UNIVERSIDAD PONTIFICIA
ICAI ICADE
COMILLAS
MADRID

"Analysis of the evolution and effectiveness of the Fed's monetary policy from 2008 until today"

Author: Johannes Knieriem

Tutor: Rosa María Mártinez Cal

1. Introduction

1.1 Purposes and Objectives of This Paper

I have chosen this topic for my study given the growing awareness of central banks' influence in the economy in recent years, with inflation very present in our daily lives and central banks struggling to deal with it. These public institutions' sole purpose is maintaining stable economic growth, and have several tools and resources at their disposal to do so.

How the economy works and what are the main forces influencing it is something that has always been of great interest to me, as Thus, I wish to delve into how the central bank of the world's biggest and most influential economy operates, and analyse the effectiveness of its measures and policies in said economy.

The main purpose and focus of this paper is to test the following hypothesis - *"There has been a substantial change in the Fed's monetary policy focus since the 2008 financial crisis, and its monetary policy has been effective in achieving its dual mandate of price stability and maximum employment".*

Since the 2008 global financial crisis, the Federal Reserve (the Fed) has navigated through varying economic landscapes using a dynamic range of monetary policies. This thesis examines the Fed's shifts between loose and tight monetary policies over the years, analysing how these transitions have been influenced by changing economic conditions. The crisis of 2008 necessitated unprecedented monetary interventions, marking the beginning of a new era in central banking in the United States (Bernanke, 2015). Following this, the Fed has alternated between periods of expansive (loose) and restrictive (tight) monetary policies in response to economic recoveries, downturns, and more recently, the global pandemic (Yellen, 2018).

This study seeks to delve into the multifaceted rationale behind the Fed's decisions, understanding which economic indicators, global events, or financial pressures prompted shifts from expansionary to contractionary monetary stances and vice versa. This involves not only identifying the immediate triggers of policy changes but also considering the broader economic contexts that shaped these decisions (Board of Governors of the Federal Reserve System, 2021).

Moreover, this study intends to evaluate how effectively these shifts have met the Federal Reserve's dual mandate of maintaining price stability and fostering maximum sustainable employment. It explores the implications of the Fed's monetary policies, assessing their outcomes in the context of evolving economic challenges. This includes a review of the stability of financial markets, the trends in employment and inflation rates, and the overall health of the national economy (Mishkin & Eakins, 2018).

In doing so, the thesis will also reflect on the evolution of the Fed's policy focus over time. It will analyse whether the prioritisation of certain economic goals over others has shifted and how these changes align with the theoretical frameworks of monetary policy (Blinder & Reis, 2015).

Through a comprehensive descriptive analysis of past and present monetary policies, this thesis contributes to a deeper understanding of central banking decisions in times of economic stability and crisis. It provides a critical evaluation of the strategies employed by the Federal Reserve, offering insights that elucidate the complex dynamics of monetary policy implementation and its impact on the economy.

Objectives of the study

Thus, the primary aim of this study is to examine the Fed's course of action during the period from 2008 (post-crisis) until today, attempting to detect the drivers behind its policy shifts and how these have changed over the years. The hypothesis to be tested here is "Has there been a substantial change in the Fed's monetary policy focus since the 2008 financial crisis, and has its monetary policy been effective in achieving its dual mandate of price stability and maximum employment."

In the course of arriving at the desired conclusion, a secondary objective will be to identify correlations between a variety of economic indicators and general macroeconomic trends. Though this is not the main goal of the study, the aforementioned analysis will inevitably delve into these matters.

1.2. Methodology

To thoroughly examine the hypothesis to be tested, the research will adopt a detailed methodological approach that integrates historical narrative construction, comparative analysis, and effectiveness evaluation.

The study will compare economic conditions, policy objectives, and tools used during each identified period to detect any significant shifts in the Fed's approach to managing economic conditions. The effectiveness of the Fed's monetary policies in achieving its dual mandate will be critically assessed, focusing on maintaining price stability and fostering maximum employment through policy decisions across various economic cycles. The research will synthesise the historical narrative, comparative findings, and effectiveness evaluations to provide a coherent response to the study's central hypothesis, assessing whether there has been a substantial shift in the Fed's monetary policy focus and its effectiveness in achieving price stability and maximum employment.

The methodology to be applied in this paper will be deductive, as the goal is to test a generally accepted hypothesis. The approach to reach a deduction in relation to this hypothesis will be purely descriptive, seeking to identify and evaluate tendencies during a specific timeframe (2008 - Present), rather than making predictions on the Fed's future policies. This approach guarantees a thorough exploration of the Federal Reserve's policy shifts and their outcomes but also provides a structured approach to understanding the complexities and nuances of central banking in the post-crisis era.

