Source: Bloomberg L.P. and Center for Financial Stability.

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[19] Craig Torres and Catarina Saraiva, "Powell Sees Higher Peak for Interest Rates, Says Fed Prepared to Speed Up If Needed," Bloomberg, March 7, 2023.
[20] Isabelle Lee and Jessica Menton, "Wall Street Fears Big Fed Rate Hike After Powell 'Came Out Swinging'," Bloomberg, March 7, 2023.
[21] Vivien Lou Chen and Jamie Chisholm, "Two-year Treasury yield jumps further above 5% after second day of testimony by Fed's Powell," Bond Report, MarketWatch, March 8, 2023.
[22] Lawrence Goodman, "Expect Reversal of Flawed Read on Payrolls Report," Globalecon LLC, February 11, 2023.

CFS even published a paper on January 31, 2023 warning of implications from falling money supply. **The piece included clear language about plunging deposits in the U.S. banking system as well as a net reduction in liquidity despite the migration of funds from banks into money markets.** [23]

For SVB, other institutions, and investors, the financial and market impact was fierce in the aftermath of the FOMC meeting on February 1 and release of the January employment situation report on February 2 (see Figure 5). The closely watched change in nonfarm payrolls was initially reported as stunningly large gain of 517k jobs, versus an expectation of 189k.

A sharp increase in interest rate – based on an analytic misdiagnosis and rapid reaction by the Fed – triggered a steep slide in the value of SVB Treasury bond holdings. For instance, the expectation in futures markets was for the Federal Funds rate to rise by 25 basis points 1.25 times between February 2 and the June 14 FOMC meeting. Rate hike expectations shifted rapidly upwards in a near-linear fashion from just over one 25 basis point hike on February 2 to a full 4.0 hikes just before the run on deposits and SVB crisis occurred.

To be sure, SVB's bond portfolio suffered severe losses the month before SVB announced balance sheet restructuring.

The Upcoming FOMC Meeting and the Future

Ahead of the upcoming FOMC meeting, the Fed is dealing with another problem of its own creation. The stock market is elevated and the economy and inflation are on the descent.

The Fed should strive to neutralize the impact of excessively volatile liquidity - witnessed since early February this year. Here, the Fed injected $382 billion into the banking system after it misread January data, blinked, and contemplated a 50 basis point rate hike the day before SVB needed to restructure its balance sheet.

The optimal policy strategy would be for the Fed to pause, avoid the temptation to offer – often confusing and inaccurate – forward guidance, and base decisions on a truly data dependent framework.

Lessons and Conclusions

The Fed must now:

- **Begin to see the world through monetary goggles, not at the exclusion of other variables but in conjunction with them.**

[23] Lawrence Goodman, "Falling Money and the Fed," Center for Financial Stability, January 31, 2023.

- **Incorporate the impact of its own policy on financial institutions and markets in its policy and supervisory activities.**

- **Define the oft-used phrase "data-dependent" and then act in concert with data released over a defined period of time. Ideally, the definition of "data-dependent" would contain two main pillars: 1) analytics and 2) policy process.**

- **Learn from recent financial institution turmoil and bond market swings.**

Crucially, the addition of better data and analytics – such as CFS Divisia money supply measures – would limit monetary policy volatility. It would also help develop a more reliable and accountable data-dependent framework for policy and facilitate clearer communication with the public.

Appendix 1. Select CFS Publications on Money Supply and Policy

1/31/23 Falling Money and the Fed
CFS
Lawrence Goodman

7/22/22 The Fed must emulate the tactics of Volcker's fight against inflation
Financial Times
Sheila Bair

5/4/22 Why were the Fed's inflation forecasts so wrong? It's not just the pandemic and greed.
The Kansas City Star
William A. Barnett

11/18/21 Sales by 'vigilantes' used to serve as a warning of inflationary policies. The signal has been muted.
The Wall Street Journal
Lawrence Goodman

11/2/21 Two Measures for the Fed and Investors
CFS
Lawrence Goodman

8/8/21 Inflation was inevitable after the Fed fuelled monetary growth
The Financial Times
Lawrence Goodman

7/14/21 Now, Inflation is Clear and Global
CFS
Lawrence Goodman

6/4/21 New Money Growth and Inflation
CFS
Lawrence Goodman

5/5/21 Post-Pandemic Economic Risks
CFS
William A. Barnett

4/26/21 Inflation Fears Offers the Fed a Chance to Modernize with Money
CFS
Lawrence Goodman

Appendix 1. Select CFS Publications on Money Supply and Policy, Cont'd

2/4/21	Robinhood and GameStop: Essential Issues and Next Steps for Regulators and Investors CFS Lawrence Goodman, Steven Lofchie, Robin L. Lumsdaine, John D. Feldmann, Diane Glossman, Jack Malvey and Yubo Wang
8/14/20	After Coronavirus: Deflation or Inflation? CFS Charles Goodhart
6/30/20	Value Investing and Monetary Policy CFS Lawrence Goodman
4/22/20	CFS Money Growth Soars: Expect Deflation then Inflation CFS Lawrence Goodman
12/16/19	Inequality Perils from Lower Interest Rates CFS Robert Hormats and Yves-Andre Istel
11/25/19	The Monetary Policy Challenge CFS Jacques de Larosière
7/8/16	Why CFS Divisia Money Matters, Now! CFS Lawrence Goodman