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The New Monetary Policy: Is this the Appropriate One?

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ABSTRACT

The objective of this research is to measure the economic consequences and the social interest of the new Monetary Policy after 2008. We want to determine its effectiveness and efficiency, its social costs and social benefits, and to evaluate its optimality and its appropriateness. We are using different policy rules, by dividing in four different regimes the period 2008-2025, and a VAR model, to test the effectiveness and efficiency of monetary policy by testing the effects of policy instruments (i_{FF}, MB, M^s) on the objective variables, prices (CPI), unemployment (u), growth of GDP (RGDP), stock market (DJIA), and long-term interest rate (i_{10YTB}). By measuring the bail in cost on depositors and the bail out cost on taxpayers, we can have an indicator of its appropriateness and optimality of this policy. The empirical results show that the most of the public policy tools do not have a significant effect on the objective variables. The benefits, lately, are insignificant and the social cost enormous and the reason might be the incompetence or the corruption of the financial system or the control of the policy makers by foreign powers. They must know what the true objective of their policy is, but they cannot satisfy it, which is the maximization of the social welfare, the wellbeing in every sector in the lives of the citizens of the country. There is a need to fix all these dysfunctional institutions and improve our democratic system, but if not impossible, it is very difficult and too late. What their new liberal public policies have caused people is just uncertainty (financial market risk), inflation, divisions, an enormous social cost, and pessimism for the future.

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Introduction

An appropriate monetary regime is characterized by four properties: (i) the weight policy makers put on price stability relative to their concern about output stabilization, (ii) the day-to-day procedures used to implement policy, (iii) the periodic evaluation of the policy effectiveness, and (iv) the social implications of the monetary policy. This work deals with the four latest and current regimes implemented by the Federal Reserve since 2008 [1]. For the U.S., the first is the New Zero Interest Rate Regime (December 16, 2008-December 15, 2015) and then, the second again with zero interest rate from (March 15, 2020 to March 16, 2022); the third and fourth are the previous Positive Interest Rate regime (December 16, 2015 to March 14, 2020) and the current New Regime (March 17, 2022 -present) [2]. Each regime is an experiment that is associated with different policy objectives, different operating procedures, different statistical patterns in the data, different effectiveness, different social implications, but common "global end", which is suboptimal, non-preventable, and anti-social. (Sic).

The proper and suitable monetary policy must be effective, social and fair for the people that means ethical. Ethics (ἠθική = ἡ ἐπιστήμη ἡ ἐρευνῶσα τούς κανόνας τῆς διαγωγῆς τῶν ἐν τῇ κοινωνίᾳ συμβιούντων ἀνθρώπων καί ὀργανισμῶν, δογματική διδασκαλία, ἀντίληψις περί τοῦ καλοῦ καί ἀγαθοῦ) is a moral philosophy or a discipline concerned with what is morally good and bad, morally true and lie, morally right and wrong, and morally uncontrolled and enslaved. The term is also applied to any social system, democracy, culture, traditions, politics, economics, history, anthropology, biology, sociology, decision making, justice, social interest, public policies, public goods, and it is discussed with the theory of moral values, moral life and virtues (fear of God, faith, courage, peace, justice, prudence, temperance, moderation, modesty, humility, hope, love), theological principles, and practical moral problems. The Greek moral thought was originally based from the 600s B.C. on a new moral approach that emerged, at that time, which was using rational arguments leading to the rise of moral philosophy as a distinct mode of thought. This has been attributed to Socrates, Plato, Aristotle (the "supreme good", eudaimonia, εὐδαιμονία = εὖ +δαίμων, θεότης, εὐημερία), and many others up to the Revelation in the 1st century A.D. Unfortunately, today, our problem is the imposed ignorance (ἄγνοια) as wisdom (σοφία), the controlled political "leaders" as free, and the irrelevant public politics as appropriate policies,

which are presented in this article.

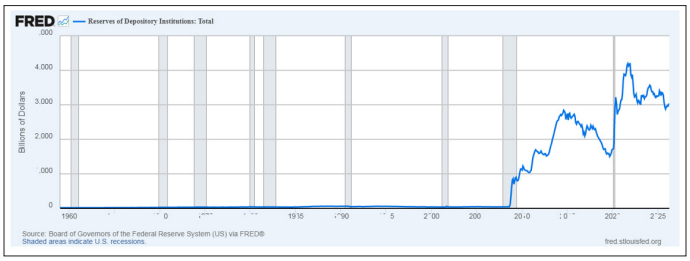
The New Monetary Theory and Policy

Before December 2008, the Fed implemented monetary policy with limited reserves, Figure 1, by supplying non-borrowed (R^*) and borrowed (R_B) reserves, in the banking system ($R^* + R_B = R_T^s$) and relied on *OMO*, as its key instrument (tool). Then, the zero-interest rate era (ZIRE, 0.00%≤i_FF≤0.25%) started on December 15, 2008 to December 15, 2015 for seven years (quantitative easing) and again on March 15, 2020 to March 15, 2022 for two years (the suspicious COVID-19 pandemic). Between December 16, 2015 and March 15, 2020, the positive interest rate era (PIRE 0.25%≤i_{FF}≤5.50%), which continues after the COVID-19 era (March 16, 2022 to present), with 3.50%≤i_{FF}≤3.75% since December 11, 2025, and this range of federal funds rates from 0% to 5.50% were used to implement monetary policy decisions [3].

The Mostly Zero Interest Rate Era (MZIRE)

After the financial crisis of 2008, the Fed implements monetary policy with ample reserves, Figure 2 and Graph 1, by using many new instruments and it relies on interest on reserves (*IOR*) since October 1, 2008, and since June 17, 2021, on interest on overnight reverse repurchase agreements (ION RRP), too. Why the poor taxpayers have to pay interest on these corrupted institutions?

Graph 1: Reserves of Depository Institutions: Total (TOTRESNS) SSOWNLOAD.



With the previous regime, banks held reserves to meet the Fed's regulatory reserve requirements (R_R), which was 10% on demand deposits and some excess reserves (R_E) to meet the banking demands of their customers [4,5]. The interest on reserves ($R_R + R_E = R_T^d$) was zero (i_{IOR}=0), which was the appropriate, ethical, and socially fair practice. When banks needed extra reserves to meet their demands, they were borrowing these reserves from the federal funds market or through Fed's discount window. If banks had excess reserves, they could lend them in the federal funds market at the i_{FF}^{eff}. The demand and supply of reserves are shown in Figure 1. To raise the i_{FF}, the Fed decreases the supply of reserves (R*) by selling U.S. Treasury securities in the open market. To lower the i_{FF} , the Fed increases the supply of reserves (R*) by buying government securities and later (December 2008), mortgage-back securities, too, in the open market, or by changing the reserve requirements (R_R). Also, it was using as instruments, the discount rate (i_{DR}), the reserve requirements ratio (r_R), and the margin requirements (r_m) [6]. If the central bank wished to lower interest rates, it purchased government debt, thereby increasing the amount of cash in circulation or crediting banks' reserves; the R* shifts to the right, Figure 1.

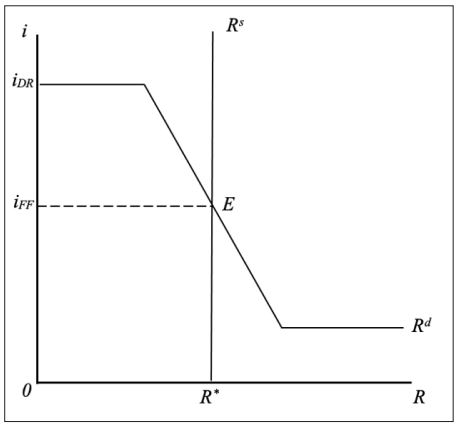


Figure 1: Market with Limited Reserves

Note: R^d = demand for reserves, R^s = supply of reserves, i = interest rates, i_{DR} = discount rate, i_{FF} = federal funds rate, R = reserves, R^* = non-borrowed reserves, E = equilibrium ($R^s = R^d$), $R_B + R^* = R_T^s$, and $R_R + R_E = R_T^d$.

Banks, before October 1, 2008, were minimizing their holdings of excess reserves because i_{IOER} =0. Then, with i_{IOER} >0 , banks have an incentive to hold more excess reserves. This is an anti-social policy, which forces the taxpayers to pay the corrupted banks with this enormous interest (bail out cost, calculated in Section V.1). The i_{IOER} became a tool to influence banks to hold more excess reserves at the Fed. The Fed has since that time the i_{IOER} as a new tool for implementing monetary policy. Since November 2008, $i_{IORR} = i_{IOER}$ nd since March 26, 2020, the Fed abandoned the required reserves (R_R=0). This made Fed's policy effectiveness irrelevant for banks and now, banks are riskier. The Fed shifted to an ample-reserves framework and reserve requirements are not anymore, a tool of monetary policy. Thus, now, we have only $IOR(i_{IOR})$ and since 2021, the Fed introduced the ION RRP ($i_{ON\ RRP}$). The reserves are still remained "ample", Figure 2.

When there is a large quantity of reserves in the banking system, as it is lately, Figure 2, the Fed can no longer influence the i_{FF} by making small changes in the supply of reserves (R^s). Why we need all these non-borrowed reserves (R^*)? What was the reason of this idle enormous liquidity? Why the taxpayers have to pay billions of dollars to the corrupted banks for keeping these idle excess reserves? Is this policy efficient, effective, fair, ethical, or social and the appropriate one? All this money supply had caused the enormous double-digit inflation π=18%, and an official π=9.1%, which is already, here and will stay for a long time. How we will control the bubble in the financial market?. Who is going to compensate the poor individuals with their potential huge loses in their IRA? The market manipulators and the insiders will start taking advantage of this situation with the abnormal 39.155% growth p.a. of the DJIA., and the Fed did not want to reduce the interest rate, because the money supply will increase further. All these public policies the last 18 years have generated an enormous risk, a future uncertainty, and an unfair huge social cost. Lately, we have a new crisis, the Middle East one (Palestine, Lebanon, and Iran).

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The Fed is using since October 1, 2008, its administered rates (i_{IOR} and later $i_{ON\,RRP}$) to influence the i_{FF}. The demand for reserves curve (R^d) turns flat between the new administered rates at point E_1, Figure 2, which helps to keep the i_{FF} into the *FOM* 's target range (3.50%≤i_{FF}≤3.75%). With these enormous "ample" reserves, the Fed does not need to make daily *OMO* (*OMP* or *OMS*), as it did before with the limited reserves to hit the i_{FF} target. Now, small shifts of the supply curve (R^s) have no effect on the i_{FF}. The main tool for keeping the i_{FF} on its target and driving the demand curve flat is the i_{IOR}. Banks invest their money short-term based on the interest rate and the risk. They can invest (with June 1, 2026) in Treasury Bills (i_{RF}=3.61%), by offering loans to banks (i_{FF}^{eff} = 3.64%), or by depositing to the Fed (IOR=3.65%). Banks prefer to deposit their money to the Fed because i_{IOR} is higher compared to the alternative S-T investments and it is also a safe overnight investment. (Sic). If the i_{FF} were to fall very far below the i_{IOR} , banks would borrow in the federal funds market and deposit those reserves at the Fed, earning a profit (arbitrage, π_A) on the difference ($\pi_A = i_{IOR} - i_{FF}$). This arbitrage ensures that the i_{FF} does not fall much below i_{IOR}.