As the hypothesis here raised is a generally accepted one, the expected results of this study are that the Fed has in fact changed its focus throughout the years in an effort to constantly adapt to economic conditions, and that it has been effective in achieving its dual mandate during this period.

2. Theoretical Framework

2.1. History and Creation of the Federal Reserve

The Federal Reserve System, commonly referred to as the Federal Reserve or simply "the Fed," was established in response to a series of financial crises that culminated in the Panic of 1907. This particular financial panic underscored the need for a central bank to provide stability to the U.S. banking system. After considerable debate over the structure and functions of such an institution, the Federal Reserve Act was signed into law by President Woodrow Wilson on December 23, 1913 (Federal Reserve Bank of St. Louis, 2022).

The Federal Reserve was created as the central bank of the United States to provide the nation with a safer, more flexible, and more stable monetary and financial system. The initial structure of the Federal Reserve was designed to decentralise central banking power through the establishment of twelve regional Federal Reserve Banks, each serving a specific geographic area of the U.S. This decentralised structure was a compromise that balanced the competing interests of private banks and populist sentiment, addressing fears that a central bank might become too powerful (Meltzer, 2003).

The governance of the Federal Reserve involves a Board of Governors consisting of seven members, including the Chair and Vice Chair, who are appointed by the President of the United States and confirmed by the Senate. The Federal Open Market Committee (FOMC), which is pivotal in setting U.S. monetary policy, includes the Board of Governors and five of the twelve regional Federal Reserve Bank presidents. The president of the Federal Reserve Bank of New York is a permanent voting member, while the other presidents rotate on a yearly basis, ensuring broad representation from across the country over time. The presidents of these banks are selected by their respective boards of directors and approved by the Board of Governors, reflecting a system designed to balance public and private interests in the governance of the bank.

The primary purposes of the Federal Reserve as outlined in the Federal Reserve Act were to manage the nation's money supply and influence U.S. economic conditions. Key functions include handling the country's monetary policy, supervising and regulating banking institutions, maintaining financial stability, and providing financial services to depository institutions, the U.S. government, and foreign official institutions (Board of Governors of the Federal Reserve System, 2021).

Over the years, the role and functions of the Federal Reserve have expanded significantly. Major amendments to the Federal Reserve Act, such as those enacted after the Great Depression in the 1930s, have given the Fed more power to influence economic outcomes. The Fed's roles were further defined and expanded with the Banking Act of 1935 and subsequent legislation that shaped its dual mandate — to foster economic conditions that achieve both stable prices and maximum sustainable employment (Bernanke, 2015).

Today, the Federal Reserve plays a crucial role in shaping U.S. economic policy and is pivotal in managing the U.S. government's policies on interest rates and money supply. Its actions are closely watched by financial markets around the world, reflecting its powerful influence on global economic conditions.

2.2. The Fed's Dual Mandate

The Fed's monetary policy decisions are guided by two long-standing economic objectives set by Congress to ensure the USA's economic stability. These two primary goals are Maximum Employment and Price Stability.

2.2.1. Maximum Employment

Maximum employment is vital for economic growth and productivity. High employment levels mean more people are earning incomes, which fuels consumer spending - the primary driver of economic growth in the U.S. This increased employment also leads to higher productivity, beneficial for both businesses and consumers. High employment levels contribute to economic stability by reducing economic hardship and the associated social stressors such as economic inequalities that can lead to societal unrest (i.e. wars, strikes and other forms of conflict detrimental to economic stability and growth).

This objective focuses on achieving the highest level of employment that the economy can sustain without causing inflation. The concept of maximum employment does not imply zero unemployment, as there will always be some level of frictional unemployment in the economy as people move between jobs and locations. Instead, it refers to the level of employment at which additional job creation would not cause excessive inflationary pressures. The specific level of what constitutes "maximum employment" is not fixed and can change based on developments in the economy.

To measure employment rates and assess maximum employment, the Federal Reserve primarily looks at the unemployment rate. This rate is a key indicator and is calculated using the formula:

$$\text{Unemployment Rate} = \left(\frac{\text{Number of Unemployed Persons}}{\text{Labor Force}} \right) \times 100$$

Here, the labour force includes all people classified as employed or unemployed (those who do not have a job but have actively looked for work in the past four weeks and are currently available for work).