[EX D_{FF} => i_{FF} ↑, Federal Funds ↑=> Reserves ↑, and this EX $S_{Reserves}$ => i_{IOR} ↓]

Thus, when the Fed raises or lowers the i_{IOR}, the i_{FF} moves up or down, too. Consequently, the Fed can keep the into the target range (3.50%≤i_{FF}≤3.75%, now) set by the *FOM* through adjustment of the i_{IOR} . The Fed sets the i_{IOR} directly, so this interest rate serves as an effective monetary policy tool. Thus, this i_{IOR} is the primary tool used by the Fed for influencing the i_{FF} , Figure 2. The old tools were satisfied the same objective without charging citizens with any cost, as they have to pay, now, the IOR and ION RRP (bail out cost to taxpayers of hundreds of billions of dollars per annum). In 2014, the *FOM* announced that it will use the Overnight Reverse Repurchase Agreement Facility (*ON RRP*) to help control the i_{FF} . This facility is a form of *OMO*, where the Fed interacts with many nonbank financial institutions (large money market funds and government-sponsored enterprises). When one nonbank financial institution uses the *ON RRP* facility, it deposits reserves at the Fed overnight receiving securities as collateral. The next day the transaction is "unwound"; the Fed buys back the securities and the institution earns the $i_{ON\,RRP}$, which the Fed sets, on the cash it deposited at the Fed (another bail out cost), Figure 2. This investment facility is a risk-free option and these institutions are willing to lend funds to this relatively low rate, the $i_{ON\,RRP}$, but not lower. For this reason, the $i_{ON\,RRP}$ acts as a reservation rate and institutions can use it to arbitrage other short-term rates. Thus, the interest rate paid on *ON RRP* transactions and it is below the i_{IOR}, acts like a floor for the i_{FF} and serves as a new supplementary policy tool by the Fed, Figure 2.

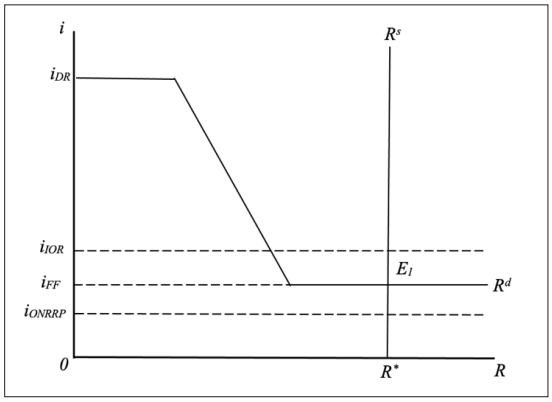
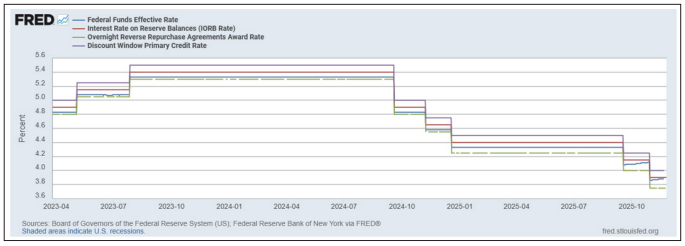


Figure 2: New Monetary Policy with Ample Reserves

Note: i = interest rates, i_{FF} = federal funds rate, i_{DR} = discount rate, i_{IOR}= interest rate on reserves, i_{ONRRP}= interest rate on overnight reverse repurchase, R = reserves, R^d = demand for reserves, R^s = supply of reserves, R^* = non-borrowed reserves, E1 = equilibrium ($R^s = R^d$). On June 1, 2026, these rates were: i_{DR}=3.75%, i_{IOR}=3.65%, i_{FF}^{eff} = 3.64%, =3.64%, and i=3.50%.

Some reasonable questions arise, now. Why the Fed needs these overnight deposits (ONRRP)? Why the tax payers have to pay some more billion dollars per annum to these money market nonbank lenders? Why we do not increase the deposit rate (i_D) to increase the deposits (demand for deposit accounts) in our banks, if they need more liquidity? Make at least the saving account rate, i_D≅3.55%≥i_{ONRRP}≅3.50% and not zero (i_D=0.05%), as it was for 15 years. Why we exploit the depositors? Why we confiscate their deposits? Why we force the risk averse depositors to invest in the risky financial market? This new policy is not necessary, and it has also a very high social cost (trillions of dollars bail out cost to taxpayers and bail in cost to depositors). The federal funds market can provide the liquidity for the banks through the OMO without forcing the people to bail out banks by paying IOR and IONRRP. The limited reserve system is sufficient to provide all reserves needed in our banking system and concurrently, it maximizes the social benefits (social welfare).

Graph 2: The Fed Funds Rate Stays Between the Discount Rate and the Reverse Repo Rate



Note: With July 7, 2026, they were: i_{DR}=3.75%, i_{IOR}=3.65%, i_{FF}^{eff} =3.63%, and i_{ONRRP}=3.50%.
Source: Rates related to monetary policy | FRED Blog

Exaggerated Liquidity and its Effects on the Economy

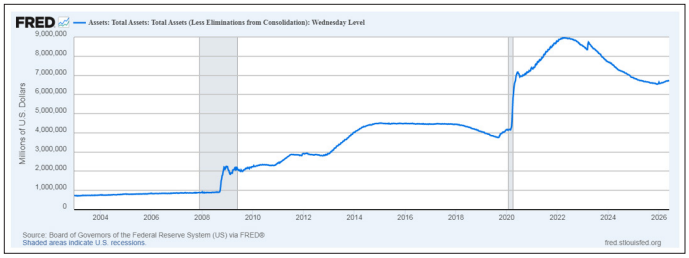
The Fed introduced new lending programs and new tools during the global financial crisis in 2007-2008. Thus, the Federal Reserve has a variety of policy tools (instruments) that it was using in the past and it is still using them, now, together with the new ones, in order to implement monetary policy and support the economy during the latest global financial and the suspicious coronavirus (COVID-19) economic and social crises, and during these last five years of huge government spending (inefficiency and wastes), which led the country to an enormous national debt. Some economists are blaming Alan Greenspan, who started his policy by fueled financial asset with inflation. In 1987: Q2 the U.S. GDP was $4.8 trillion and the total stock market was valued at $3 trillion, as measured by the Wilshire 5000. During the three-decade period, the Wilshire 5000 market cap rose by 1,440% to $46.3 trillion; that is nearly four times the 375% gain in nominal GDP to $22.7 trillion. Thus, our financial markets are completely artificial; very risky bubbles.

Then, this irrational liquidity by the Fed continues and when there is a large quantity of reserves in the banking system, as it is lately, Figure 2, the Fed can no longer influence the i_{FF} by making small changes in the supply of reserves (R^s). What was the reason of this idle enormous liquidity with the economy lockdown, businesses had no workers because of the vaccine mandates (people were

against this risky vaccination and they were laid off from their jobs), a vast demand for imports (Graph 7), a supply chain problem, and a very anemic AD? Why the depositors had to earn zero deposit rate and pay a high real deposit rate (bail-in cost) to banks? All this money supply and the government spending caused the enormous double-digit inflation π=18%, and an official π=9.1%, which is already, here and will stay for a long time, and a huge trade deficit; Graph 6 gives the CPI and Graph 7 the Current Account. How will we control the bubble (Figure 3 and Exhibit A1, A1a, and A1b) in the financial market? The market manipulators and the insiders, plus the unacceptable and unfair U.S. and Israeli war against Iran will start taking advantage of this situation, as already they are doing. All these artificial values have generated an unfair huge social cost and an uncertain future. There is no asset (real or financial) to be correctly priced; everything is artificially overpriced.

Thus, between January 2008 (from $880.754 billion) and the end of the financial crisis in May 2009, the Federal Reserve's balance sheet increased by 150%, swelling to $2.196 trillion. Since then, the balance sheet has increased by an additional $2.2 trillion and by July 2014, it had become $4.4 trillion. It consisted of $2.46 trillion in Treasuries, $26.81 billion in agency debt, and $1.76 trillion in mortgage-backed securities. The highest value was on January 14, 2015: $4.516 trillion and on August 14, 2019, it was $3,337.347 billion. The total banks' reserves (R_R+R_E) were $200.608 billion and $1,386.237 billion respectively, a total of $1,586.845 billion. Lately, they were going up again. On April 13, 2022, it reached $8,965.487 billion (the highest). On November 8, 2023, they were $7.909 trillion: $4.873 trillion in government securities and $2.463 trillion in mortgage-backed securities (plus other factors of $0.573 trillion). On August 28, 2024, it was a small reduction, and they were $7.144 trillion ($4.399 trillion in government securities, $2.308 trillion in mortgage-back securities, plus others of 0.437 trillion). Lately, (7/1/2026), they were, Total Assets = $6,724.564 billion.

Graph 3: Assets: Total Assets: Total Assets (Less Eliminations from Consolidation): Wednesday Level (WALCL).

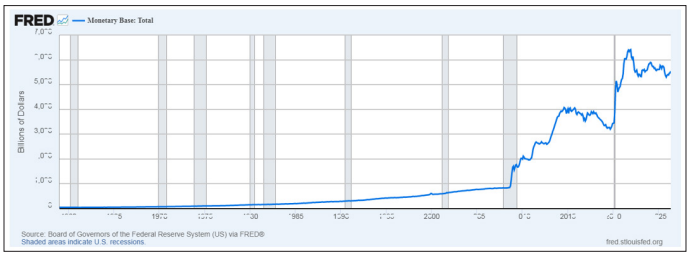


Note: The total assets were, on December 31, 2008, $2,239.457 billion and on December 7, 2023, $7,737.385 billion, with May 27, 2026, they were $6,704.383 billion, and with July 1, 2026, they were $6,724.564 billion...

Source: Assets: Total Assets: Total Assets (Less Eliminations from Consolidation): Wednesday Level (WALCL) | FRED | St. Louis Fed (stlouisfed.org)

Over four rounds of "quantitative easing" (QE) in 2008, 2010, 2012, 2014, 2023, and 2024, the Fed purchased a huge amount of assets such as U.S. Treasury debt and agency mortgage-backed securities and continued with the same policy until 2024. As the Fed was buying these assets, the banks that were selling them saw their excess reserve (R_E) balances to become enormous and the total monetary base was increasing. Actually, it continues going up until December 2021, where the total monetary base reached $6,413.100 billion; a growth since 2008 by $5,503.4 billion or 604.969% or 46.536% per annum, Graph 4. With August 27, 2024, it was, MB=$5,653.9 billion and with October 2025, it was MB = $5,361.5 billion. This monetary policy cannot be efficient and socially necessary. As a result, excess reserves held by depository institutions reached, R_E= $2,699.968 billion by August 2014. To put that in perspective, in the pre-crisis years, by August 2008 they were $1.876 billion; in December 2008 became $767.319 billion; in February 2010, they were $1,161.852 billion; in July 2011 became $1,618.118; in August 2014, they reached $2,699.968 billion; and then, they started to decline and were in May 2019: $1,376.568 billion. In July 2019, they were $1,378.447 billion. In December 2019, the monetary base was $3,382.800 billion, the currency in circulation was $1,786.231 billion, the required reserves (R_R) were $206.586 billion, and the excess reserves (R_E) were $1,388.636 billion, also some other reserves of $1.347 billion and continue to grow. In October 2025, the $R_T \equiv R_E$=$2,944.7 billion and in April 2026, they were $R_T \equiv R_E$=$3,018 billion.

Graph 4: St. Louis Monetary Base Total



Note: The Monetary base was on September 10, 2008: $874.83 billion; December 31, 2008: $1,690.829 billion; February 24, 2010: $2,183.734 billion; February 22, 2012: $2,753.052 billion; September 17, 2014: $4,149.829 billion; On December 19, 2019 it was $3,441.873 billion (reserves: $1,649.453 billion and currency: $1,792.420 billion); on October 24, 2023, MB was $5,567.1 billion; on November 28, 2023 went up to $5,601.3 billion. On May 4, 2024, it became $5,883 billion, In April 2026, it was MB = $5,470.4 billion and in May 2026, it became $5,538.5 billion.

Source: https://fred.stlouisfed.org/series/BOGMBASE/ . Also, Monetary Base; Total (BOGMBASE) | FRED | St. Louis Fed (stlouisfed.org). In addition, see, Monetary Base; Total (BOGMBASE) | FRED | St. Louis Fed (stlouisfed.org) Further, see, https://fred.stlouisfed.org/series/BASE/ See, also, https://research.stlouisfed.org/datatrends/usfd/page7.php https://www.federalreserve.gov/releases/h3/current/, https://fred.stlouisfed.org/series/BOGMBASE/#

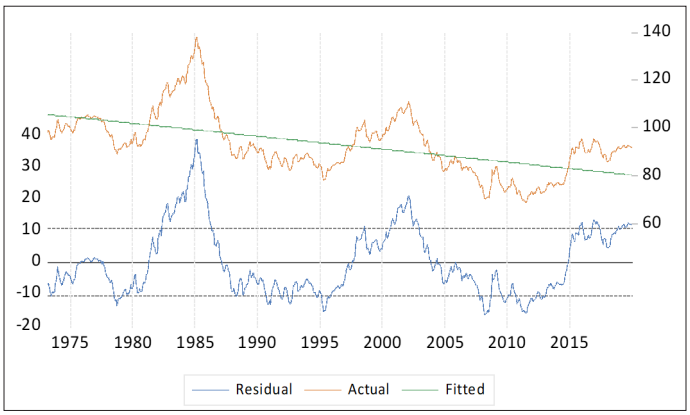
The money supply (M2) has surpassed all its limits, from $7,502.6 billion (January 2008) reached $21,577 billion (June 2022), a growth by $14,074.4 billion or 187.59% or 13.4% per annum; lately, the M2 = $22,936.1 billion (April 2026), Graph 5. The consumer price index (CPI) was growing, and the inflation had reduced consumers' purchasing power, Graph 6. The DJIA reached 41,563.08 on August 30, 2024 from 6,547.05 on March 9, 2009, a growth by 35,016.03 points or 534.837% or 34.506% p.a. The highest DJIA was on January 12, 2026, 49,590.20, a growth of 43,043.15 points or 657.44%, 39.06% per annum. September 19, 2025, 46,314.57 (Figure 3), a growth by 39,807.53 points or 611,76% or 36.85% p.a. The DJIA reached 50,188.14 (2/10/2026) and then, came the U.S. and Israeli war against Iran and it fell to 45,166.64 by -5,021.5 points or -10% (3/27/2026). Was this

36.85% p.a. growth of the stock prices due to high risk (RP) or due to excess liquidity (Fed's policy) and its low margin requirements (r_m=50%)? The market capitalization on December 31, 2008 was $11.461 trillion and on December 31, 2025 had reached $68.963 trillion, a growth by $57.502 trillion or 501.719% in 17 years or 29.513% p.a.

The GDP in 2008:Q4 was $14.770 trillion and in 2025:Q4 was $30.616 trillion, a growth by $15.846 trillion or 107.285% or 6.3% p.a.; 4.68 times less than the financial market or the GDP grew by 23.213% less than the market. Thus, the stock market has gotten way ahead of the economy. Does this bubble bode a new financial crisis? Yes; but, the world's planners found another way to cause a deeper crisis, the more effective and suspicious coronavirus (COVID-19) and the criminal vaccine mandate. What lays ahead, it is a fall of the financial asset prices until they recover a healthy relationship between stock market growth an growth of the economy. Unfortunately, everything is artificial (fake); no true value anywhere, Exhibits A1, A1a, and A1b.

Then, inconsiderate government expenditures went up drastically since 2020, raising together the national debt Graph 10. Unfortunately, the most inefficient institution in the country is the Federal government. The unfair trade deficit is going up, too (Graph 7), due to enormous liquidity, which depreciates the dollar (Graphs 8 and 9) and increases the price of importables, the value of imports and the trade deficit. President Trump has threaten enemies and allies with high tariffs to reduce the trade deficit, but erratic decisions cannot help the economy. Fed also went back to a new zero federal funds rate, on March 16, 2020, to cope with the new created economic crisis. The worst is the invasion, the bombing, and the assassination of the leaders of other countries to impose "democracy" and grasp their natural resources.

Graph 8: Trade weighted U.S. Dollar Index: Major Currencies (USXRI)



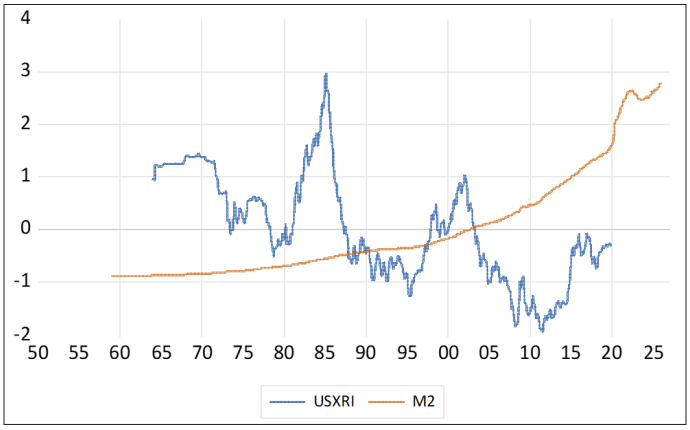
Note: The Fitted line is the time trend of the equation below:

$$USXRI_t = 105.642^{***} - 0.045^{***}t$$
$$(0.903) \qquad (0.003)$$

R^2=0.320, *SER*=10.685, *F*=263.501, *D-W*=0.020, *N*=562

The negative time trend (-0.045***) shows the depreciation of the dollar overtime.

Graph 9: Money Supply (M2) and USXRI



Note: As the money supply is increasing, the USXRI (FCs/$) is falling (dollar is depreciated).
Correlation between the Index and money supply is relatively high, $\rho_{M2,USXRI}$ =-0.606, which shows the depreciation of the dollar, due to increase in money supply.

Figure 3: The U.S. Dow Jones Industrial Average

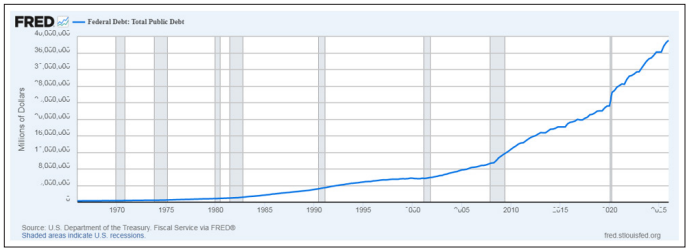
Note: USDJIA = U.S. Dow Jones Industrial Average. In 2009:03, the DJIA was 6,547.05 and the pick point was on January 4, 2022 (DJIA = 36,799.65); a growth from March 9, 2009 by 30,252.6 points or 462.09% or 39.33 p.a. Then, a new pick on May 17, 2024 (DJIA = 40,003.59), which is a growth by 33,456.54 points or 511.017% or 34.068% p.a. since the trough of March 9, 2009. Further, it reached 40,842.79 on July 31, 2024 and then, the bubble started losing air and fell in a few days to 38,703.27 (August 5, 2024). The DJIA lost 2,139.52 points (or -5.24%). In January 2026 continued to go up and it was 49,590.20 (1/12/2026), a growth of 43,043.15 points or 657.44% 39.06% per annum. On February 10, 2026, it reached 50,188.14. This has become a very dangerous bubble. Then, the war with Iran started and the DJIA had fallen to 45,166.64 (3/27/2026), a reduction by 5,021.5 points or -10.01%. On June 1, 2026, it reached DJIA = 51,078.88. On June 4, 2026, was DJIA = 51,561.93. On June 30, 2026, it was 52,319.20 and on July 2, 2026 closed to 52,900.07, a growth by 46,353.02 points or 707.999% or 41.043% p.a. On July 6, 2026 it reached 53,055.91 and then, down again; the volatility continues and the risk hang over the risk averse investors.

Source: Dow Jones - DJIA - 100 Year Historical Chart | MacroTrends

and Dow Jones Industrial Average (^DJI) Stock Historical Prices & Data - Yahoo Finance , also, DAX 30 Index - Historical Annual Data, https://www.macrotrends.net/2595/dax-30-index-germany-historical-chart-data and Dow Jones Industrial Average (^DJI) Historical Data - Yahoo Finance

Also, the average maturity of assets on the Fed's balance sheet rose as the FOMC rebalanced the portfolio, substituting long-term assets for short-term ones. As it was mentioned above, the national debt (Graph 10) is another major problem for the country and unfortunately, Pentagon blows $11 billion in first week of Iran War, a war without any reason to take place and it is also against the International Law, and affects directly the monetary policy. In October 2008 (ἡ ἀποφράς ἡμέρα), the Federal Reserve had begun to pay interest on reserves (IOR). The IOR was set at the top of the federal funds target range and remained about 20 basis points above the discount rate on 3-month Treasury bills ($i_{IOR} = i_{IRF}$+0.20%). This was a factor that increased banks' willingness to hold a large stock of excess reserves. Interest rates paid on other short-term financial securities (for example, commercial paper and Treasury bills), often move up or down roughly in parallel with the funds rate. The only rates that are not affected by federal funds rate are the deposit rates. (Sic). Yields on long-term assets (i. e., corporate bonds and Treasury notes), are determined in part by expectations for the fed funds rate in the future. These enormous federal funds cannot be absorbed by banks because there is no sufficient demand for investments and for this reason, they cause only bubbles in the financial market and preparing the environment for the 3rd global financial crisis of the 21st century, like the evolution of the Middle East war to WWIII (enormous liquidity, which is offered to financial investors by using margin accounts with r_m=50%) and keeping the deposit rate closed to zero. The QE programs flooded the banking system with liquidity and made it less necessary for banks to borrow in the federal funds market or to supply deposit accounts. Therefore, this policy is not only inefficient and ineffective; it is no appropriate, because it is bad (risky and unfair) for depositors, for taxpayers, and for the real economy (for our financial system, too, and inflationary for everyone), Graph 6.