Monitoring Measure: U-3 Unemployment Rate

2.2.2. Price Stability

Price stability is equally critical as it ensures predictability for long-term planning and investments. Stable prices allow businesses to invest confidently in growth and innovation and enable consumers to make spending and saving decisions without fear of sudden inflation or deflation. Price stability protects against the effects of inflation, which can significantly diminish purchasing power, affecting those on fixed incomes. Conversely, deflation can lead to reduced consumer spending as expectations of lower future prices discourage immediate purchases, potentially slowing economic growth and leading to recessions.

This goal aims to maintain a stable price level for goods and services, which the Fed typically operationalizes as a low and stable rate of inflation. Since 2012, the Federal Reserve has defined this objective quantitatively as an inflation rate of 2% over the longer run, as measured by the annual change in the Core Price Index for Personal Consumption Expenditures (PCE). The 2% target is believed to be low enough to protect the economy from the harmful effects of deflation and high enough to give the Fed room to reduce interest rates during economic downturns.

$$\text{PCE Price Index} = \left(\frac{\text{Current Price of PCE Basket}}{\text{Base Year Price of PCE Basket}}\right) \times 100$$

The measurement of inflation is a never ending debate, and while the Fed ultimately measures price stability through the PCE, CPI is an equally valued measure by the world's top inflation analysts. Nevertheless, it is agreed that in both cases "Core" measurement is most accurate, as it excludes the prices of volatile goods like food and energy, which can be affected by random variables such as climate conditions or geopolitical conflicts.

Although the formula for both is practically the same (find the CPI formula below), the Fed's preference for the PCE is mostly due to its more inclusive and extensive basket of goods and services (together with its adjustment for changes in consumer behaviour), making it a more accurate indicator for monetary policy decisions.

$$\text{CPI} = \left(\frac{\text{Cost of Basket in Current Year}}{\text{Cost of Basket in Base Year}}\right) \times 100$$

Monitoring Measure: Quarterly Core PCE, Adjusted for seasonality

2.2.3. Inflation-Unemployment correlation (Phillips Curve)

There is a key factor to take into account when talking about the Fed's dual mandate, which somewhat complicates the simultaneous achievement of both objectives. Said factor is the inverse correlation between the Inflation and Unemployment rates. In simple terms, this inverse relationship is based on the idea that lower unemployment leads to higher demand for goods and labour, which can drive up prices and wages, thus increasing inflation. Conversely, higher unemployment indicates less demand, which can lead to lower prices and inflation rates. However, this correlation can vary depending on economic conditions and other factors affecting the market.

The model historically used to explain the correlation between the two is known as Phillips Curve, which states that the inflation rate depends on three forces (Mankiw, 2018):

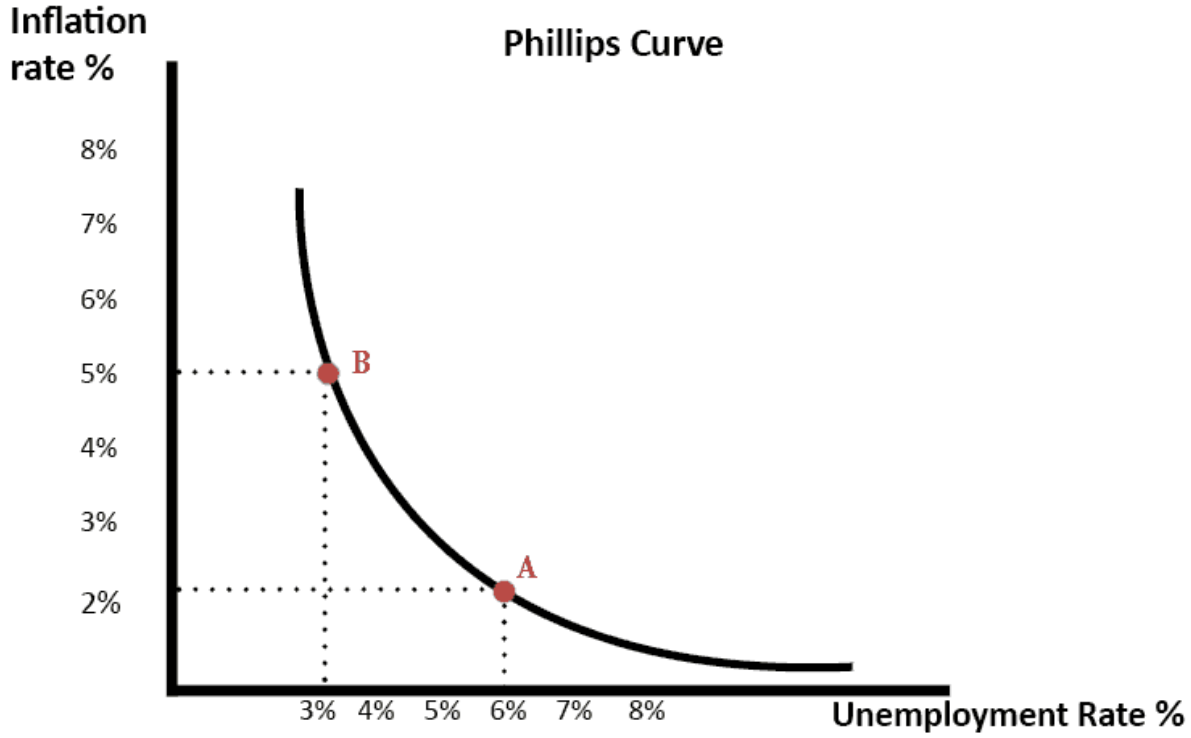
- Expected inflation
- The deviation of unemployment from the natural rate, called cyclical unemployment