Graph 10: National Debt



Note: Federal Debt: Total Public Debt (GFDEBTN) with 2008 it was $10,699,805 million and became ND = $36,211,469 million (2025:Q2. The sequence of events is as follows: ND↑ =>EXS GS=>P_GS↓=>i_GS↑=>Fed i↓ => M^s↑ . With March 20, 2026, the U.S. BD = $1.692 trillion and the ND = $39.013 trillion. With July 9, 2026, it was ND = $39.425 trillion (122.11% of the GDP) and BD = $1.651 trillion. See, "Pentagon Spent More Than Eleven Billion in Less Than a Week Fighting Iran", https://americanconservatives.com/2026/03/pentagon-spent-more-than-eleven-billion-in-less-than-a-week-fighting-iran/?utm_source=newsstand.beehiiv.com&utm_medium=newsletter&utm_campaign=pentagon-blows-11-billion-in-first-week-of-iran-war&_bhlid=2ce81ed886ce5df20258f351ae91b539e7754091
Source: Federal Debt: Total Public Debt (GFDEBTN) | FRED | St. Louis Fed (stlouisfed.org)

Meanwhile, domestic institutions have been charging fees to discourage large investors from making large deposits with them. As it was mentioned above, the deposit rate on small deposits was closed to zero from 2008 to 2023, which makes the real deposit rate negative (depositors are paying the banks to keep their deposits). Thus, risk-averse depositors have been forced to avoid depositing their money to banks and to buy risky financial assets ($RP_{DJIA} = \bar{g}_{DJIA}$-$\bar{R}_{RF}$=39.33%-0.799%=38.531%). These changes in private (non-public) Fed's monetary policy overturn and invalidate its ultimate objective, which is the prevention of financial crises and the improvement of social welfare.

Policy Rules and their Correctness

We can use different monetary policy rules (interest rate reaction functions) to test the efficiency and effectiveness of the target federal funds interest rate ($\bar{i}_{FF}$) and of course, to see if the level of these federal funds rate is optimal. The objective of the Fed is, stabilization of output (maximum employment) and prices (inflation target,$\bar{\pi}_t$=2%), hoping to stimulate consumption and investment. Central bank's behavior (reaction to inflation and output-employment) can be presented with the Bullard rule, an interest rate reaction function, eq. (1), as follows:

$$\bar{i}_{FF_t} = \rho \bar{i}_{FF_{t-1}} + (1-\rho)(\pi_t + r_t^*) + \alpha_\pi(\pi_t - \pi_t^*) - \alpha_u(u_t - u_t^N) \quad (1)$$

where, $\bar{i}_{FF_t}$ = the target federal funds rate, π_t = the rate of inflation as measured by the GDP deflator, π_t^* = the desired rate of inflation, r_t^* the assumed equilibrium real interest rate, u_t = the unemployment rate, u_t^N = the natural level of unemployment, and ρ = the weight put on the past federal funds rate setting.

We can run a simplified regression of eq. (1), which is presented in eq. (2). The target interest rate will follow the changes in inflation and unemployment based on the coefficients estimated in eq. (2). This interest rate measured by the reaction function must be the target federal funds rate:

$$\bar{i}_{FF_t} = \alpha_0 + \alpha_1 \bar{i}_{FF_{t-1}} + \alpha_2 \pi_t + \alpha_3 u_t^{GAP} + \alpha_4 u_{t-1}^{GAP} + \varepsilon_t \quad (2)$$

where, $u_t^{GAP} = u_t - u_t^N$ and coefficients, α_2>0. α_3<0 and α_4<0.

Using monthly data for the U.S. economy (1954:08-2025:09), we have:

$$\bar{i}_{FF\,t} = \underset{(0.062)}{0.178^{***}} + \underset{(0.005)}{0.985^{***}}\bar{i}_{FF\,t-1} + \underset{(0.004)}{0.013^{***}}\pi_t - \underset{(0.039)}{0.145^{***}}u_t^{GAP} + \underset{(0.039)}{0.118^{***}}u_{t-1}^{GAP}$$

$$R^2 = 0.982,\ SER = 0.473,\ F = 11{,}763.16,\ D-W = 1.296,\ N = 854$$

The size of the partial adjustment, coefficient α_1, which is 0.985*** provides direct evidence that the observed degree of persistence in federal funds rates is greater than the one that can be attributed to systematic policy responses to persistent inflation and unemployment (output) fluctuations. The coefficients of regression show that the federal funds rate must respond significantly to an increase in inflation (α_2 = 0.013***), but less aggressively to induce an increase in target rate and a tightening monetary policy. The federal funds rate must respond sufficiently aggressively to an increase in unemployment (α_2 = -0.145***) to induce a reduction in interest rate and an effective easing monetary policy. During the New Monetary Policy Regime (2008:12-2025:09), eq. (2) gives the following results:

$$\bar{\imath}_{FF\,t} = -0.024 + 0.969^{***}\bar{\imath}_{FF\,t-1} + 0.006^{***}\pi_t - 0.030^{***}u_t^{GAP} + 0.041^{***}u_{t-1}^{GAP}$$
$$(0.194)\quad (0.099)\qquad\qquad 0.002)\qquad (0.015)\qquad\qquad (0.014)$$

$$+0.935^{***}AR(1) - 0.562^{***}MA(1)$$
$$(0.120)\qquad\qquad (0.059)$$

$$R^2 = 0.996,\ \ SER = 0.113,\ \ F = 7{,}027.473,\ \ D-W = 2.080,\ \ N = 202$$

Then, by using the Bullard rule, we have:

$$\bar{i}_{FF_t} = \rho i_{FF_{t-1}} + (1-\rho)[r_t^* + \pi^* + \phi_\pi(\pi_t - 2\%) + \phi_q(u_t - 4\%)] \qquad (1)$$

For the ZIRR (200 8:12-2015:11) the i_{FF} must have been:

$$\bar{\imath}_{FF} = 0.85(0.25\%) + 0.15[1\% + 2\% + 1.5(1.586\% - 2\%) + 1(7.838\% - 4\%)] =$$ 1.14505%; but it was 0.129%, which was very low.

A specific case of eq. (1) is the Taylor rule by putting ρ=0. According to Taylor's original version of the rule, the nominal interest rate should respond to divergences of actual inflation rates from target inflation rates and of actual GDP from potential GDP. By substituting, from the original equation, the logarithm of GDP with the unemployment rate, we have the following eq. (3):

$$\bar{i}_{FF_t} = \pi_t + r_t^* + \alpha_\pi(\pi_t - \pi_t^*) - \alpha_u(u_t - u_t^N) \qquad (3)$$

Taylor (1993) proposed an α_π=0.5 and α_u=−0.5. The rule "recommends" a high interest rate (a "tight" monetary policy) when inflation is above its target, in order to reduce inflationary pressure, and a low interest rate ("easy" monetary policy) when the unemployment rate is above its natural level to stimulate production, output, and employment.

The coefficients are: $\alpha_\pi = 0.5$ and $\alpha_u = -0.5$, the other variables are $r_t^* = 1\%$, $\pi_t^* = 2\%$, and $u_t^N = 4\%$, π_t, and u_t are the averages of each period. The target federal funds rate was between (0.00%-0.25%) for the period 2008:12 to 2015:11. Thus, i_{FF} must have been: $i_{FF} = 1.586\% + 1\% + 0.5(1.586\% - 2\%) - 0.5(7.838\% - 4\%) = 0.46\%$; but it was between 0% and 0.25% (average $\bar{i}_{FF}^{eff} = 0.129\ \%$ which was low.

In addition, financial market plays a major role in market-oriented economies and its optimal growth has a positive effect on investors and consumers' confidence and their wealth. The opposite happens, if growth is artificially enormous (abnormal bubbles) and in this case the probability of a market crash is very high. Kallianiotis (2020c) rule is an expansion of eq. (3) by using an extra term, the growth of the financial market (g_{DJIA_t}), as follows,

$$\bar{i}_{FF_t} = \pi_t + r_t^* + \alpha_\pi(\pi_t - \pi_t^*) - \alpha_u(u_t - u_t^N) + \alpha_{DJIA}(g_{DJIA_t} - g_{DJIA_t}^*) \qquad (4)$$

where, g_{DJIA_t} = the actual growth of the DJIA index, $g_{DJIA_t}^*$ = the optimal (the bubble prevention) growth of the DJIA (g^*_{DJIA}=R_{RF}+HRP=0.078%+8.9% = 8.978%) in 2021 or an average growth of 7%, and $\alpha_\pi = 0.25$, $\alpha_u = -0.50$, $\alpha_{DJIA} = 0.25$. Another equation can be the following:

$$i_{FF\,t} = \beta_0 + \beta_1 i_{FF\,t-1} + \beta_2\pi_t - \beta_3 u_t^{GAP} + \beta_4 djia_t^{GAP} + \varepsilon_t$$

The estimation of the above equation gives:

$$\bar{\imath}_{FF\,t} = -0.767^{**} + 0.974^{***}\bar{\imath}_{FF\,t-1} + 0.258^{**}\pi_t - 0.059^{***}u_t^{GAP} - 0.179^{***}djia_t^{GAP}$$
$$(0.366)\quad (0.008)\qquad\qquad (0.103)\qquad (0.014)\qquad\qquad (0.065)$$
$$R^2 = 0.982,\ \ SER = 0.481,\ \ F = 11{,}369.43,\ \ D-W = 1.229,\ \ N = 836$$

Correcting for serial correlation, we get:

$$\bar{\imath}_{FF\,t} = \underset{(0.565)}{-1.282^{**}} + \underset{(0.009)}{0.959^{***}}\bar{\imath}_{FF\,t-1} + \underset{(0.158)}{0.416^{***}}\pi_t - \underset{(0.022)}{0.071^{***}}u_t^{GAP} - \underset{(0.104)}{0.287^{***}}djia_t^{GAP}$$

$$+\underset{(0.017)}{0.430^{***}}MA(1)$$

R^2=0.985, *SER*=0.440, *F*=9,102.110, *D-W*=1.948, *N*=836

The negative coefficient of ln of DJIA (djia) (-0.287***) is due to expectations. If we expect the interest rate (i_{FF}) to go up the DJIA (financial Market) will fall because an increase in i_{FF} causes a reduction in money supply, which will cause a reduction of the DJIA. The opposite if we expect the i_{FF} to fall, the M^s increases and the DJIA goes up; this is the cause of the current bubble in the stock market. Also, based on the monetarist view, eq. (5), $g_{M^s} \cong g_P(\pi) => 10\%$ increase in money supply will cause 10% increase in prices (inflation).

$$M\,V = Q\,P \qquad (5)$$

where, M = stock of money, V = velocity of money, Q = real output (GDP), and P = price level.
For the ZIRR (2008:12-2015:11) the i_{FF} must have been:

i_{FF}=1.586%+1%+0.25(1.586%-2%)-0.50(7.838%-4%)+0.25(9.952%-7%)= 1.5095%, but it was 0.00%≤i_{FF}≤0.25%, which was very low.

The monetary policy is a little more effective on prices (inflation), but not at all on financial markets (stability or bubbles). Also, on growth and unemployment, it is less effective because money is a veil (neutrality of money in the long-run). The negative relationship between inflation and unemployment can be seen with a Phillips curve. The Phillips curve can be written as follows:

$$\pi_t = \pi_t^e - \psi(u_{t-1} - u_t^N) \qquad (6)$$

where, π_t= inflation rate, π_t^e= expected inflation rate, u_{t-1}= actual unemployment rate last period, and u_t^N= natural level of unemployment.

Testing empirically this Phillips curve, we have supported this theory for the last seventy years.
Here, we forecast the inflation, as follows:

$$\pi_t^e = \pi_t^* = \underset{(0.859)}{3.830^{***}} + \underset{(0.036)}{1.285^{***}}\pi_{t-1} - \underset{(0.033)}{0.299^{***}}\pi_{t-2} - \underset{(0.024)}{0.893^{***}}\varepsilon_{t-1} \qquad (7)$$

$$R^2 = 0.356, SER = 3.393, F = 119.526, D-W = 1.998, N = 869, RMSE = 3.385$$

Then, there is a Phillips curve in our economy: $\pi_t = \pi_t^e - \phi(u_t - u_t^N) + \varepsilon_t$, which gives the following regression:

$$\pi_t = \underset{(0.034)}{1.034^{***}}\pi_t^e - \underset{(0.060)}{0.097^{*}}(u_t - 4) \qquad (8)$$

$$R^2 = 0.358, SER = 3.384, D-W = 2.024, N = 867, RMSE = 0.224$$

The biggest surprise for the Fed was that inflation did not accelerate in response to lower interest rates during that extended period of low interest rate; from 2008 to 2015 ($\bar{\pi} = 1.552\%$) because the unemployment was high (official $\bar{u}$=6.9%) and this high unemployment causes reduction in personal income and aggregate demand, which affect negatively the price level. But, it seems that there was a need to invert the yield curve, raising federal funds rate above US10YTB, to keep inflation under control and reduce the bubble that was creating in the financial market. Every policy is experimental; for this reason they cannot prevent financial crises and business cycles.

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By measuring the four different periods and using the three rules, we have the following results:
Exhibit 1. Target and Accepted Federal Funds Rates

Period	2008:12-2015:11							
Variables	π_t	r_t^*	u	g_{DJIA}		i_{FF}^{A}		$\bar{\imath}_{FF}$
	.586%	1%	7.838%	9.952%	Bullard	1.145%	very low	0.129%
					Taylor	0.460%	low	0.129%
					Kallianiotis	1.509%	very low	0.129%
Period	2015:12-2020:02							
Variables	π_t	r_t^*	u	g_{DJIA}	iFFA			$\bar{\imath}_{FF}$
	1.969%	1%	4.186%	5.002%	Bullard	4.819%	very low	1.334%
					Taylor	2.861%	very low	1.334%
					Kallianiotis	2.361%	very low	1.334%
Period		2020:03-2022:02						
Variables	π_t	r_t^*	u	g_{DJIA}		i_{FF}^{A}		$\bar{\imath}_{FF}$
	4.538%	1%	6.763%	21.796%	Bullard	2.569%	very low	0.103%
					Taylor	5.425%	very low	0.103%
					Kallianiotis	6.610%	very low	0.103%
Period		2022:03-2025:11						
Variables	π_t	r_t^*	u	g_{DJIA}		i_{FF}^{A}		$\bar{\imath}_{FF}$
	3.751%	1%	3.813%	7.919%	Bullard	4.403%	low	4.220%
					Taylor	5.720%	low	4.220%
						5.950%	low	4.220%

Note: π_t = average inflation, r_t^* = the assumed equilibrium real rate of interest, u_t = average unemployment, g_{DJIA} = growth of DJIA during the period, i_{FF}^{A} = accepted growth of federal funds rate (based on the rules), and $\bar{\imath}_{FF}$ = the average federal funds for the period. Source: Table 1 and 2.

Policy Instruments and their Effectiveness

The New Monetary Policy Regime starts on December 16, 2008, when the Fed imposed the ZIRR ($0.00\% \leq \bar{\imath}_{FF} \leq 0.25\%$) and after seven years, it begun to raise interest rate to $\bar{\imath}_{FF} = 0.50\%$ and continues, which had reached 2.50% and back to 1.75%. Then, again back to zero from March 15, 2020 to March 15, 2022, and since July 25, 2023, it was between 5.25% and 5.50%. Now, it is ($3.50\% \leq \bar{\imath}_{FF} \leq 3.75\%$). Fed had started to signal rate increase after December 16, 2015 for the entire new monetary policy period. This is also a period in which the Federal Reserve used interest rate targeting procedures to maintain the credibility for low inflation. The FOMC tried to maintain a 2% inflation target. The method used to implement interest rate ($\bar{\imath}_{FF}$) targeting started in October 1982 and became more explicit after 1987 when Alan Greenspan replaced Paul Volcker as head of the Fed.

Effectiveness of Monetary Policy

Now, to test the effectiveness of both monetary policies during these two regimes, the Zero Interest Rate Regime, ZIRR (2008-2015 and 2020-2022) and the Positive Interest Rate Regime, PIRR (2015-2018 and 2022-2026) a VAR model is constructed. We use a vector autoregression (VAR) model for the interrelated objective variables of the U.S. monetary policy ($djia_t, rgdp_t, i_{10YTB\,t}, p_t, and\ u_i$) as endogenous dependent variables and as a function of the lagged values of all these endogenous variables in the system and the policy instruments ($i_{FF\,t}^{eff}, mb_t, and\ m_t$) as independent exogenous variables. The mathematical representation is as follows:

$$
\begin{aligned}
djia_t &= \alpha_{11} djia_{t-j} + \beta_{11} rgdp_{t-j} + \gamma_{11} i_{10YTB_{t-j}} + \delta_{11} p_{t-j} + \zeta_{11} u_{t-j} + c_o + \theta_{11} i_{FF_t}^{eff} + \kappa_{12} mb_t + \lambda_{13} m_t + \varepsilon_{1t} \\
rgdp_t &= \alpha_{21} djia_{t-j} + \beta_{21} rgdp_{t-j} + \gamma_{21} i_{10YTB_{t-j}} + \delta_{21} p_{t-j} + \zeta_{21} u_{t-j} + c_o + \theta_{21} i_{FF_t}^{eff} + \kappa_{22} mb_t + \lambda_{23} m_t + \varepsilon_{2t} \\
i_{10YTB_t} &= \alpha_{31} djia_{t-j} + \beta_{31} rgdp_{t-j} + \gamma_{31} i_{10YTB_{t-j}} + \delta_{31} p_{t-j} + \zeta_{31} u_{t-j} + c_o + \theta_{31} i_{FF_t}^{eff} + \kappa_{32} mb_t + \lambda_{33} m_t + \varepsilon_{3t} \\
p_t &= \alpha_{41} djia_{t-j} + \beta_{41} rgdp_{t-j} + \gamma_{41} i_{10YTB_{t-j}} + \delta_{41} p_{t-j} + \zeta_{41} u_{t-j} + c_o + \theta_{41} i_{FF_t}^{eff} + \kappa_{42} mb_t + \lambda_{43} m_t + \varepsilon_{4t} \\
u_t &= \alpha_{51} djia_{t-j} + \beta_{51} rgdp_{t-j} + \gamma_{51} i_{10YTB_{t-j}} + \delta_{51} p_{t-j} + \zeta_{51} u_{t-j} + c_o + \theta_{51} i_{FF_t}^{eff} + \kappa_{52} mb_t + \lambda_{53} m_t + \varepsilon_{5t}
\end{aligned}
\tag{9}
$$

where, $djia_t$ = LUSDJIA = ln of U.S. Dow Jones Industrial Average Index, $rgdp_t$ = LUSRGDP2012 = ln of U.S. real GDP, $i_{10\text{YTB t}}$ = US10YTB = U.S 10-Year Treasury Bonds Rate, p_t = LUSCPI = ln of U.S. CPI, u_i = USU = U.S. unemployment rate, $i_{FF\,t}^{eff}$ = USFFR = U.S. effective federal funds rate, mb_t, = LUSMB = ln of U.S. monetary base, and m_t = LUSM2 = ln of U.S. money supply (M2).

Data and Empirical Results

This study uses five monthly economic indicators, objective variables (djia, rgdp, $i_{10\text{YTB}}$, p, and u), over the period December 2008-December 2025, which is divided in four sub-periods: (1) ZIRR (2008:12-2015:11), (2) PIRR (2015:12-2020:02), (3) ZIRR-COVID-19 (2020:03-2022:02), and (4) NPIRR (2022:03-present). This is a VAR analysis of eqs. (9) and the variables (dependent and independent) are those mentioned above; and are presented in Tables 3a, 3b, 3c, and 3d. But, first, we show the mean values ($\bar{R}$) and their risk (σ_R) during the four sub-periods, for all these dependent and independent variables; Tables A1 and A2 present them. From 2008:12-2015:11, the g_{M2}=6.163% p.a., the

g_{GDP}=1.857% p.a, the g_{DJIA}=9.952% p.a., and the π=1.586%; from 2015:12- 2020:02, the g_{M2}=5.426% p.a., the g_{GDP}=1.929% p.a., the g_{DJIA}=5.002%,and π=1.969%; and from 2020:03-2022:02, the g_M2=17.015% p.a., the g_{GDP}=2.346% p.a., the g_{DJIA}=21.796% p.a. and π = 4.538%; and after 2022:03, the g_M2=0.239% p.a., the g_{GDP}=5.296% p.a., the g_{DJIA}=7.919% p.a. and π = 3.751%. Where was all this growth of money going? The Main Street expansion (g_{GDP}) was very low. It was going to the stock market (Wall Street) and prices (inflation), eq. (5).

Tables A1 and A2, in the Appendix, show that the worst period was between 2020:03 and 2022:02, which was the suspicious COVID-19 anti-humane period. The money supply was growing 17.015%, the monetary base was growing by 27.935%, the inflation was on the average 4.538%, the stock market (DJIA) was growing by 21.796%, the real GDP was growing by 2.346%, the official unemployment was 6.763%, and the national debt was increasing by 13.465%. All these measures show the suffering of the people and the extremities of our controlled policy makers.

The VAR results, eq. (9), for the U.S. for the period 2008:12-2015:11 appeared in Table 1a and for the period from 2015:12 to 2018:12 are shown in Table 3b below. For period 2020:03 -2022:02, the results are appearing in Table 3c, and for the period 2022:03-2025:06 in Table 3d During the period of ZIRR, the Fed monetary policy had a significant effect only on official unemployment. For the New Era, the Fed had some effects on DJIA and on prices (CPI). For the new ZIRR (COVID-19), the monetary policy had some effects on financial markets (DJIA), on real GDP, and negative effects on unemployment, and stranger coefficients. For the latest period (2022:03-2025:06) the monetary policy had some effects on real GDP. Then, the results show that the new monetary policy is not effective, so this new policy was not the appropriate one; they are just experimental processes without any major social benefits or prevention of crises.

Table 1: Vector Autoregression Estimates for the U.S. (2008:12-2015:11)

Variables	$djia_t$	$rgdp_t$	$i_{0\ YTB_{t-1}}$	p_t	u_t
$djia_{t-1}$	0.678*** (0.119)	-0.002 (0.011)	0.823 (0.554)	0.016** (0.008)	0.347 (0.357)
$djia_{t-2}$	-0.206* (0.117)	-0.001 (0.011)	-0.640 (0.542)	0.001 (0.007)	-0.723** (0.350)
$rgdp_{t-1}$	0.604 (1.305)	0.660*** (0.119)	-5.781 (6.044)	-0.034 (0.083)	-3.833 (3.895)
	1.505	0.121	11.026*	-0.038	-6.948*
$rgdp_{t-2}$	(1.364)	(0.124)	(6.319)	(0.087)	(4.072)
$i_{0\ YTB_{t-1}}$	0.021 (0.024)	0.002 (0.002)	0.990*** (0.110)	-0.001 (0.002)	-0.233*** (0.071)
$i_{0\ YTB_{t-2}}$	-0.005 (0.026)	-0.002 (0.002)	-0.211* (0.119)	-0.001 (0.002)	0.176** (0.077)
p_{t-1}	-1.393 (1.728)	0.096 (0.157)	0.891 (8.005)	1.074*** (0.110)	8.692* (5.158)
p_{t-2}	1.615 (1.579)	-0.023 (0.144)	-17.882*** (7.315)	-0.307*** (0.101)	-5.925 (4.714)
u_{t-1}	0.024 (0.035)	0.001 (0.003)	0.382*** (0.163)	0.001 (0.002)	0.659*** (0.105)
u_{t-2}	0.017 (0.031)	0.001 (0.003)	-0.260* (0.146)	-0.001 (0.002)	0.117 (0.093)
c_0	-21.567** (9.876)	1.334 (0.899)	15.625 (45.755)	1.503** (0.630)	100.804*** (29.484)
$i^{eff}_{FF_t}$	-0.102 (0.262)	0.035 (0.024)	-0.989 (1.214)	-0.006 (0.017)	1.963*** (0.782)
mb_t	0.102 (0.178)	0.021 (0.016)	0.641 (0.826)	0.013 (0.011)	0.952* (0.532)
m_t	0.422 (0.419)	0.026 (0.038)	2.056 (1.943)	0.021 (0.027)	-1.552 (1.252)
R^2	0.976	0.994	0.920	0.996	0.995
SEE	0.042	0.004	0.193	0.003	0.125
F	218.563	807.381	61.995	1263.581	975.740
N	84	84	84	84	84

Note: $djia_t$ = LUSDJIA = ln of U.S. Dow Jones Industrial Average Index, $rgdp_t$ = LUSRGDP2009 = ln of U.S. real GDP, i_{10YTB_t} = US10YTB = U.S 10-Year Treasury Bonds Rate, p_t = LUSCPI = ln of U.S. CPI, u_t = USU = U.S. unemployment rate, c_0 = constant term, $i^{eff}_{FF_t}$ = USFFR = U.S. effective federal funds rate, mb_t = LUSMB = ln of U.S. monetary base, m_t = LUSM2= ln of

U.S. money supply (M2), *** = significant at the 1% level, ** = significant at the 5% level, * = significant at the 10% level, R^2 = R-squared, = S.E. equation, F = F-statistic, and N = number of observations.
Source: See, Table A1.

Table 2: Vector Autoregression Estimates for the U.S. (2015:12-2020:02)

Variables	$djia_t$	$rgdp_t$	i_{10YTB_t}	p_t	u_t
$djia_{t-1}$	0.832*** (0.199)	0.039*** (0.015)	1.852*** (0.788)	0.010 (0.007)	-0.852* (0.464)
$djia_{t-2}$	0.034 (0.239)	-0.012 (0.018)	0.019 (0.944)	0.008 (0.009)	-0.794 (0.556)
$rgdp_{t-1}$	3.991* (2.039)	0.407*** (0.153)	3.696 (8.067)	-0.038 (0.076)	-6.781 (4.753)
$rgdp_{t-2}$	1.004 (2.651)	-0.042 (0.199)	4.673 (10.490)	0.196* (0.098)	-0.222 (6.180)
$i_{10\ YTB_{t-1}}$	0.004 (0.043)	-0.002 (0.003)	1.037*** (0.169)	0.003** (0.002)	0.275*** (0.100)
$i_{10\ YTB_{t-2}}$	0.049 (0.059)	-0.001 (0.004)	0.056 (0.234)	-0.004** (0.002)	-0.405*** (0.138)
p_{t-1}	-4.810 (4.454)	0.016 (0.335)	-0.464 (17.625)	0.750*** (0.165)	-2.382 (10.384)
p_{t-2}	-5.496 (3.877)	0.170 (0.292)	-20.184 (15.340)	-0.204 (0.144)	7.781 (9.038)
u_{t-1}	-0.008 (0.066)	0.001 (0.005)	0.001 (0.260)	0.004 (0.002)	0.424*** (0.153)
u_{t-2}	0.016 (0.061)	-0.005 (0.005)	0.318 (0.241)	-0.001 (0.002)	-0.276** (0.142)
c_0	-8.758 (17.635)	4.898*** (1.327)	0.312 (69.775)	0.129 (0.655)	72.531* (41.111)
$i_{FF_t}^{eff}$	-0.008 (0.053)	0.007 (0.004)	-0.145 (0.211)	0.002 (0.002)	0.111 (0.124)
mb_t	-0.166 (0.327)	-0.025 (0.025)	-1.204 (1.293)	-0.009 (0.012)	0.465 (0.762)
m_t	2.000*** (0.835)	0.029 (0.063)	2.206 (3.302)	0.073*** (0.031)	-1.796 (1.946)
R^2	0.952	0.992	0.922	0.998	0.974
SEE	0.041	0.003	0.160	0.002	0.094
F	56.558	366.421	33.761	1175.987	107.731
N	51	51	51	51	51

Note: See, Table 1a.
Source: See, Table A1.

Table 3: Vector Autoregression Estimates for the U.S. (2020:03-2022:02)

Variables	$djia_t$	$rgdp_t$	i_{10YTB_t}	p_t	u_t
$djia_{t-1}$	-0.041 (0.29)	-0.010 (0.101)	1.827 (1.276)	0.028** (0.013)	3.661 (3.872)
$djia_{t-2}$	-0.033 (0.299)	0.113 (0.104)	0.585 (1.306)	0.011 (0.013)	1.335 (3.962)
$rgdp_{t-1}$	-3.865 (0.800)	-0.332 (0.277)	1.760 (3.492)	-0.010 (0.034)	-26.868*** (10.594)
$rgdp_{t-2}$	-0.640 (0.763)	-0.291 (0.265)	-4.006 (3.330)	-0.055* (0.033)	-8.467 (10.102)
$i_{10YTB_{t-1}}$	-0.043 (0.064)	-0.034 (0.022)	1.096*** (0.279)	0.013*** (0.003)	0.263 (0.847)
$i_{10YTB_{t-2}}$	0.038 (0.064)	-0.016 (0.022)	-0.379 (0.277)	-0.001 (0.003)	1.237 (0.841)
p_{t-1}	1.835 (4.862)	2.975* (1.686)	-33.623 (21.227)	0.653*** (0.209)	5.530 (64.402)
p_{t-2}	-4.596 (4.840)	-3.504** (1.679)	33.642 (21.135)	0.348* (0.208)	59.495 (64.121)
u_{t-1}	-0.016* (0.009)	-0.007*** (0.003)	-0.013 (0.037)	0.001 (0.001)	0.002 (0.113)
u_{t-2}	-0.009 (0.009)	-0.007** (0.003)	-0.026 (0.039)	0.001 (0.001)	-0.074 (0.117)
c_0	16.905* (9.903)	11.368*** (3.435)	11.011 (43.243)	0.370 (0.426)	589.037*** (131.194)
$i^{eff}_{FF_t}$	0.331* (0.196)	0.176*** (0.068)	-0.564 (0.855)	-0.012 (0.008)	-23.604*** (2.594)
mb_t	0.602** (0.315)	-0.026 (0.109)	-0.908 (1.376)	-0.044 (0.014)	3.040 (4.175)
m_t	1.962*** (0.831)	0.695** (0.288)	-0.534 (3.628)	0.023 (0.036)	-68.145*** (11.07)
R^2	0.973	0.971	0.955	0.999	0.991
SEE	0.032	0.011	0.140	0.001	0.426
F	27.901	25.442	16.277	984.310	81.910
N	24	24	24	24	24

Note: See, Table 1a.
Source: See, Table A1.

Table 4: Vector Autoregression Estimates for the U.S. (2022:03-2025:06)

Variables	$djia_t$	$rgdp_t$	i_{10YTB_t}	p_t	u_t
$djia_{t-1}$	0.323* (0.165)	0.003 (0.043)	-0.392(1.322)	0.011 (0.013)	0.387 (0.547)
$djia_{t-2}$	-0.075 (0.159)	-0.034 (0.041)	0.762 (1.269)	0.029*** (0.013)	-0.055 (0.524)
$rgdp_{t-1}$	-0.902 (0.590)	0.433*** (0.154)	6.806 (4.718)	-0.032 (0.047)	-0.693 (1.951)
$rgdp_{t-2}$	1.739*** (0.586)	-0.082 (0.153)	-5.716 (4.690)	0.042 (0.047)	0.875 (1.939)
$i_{10YTB_{t-1}}$	0.001 (0.025)	-0.001 (0.007)	0.585*** (0.202)	0.001 (0.002)	-0.040 (0.084)
$i_{10YTB_{t-2}}$	-0.015 (0.026)	-0.012* (0.007)	-0.208 (0.210)	-0.002 (0.002)	0.012 (0.087)
p_{t-1}	0.091 (2.245)	-1.311** (0.586)	8.915 (17.972)	0.866*** (0.179)	3.080 (7.430)
p_{t-2}	0.159 (2.318)	1.957*** (0.605)	-4.115 (18.555)	-0.011 (0.184)	3.401 (7.671)

u_{t-1}	0.075 (0.061)	-0.020 (0.016)	-0.417 (0.491)	0.002 (0.005)	0.357* (0.203)
u_{t-2}	0.084 (0.065)	0.029* (0.017)	0.345 (0.517)	-0.003 (0.005)	0.062 (0.214)
c_0	-10.208 (9.609)	-2.277 (2.509)	-9.223 (76.907)	0.295 (0.764)	6.207 (31.795)
$i_{FE_t}^{eff}$	0.001 (0.028)	0.017*** (0.007)	0.071 (0.223)	0.001 (0.002)	-0.104 (0.092)
mb_t	0.367 (0.270)	0.015 (0.070)	-0.622 (2.159)	0.002 (0.021)	-0.412 (0.893)
m_t	0.460 (1.060)	0.524** (0.277)	-2.539 (8.483)	0.002 (0.084)	-4.244 (3.507)
R^2	0.942	0.980	0.842	0.994	0.867
SEE	0.036	0.009	0.284	0.003	0.118
F	32.336	96.182	10.667	349.448	13.050
N	40	40	40	40	40

Note: See, Table 1a.
Source: See, Table A1.

Ethics and the Anti-social Cost of the New Policy

Ethics [ἠθική = ethikē = the science that investigates the rules of conduct of people living together in society, doctrinal teaching, conception of the good (virtuous) and the beautiful (kind)], as it was mentioned in the introduction, is a moral philosophy or a discipline concerned with what is morally good and bad, morally true and lie, morally regular (normal) or abnormal (perverse), morally legal or illegal (crime) and morally right and wrong. The term is also applied to any social system, democracy, culture, traditions, politics, economics, history, anthropology, biology, sociology, decision making, justice, social interest, and it is discussed with the theory of moral values, moral life and virtues (i.e., fear of God, faith, courage, justice, peace, prudence, temperance, moderation, modesty, self-respect, respect of human life, repentance, humility, hope, love), theological principles, and practical moral problems. The Greek moral philosophical thought was originally based since the 5th century B.C. on a new moral approach that emerged, at that time, which was using rational arguments leading to the rise of moral philosophy as a distinct mode of thought. This has been attributed to Socrates, Plato, Aristotle (the "supreme good", eudaimonia = blissfulness, prosperity), and many others up to the Revelation in the 1st century A.D., which ultimate objective is to reach perfection. Unfortunately, today, our problem is the imposed ignorance by our woke pseudo-democracies, which are completely controlled by the Illuminati.

The current public policies are causing serious problems to the country and its citizens and unfortunately, to the future generations and the rest of the world. As of the time of writing, there are a little less than 23 million public employees in the U.S., distributed across the three levels of government: 14.9 million in local government, 5.5 million in state government, and 2.4 million in the federal government. Including teachers and those working in education, the total more than doubles to about 16.2 million public employees (excluding federal government) nationwide. The U.S. labor force reached a record high of 168.7 million civilians in September 2024. In October 2024, the civilian labor force amounted to 168.48 million people in the United States. U.S. population is 341.217 million. Thus, 13.65% of the labor force or 6.74% of the total population is working for the government. Also, 37.6 millions are living in poverty, 27.2 millions are without insurance, Medicaid recipients are 86.9 millions, and food stamp recipients are 42.2 millions. Taxes are also very high and the new Trump's administration tries to reduce taxes and increase efficiency in government. Unfortunately, after one and a half year in power, he has done nothing, except a few wars, assassinations and abductions of foreign leaders, with enormous human and economic costs. Thus, the economy is in very bad shape and the world is terrorized. The U.S. economy could have been improved if it had become self-sufficient and its politicians independent from foreign influences. Producing domestically and avoid these huge imports and trade deficits, Graph 7.

The new monetary policy tools (ample reserves, IOR and IONRRP), which kept the deposit rate closed to zero are, if not anything else, are making this public policy an unfair, anti-social, and unethical new monetary policy by going against small savers (investors) and poor taxpayers. Political leaders have no power to regulate the "independent" private central banks, but they can do something for these dishonest ("corrupted") and uncontrolled commercial banks. Central banks' policies are ineffective for the economy, non-preventable for a new financial crisis, and anti-social for the people. Especially, during the suspicious coronavirus fraud and the double digits inflation; the necessary public policy is a combination of monetary and fair and moderate fiscal stimulus policy (no higher taxes due to recession and no wars on fossil fuels and in Ukraine, Palestine, Syria, and Iran) that the government provided. The latest monetary policies benefit only large banks, and generate an enormous social cost.

Social Costs and Benefits of the New Monetary Policy

With **November 2015**, the social cost was in hundreds of billions of dollars. It is obvious, the central bank is working only for the banks and satisfies only their objectives, which are profitability and liquidity. This monetary policy is against the poor depositors (bail in cost = **$838.310** billion p.a. or the "official" bail in cost = $104.104 billion) and against the poor taxpayers (bail out cost = **$5.923** billion p.a.). Thus, it was a pure anti-social policy and at the same time, it had created enormous bubbles in the stock market, a hidden new global crisis, which found an excuse to burst, the Wuhan coronavirus (the innovative COVID-19) and the increases in federal funds rate to control the inflation that their policies have created. With this anti-social and unethical monetary policy, the deposit and saving rate were falling and the personal consumption expenditures were increasing. Thus, the household debt was going up. The social cost of this modern monetary policy is enormous, so this policy is wrong, because in any policy the objective must be minimization of social cost and maximization of benefits.

Unfortunately, the lack of fairness and ethics in monetary policy is continued and taxpayers and depositors are ripped off endlessly. The higher the , the higher the i_ONRRP, and the higher the inflation π, the higher will be the bail out and the bail in cost. With **November 3, 2022**, we had:

(I_a) The total reserves were: R_T = $3,131.4 billion.
The $i_{IOR}=i_{RF}+0.20\%=3.72\%+0.20\%=3.92\%$. But, it was $i_{IOR}=3.90\%$.
Thus, Fed was paying total interest on these reserves (I_R) = $3,131.4 billion x 3.90% = **$122.125** billion per annum. This was a bail out cost that taxpayers are paying.

billion per annum. This was a bail out cost that taxpayers are paying.
(I_b) The overnight reverse repurchase agreements were: $2,230.840 billion.
The i_{ONRRP}=3.80%.
Fed pays an interest of: **$84.772** billion p.a. (bail out cost)
(II) Total deposits (D_T) = $17,782.9112 billion.
D_T = 0.05%

Banks were paying an insignificant total interest on deposits (I_D) = $17,782.9112 billion x 0.05% = **$8.891** billion per annum.

(III) The official inflation rate was (π) = 8.3%; then, = 0.05% -8.3% = -8.25%
Thus, depositors were paying to their banks (bail in cost): $17,782.9112 x (-8.25%) = **$1,467.09** billion.

The SGS consumer inflation (1980-based) was π = 17%.
The true bail in was: $17,782.9112 x (-16.95%) = **$3,014.203** billion p.a.

(IV) Banks could offer loans: $R_E + D_T$ = $3,131.4 billion + $17,782.9112 billion = $20,914.311 billion.

Banks' interest rate was from 6.92% (mortgage rate) to 34.99% (credit cards with bad credit scores). The average i_{CC}= 20.00%. Then, the average loan rate was: $\bar{i}_L$ = (6.92%+20.00%): 2 = 13.46%.

Banks were having an interest revenue (R_I) of $21,449.659 billion x 13.3625% = $2,866.211 billion p.a.

Thus, with the end of November 2025, the social cost was going down. Bail out cost: **$114.843+$0.0831=$114.926** billion to taxpayers p.a. and the bail in cost to depositors is **$958.557** billion and the official is $403.41 billion. Then, there is improvement, now, due to reduction on Fed's interest rates and increase in the deposit rates, and reduction in inflation.

The highest social cost of our monetary policy was between July 26, 2023 to September 17, 2024 where, $(5.25\%\leq\bar{\imath}_{FF}\leq5.50\%)$; with i_{IOR}=5.49%, i_{ONRRP}=5.30%, i_{FF}^{eff} =5.33%, i=0.45%, and π=2.4%.

Concluding Remarks

In response to the global financial crisis of 2008, that we created with our deregulations and globalization, several experimental new policies were enacted that altered the instruments of monetary policy and the structure of the federal funds market in profound ways by keeping the target federal funds rate close to zero for nine years. On the borrowing side, the Fed's large-scale asset purchases (LSAPs) flooded the banking system with liquidity and made it less necessary to borrow or to seek more deposits, which has raised serious ethical policy questions. Banks had a deposit rate closed to zero (i_D=0.05%) for more than fifteen years. In addition, the Federal Deposit Insurance Corporation (FDIC) introduced new capital requirements that increased the cost of wholesale funding for domestic financial institutions. On the lending side, the Federal Reserve is paying financial institutions interest on their reserves (IOR), which exceeds the effective federal funds rate. When financial institutions have access to this low-risk and high liquidity alternative (i_{IOR}), they have less incentive to lend

in the federal funds market (i_{FF}^{eff}), to borrow from the discount

window (i_{DR}), and to pay high interest on deposits (i_D), because,

$i_{DR} > i_{IOR} > i_{FF}^{eff} > i_D$. This policy is inefficient and anti-social,

that means unethical and inappropriate. Since the financial crisis and the Great Recession, the capacity of the U.S. economy to generate growth and rising profits has sharply diminished. The real GDP growth rate since the pre-crisis peak in the fourth quarter of 2007 was just 1.5% p.a., but the stock market has gone way ahead of the economy with a growth of 39% p.a. (Tables A1 and A2 and Figure 3). Lately, due to the absurd war of Israel and U.S. against Iran, the market was falling daily. The Fed's asset inflation has affected all stock market, but mostly the value of tech stocks, the FANGMAN. The question is now, what lies ahead? Normally, the financial asset prices will fall until they go back to the healthy relationship with national income. Then, a financial crisis is expected to strike our economy. This monetary policy and the gamblers and speculators in the financial markets have disconnected the Wall Street from the Main Street. At the same time, much of America's manufacturing capacity has been offshored to China and other countries.

Also, in 2020, Federal Reserve officials signaled plans to keep again interest rates near zero for years to come and said they were studying how to provide more support to a U.S. economy battered by the suspicious and fraudulent coronavirus (COVID-19), the mandatory vaccines, and related shutdowns. "We are strongly committed to using our tools to do whatever we can and for as long as it takes to provide some relief and stability," Fed Chairman Jerome Powell said on June 10, 2020 at a virtual news conference after a two-day policy meeting. Earlier, in 2021, they had said that they will keep up with the liquidity to protect the environment. But, they caused instability in the financial market (Figure 3), high

inflation (Graph 6), and even higher trade deficit (Graph 7), due to devaluation of the dollar (Graphs 8 and 9 and the Appendix A1, etc.) and the inelastic demand for imports. Thus, the unethical bail in and bail out, plus the other "protective" social costs, are continuing for many years; only the Illuminati know the exact time, due to this latest healthcare, financial, economic, environmental, social, politically correct (= absolute wrong), cultural, woke philosophy, cancel culture, technological, educational, conflicts, wars, and other problems that they created to the world, and the worst of all, the election crisis of the 2020 and their new plans for the 2024 one, that they were succeeded; the elected President is following them. People do not trust our democratic (pseudo-democratic) system anymore. The data and the empirical work show that all these results give a questionable effectiveness, efficiency, and social welfare of the new public policies, and have negative effects on the small businesses, on the citizens of the country, and on the ultimate objective economic variables Lastly, the questions are still remaining. Why the Fed needs these overnight deposits (ON RRP)? Why the tax payers have to pay some more billion dollars per annum to these money market nonbank lenders? Why they do not raise the deposit rate (i_D) to increase the deposits (demand for deposit accounts) in our banks, if they need more liquidity? Make the saving account rate $i_D \geq i\_ONRRP \cong 5.32\%$ and not zero ($i_D = 0.05\%$), as it was for 15 years. These new public policies are not necessary and they have also a very high social cost (trillions of dollars bail out cost to tax payers and bail in cost to depositors, plus the capital losses to investors in the financial market and the reduction of purchasing power of the consumers from the double digit inflation). The target federal funds rates are low since 2008. This new monetary policy is also ineffective, as we saw with the VAR analysis. The federal funds market can provide the liquidity for the banks through the OMO without forcing the people to bail out banks by paying IOR and IONRRP. The limited reserve system was sufficient, fair, ethical, safe, secure, and effective to provide all reserves needed in our banking system or even better, we need a public central bank and not an "independent" (private) one. Of course, citizens of the country want safety, security, peace, freedom, economic stability, hope, optimism, and improvement of their social welfare. A public policy must be one that never makes even one individual worse-off or even better that never makes a single individual worse-off globally. The current public policies are not able to provide these basic needs, so there is a necessity for new public policies and efficient and effective policy makers to satisfy these simple humane objectives [6-45].

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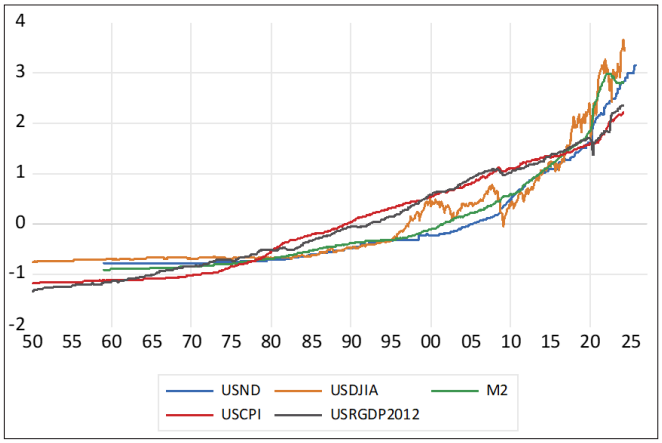
Appendix

Exhibit A1.The Market and the Economy



Note: USND = U.S. National Debt, USDJIA = U.S. DJIA Index, M2 = Money Supply (M2), USCPI = U.S. Consumer Price Index, USRGDP2012 = U.S. Real GDP.

Exhibit A1a. Correlation and Causality

	USND	M2	USDJIA	USCPI	USRG-DP2012
USND	1.000000	0.994729	0.977481	0.895721	0.913994
M2	0.994729	1.000000	0.982212	0.913041	0.929498
USDJIA	0.977481	0.982212	1.000000	0.885965	0.913192
USCPI	0.895721	0.913041	0.885965	1.000000	0.992599
USRG-DP2012	0.913994	0.929498	0.913192	0.992599	1.000000

Note: The causalities bellow show: M^s=>CPI,DJIA,and ND, ND=>DJIA, CPI=>ND, DJIA=>CPI, and GDP=>ND,M^s,and DJIA . Also, GUSM2=>USINF

Exhibit A1b. Pairwise Granger Causality Tests
Date: 01/31/26 Time: 14:02
Sample: 1950M01 2026M12
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
M2 does not Granger Cause USND	781	23.8848	9.E-11
USND does not Granger Cause M2		2.32546	0.0984
USDJIA does not Granger Cause USND	782	5.82049	0.0031
USND does not Granger Cause USDJIA		11.2601	2.E-05
USCPI does not Granger Cause USND	781	5.42373	0.0046
USND does not Granger Cause USCPI		3.89420	0.0208
USRGDP2012 does not Granger Cause USND	781	5.44988	0.0045
USND does not Granger Cause USRGDP2012		4.74348	0.0090
USDJIA does not Granger Cause M2	781	2.23213	0.1080
M2 does not Granger Cause USDJIA		8.15051	0.0003
USCPI does not Granger Cause M2	781	5.69492	0.0035
M2 does not Granger Cause USCPI		6.40767	0.0017
USRGDP2012 does not Granger Cause M2	781	19.3781	6.E-09
M2 does not Granger Cause USRGDP2012		13.5194	2.E-06
USCPI does not Granger Cause USDJIA	889	2.94729	0.0530
USDJIA does not Granger Cause USCPI		5.65915	0.0036
USRGDP2012 does not Granger Cause USDJIA 889	889	4.44880	0.0120
USDJIA does not Granger Cause USRGDP2012		3.19995	0.0412
USRGDP2012 does not Granger Cause USCPI 889	889	1.39492	0.2484
USCPI does not Granger Cause USRGDP2012		4.71185	0.0092

Table 1: U.S. Average Values and Standard Deviations

Zero Interest Rate Regime (2008:12-2015:11) [Alan Greenspan; Ben Bernanke, Janet Yellen]			New Positive Interest Rate Regime (2015:12-2020:02) [Janet Yellen, Jerome Powell]	
	$\overline{R}$	σ_R	$\overline{R}$	σ_R
USFFR	0.129%	0.040%	1.334%	0.736%
USRFFR	-1.458%	3.570%	-0.635%	2.271%
USMB	2,866.094	833.296	3,638.256	233.355
LUSMB	7.918	0.298	8.197	0.065
GUSMB	14.289%	37.538%	-3.622%	22.381%
M2	9,987.648	1,301.828	13,871.07	849.915
LUSM2	9.201	0.130	9.536	0.061
GUSM2	6.163%	6.395%	5.426%	3.885%
USCPI	227.366	8.464	248.209	6.533
LUSCPI	5.426	0.038	5.514	0.026
USINF	1.586%	3.571%	1.969%	2.181%
US10YTB	2.586%	0.628%	2.267%	0.494%
USR10YTB	1.000%	3.493%	0.298%	2.248%
SPREAD1	-2.457%	0.620%	-0.933%	0.679%
STT3M	0.078%	0.058%	1.264%	0.749%
RRFRI	-1.508%	3.561%	-0.705%	2.302%
USPCE	11,029.96	817.193	13,714.21	721.132
LUSPCE	9.306	0.074	9.525	0.053
GUSPCE	3.407%	3.907%	4.098%	3.492%
GUSRPCE	1.821%	3.788%	2.130%	3.377%

GAP1	-3.279%	3.913%	-2.765%	3.575%
USDJIA	13,361.00	3104.75	22,844.18	3,485.551
LUSDJIA	9.471	0.247	10.024	9.709
GUSDJIA	9.952%	55.692%	5.002%	52.341%
USRDJIA	5835.631	1166.922	9,176.579	1,198.882
LUSRDJIA	8.651	0.211	9.116	0.136
GUSRDJIA	8.366%	55.666%	3.033%	52.182
USRGDP2012	16207.12	709.469	18,419.30	549.230
LUSRGDP2012	9.692	0.044	9.821	0.030
GUSRGDP2012	1.857%	4.532%	1.929%	4.301
USU	7.838%	1.544%	4.186%	0.506%
USPSR	5.264%	1.169%	3.688%	1.655%
RPUS10YTB (Risk)	2.508%	0.606%	1.003%	0.675%
USND	15,324.26	2.349.015	20,922.83	1,286.639
LUSND	9.625	0.161	9.947	0.061
GUSND	8.124%	9.256%	4.958%	8.603%

Note: USFFR = U.S. effective federal funds rate, USRFFR = U.S. real effective federal funds rate, USMB = U.S. monetary base, LUSMB = ln of U.S. monetary base, GUSMB = growth of U.S. monetary base, M2 = money supply (M2), LUSM2 = ln of money supply (M2), GUSM2 = growth of money supply (M2), USCPI = U.S. consumer price index, LUSCPI = ln of USCPI, USINF = U.S. inflation rate, US10YTB = U.S. 10-year Treasury bonds rate, USR10YTB = U.S. real 10-year Treasury bonds rate, SPREAD1 = spread between the effective federal funds rate and the yield on 10-year Treasury bonds (normal, positive; flat; inverted yield curve, negative), STT3M= short-term Treasury bill 3-month maturity, RRFRI = real risk-free rate of interest ($i_{RF} - \pi$), USPCE = U.S. personal consumption expenditures, LUSPCE = ln of USPCE, GUSPCE = growth of the USPCE, GUSRPCE = growth of the U.S. real PCE, GAP1 = the gap between the real effective federal funds rate and the growth of the real PCE (=USRFFR-GUSRPCE), USDJIA = the U.S. Dow Jones Industrial Average, LUSDJIA = ln of the DJIA, GUSDJIA = growth of the DJIA, USRDJIA = U.S. real DJIA, LUSRDJIA = ln of the real DJIA, GUSRDJIA = growth of the real DJIA, USRGDP2012 = U.S. real GDP (2012 base year), LUSRGDP2012 = ln of the U.S. real GDP (2012 base year), GUSRGDP2012 = growth of the U.S. real GDP (2012 base year), USU = U.S. unemployment rate, USPSR = U.S. personal savings rate, RPUS10YTB = risk premium on 10-year Treasury bonds (=US10YTB-STT3M), USND = U.S. national debt, LUSND = ln of U.S. national debt, GUSND = growth of U.S. national debt, $\overline{R}$ = the average value of the variable, and σ_R = the standard deviation of the variable.

Table A2. U.S. Average Values and Standard Deviations

Zero Interest Rate Regime-COVID-19 (2020:03-2022:02)			The after COVID-19 Positive Interest Rate Regime (2022:03-present)	
	[Jerome Powell]		[Jerome Powell]	
	$\overline{R}$	σ_R	$\overline{R}$	σ_R
USFFR	0.103%	0.117%	4.220%	1.467%
USRFFR	-4.435%	5.229%	0.469%	5.286%
USMB	5,552.45	702.313	5,632.29	169.140%
LUSMB	8.614	0.132	8.636	0.030
GUSMB	27.935%	67.222%	-1.485%	21.213%
M2	19,624.16	1,532.842	21,230.72	401.980
LUSM2	9.881	0.080	9.963	0.019
GUSM2	17.015%	17.366%	0.239%	6.436%
USCPI	266.796	8.761	307.165	9.352
LUSCPI	5.586	0.033	5.727	0.031
USINF	4.538%	5.183%	3.751%	4.421%
US10YTB	1.179%	0.436%	3.920%	0.584%
USR10YTB	-3.359%	4.896%	0.169%	4.729%
SPREAD1	-1.076%	0.481%	0.300%	1.067%
STT3M	0.098%	0.078%	4.238%	1.339%
RRFRI	-4.440%	5.204%	0.487%	5.246%

USPCE	15,309.13	1,326.269	19,199.13	1,081.357
LUSPCE	9.632	0.089	9.861	0.056
GUSPCE	6.979%	45.494%	5.964%	14.372%
GUSRPCE	2.441%	42.480%	2.213%	14.412%
GAP1	-6.876%	45.541%	-1.744%	14.549%
USDJIA	31,450.35	3,927.306	37,065.76	4,478.515
LUSDJIA	10.348	0.129	10.513	0.129
GUSDJIA	21.796%	52.721%	7.919%	55.987%
USRDJIA	11,760.51	1,173.213	12,040.25	1,143.13
LUSRDJIA	9.368	0.103	9.392	0.095
GUSRDJIA	17.258%	54.623%	4.168%	56.937%
USRGDP2012	19,138.20	801.437	22,465.74	1,156.525
LUSRGDP2012	9.859	0.043	10.018	0.053
GUSRGDP2012	2.346%	30.274%	5.296%	16.016%
USU	6.763%	2.712%	3.813%	0.263%
USPSR	12.988%	6.815%	4.898%	1.112%
RPUS10YTB (Risk)	1.081%	0.464%	-0.318%	0.956%
USND	27,985.89	1,533.849	33,565.32	2,102.996
LUSND	10.238	0.057	10.419	0.063
GUSND	13.465%	33.637%	5.247%	10.128%

Note:See, Table A1.
Source: See, Table A1.

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