- Supply shocks

These forces are expressed in the following equation (also from Mankiw's book):

$$\text{Inflation} = \begin{matrix}\text{Expected}\\ \text{Inflation}\end{matrix} - \left(\beta \times \begin{matrix}\text{Cyclical}\\ \text{Unemployment}\end{matrix}\right) + \begin{matrix}\text{Supply}\\ \text{Shock}\end{matrix}$$

where "B" is the parameter measuring the response of inflation to cyclical unemployment.



Investopedia's Phillips Curve

2.3. Monetary Policy Tools

While the Fed has several tools at its disposal in the procurement of its Dual Mandate, we will focus on Benchmark interest rates (Fed Funds Rate) and Extraordinary interventions (Quantitative Easing, Credit Facilities). These tools represent the most direct and potent tools used by the Federal Reserve to influence the U.S. economy because they directly affect the cost of borrowing and the availability of credit. Adjustments to the Fed Funds Rate immediately impact interest rates across the banking system, influencing consumer and business spending. Meanwhile, extraordinary interventions provide targeted financial support during crises, ensuring liquidity and stability in financial markets, which are crucial for maintaining confidence and fostering economic recovery during downturns.

It is important to highlight that the Fed only usually only makes use of its tools (i.e. changes in interest rates) during one the eight regularly scheduled meetings throughout the year, held by the FOMC (Federal Open Market Committee). However, it is not limited to making

decisions only during these meetings, and has the ability to act outside of said meetings if economic conditions warrant immediate action, a crucial flexibility in responding to unexpected financial crises or significant economic shocks (i.e. 2008 Financial Crisis or Covid-19).

2.3.1. Benchmark interest rates (Fed Funds Rate)

The benchmark interest rate, specifically the Federal Funds Rate (Fed Funds Rate), is the rate at which depository institutions (banks and credit unions) lend reserve balances to other depository institutions overnight on an uncollateralized basis. It is a crucial monetary tool used by the Federal Reserve to influence broader economic conditions in the United States, including the cost of credit, overall economic growth, and employment levels (Mishkin, 2007).

The Fed Funds Rate is used primarily to regulate the supply of available funds in the banking system, thereby influencing inflation and stabilising the currency. By altering the cost of credit, the Fed Funds Rate directly impacts how much it costs banks to borrow money. Banks, in turn, pass these costs on to consumers and businesses in the form of interest rates on loans and mortgages. When the Fed Funds Rate is low, borrowing costs decrease, which can stimulate spending and investment by businesses and consumers. Conversely, when the rate is raised, borrowing costs increase, which can help slow economic activity and curb inflation.

For example, if the Federal Reserve observes that inflation is rising above its target level, it might decide to increase the Fed Funds Rate. This increase would make borrowing more expensive, potentially slowing consumer spending and business investments, and as a result, help moderate the inflation rate.

Monitoring Measure: Fed Funds Rate

2.3.2. Quantitative Easing/Tightening (Fed's Balance Sheet)

Quantitative Easing (QE) and Quantitative Tightening (QT) are two monetary policy tools used by the Federal Reserve to manage the economy through adjustments in its balance sheet. These tools are essentially opposite actions intended to stimulate the economy or control inflation and excess liquidity.

Quantitative Easing (QE)

Quantitative Easing is a form of monetary policy used by central banks to stimulate the economy when standard monetary policy has become ineffective. Central banks implement QE by purchasing predetermined amounts of government bonds or other financial assets from the market in order to inject a specified quantity of money into the economy. This is intended to lower interest rates and increase the money supply.

Through QE, the Fed purchases longer-term securities from the open market, thereby increasing the money supply and decreasing the yield on those securities. This process expands the Fed's balance sheet as it adds new assets. The purchases are made with new

electronic money that the Fed creates, which adds more liquidity to the banking system, encouraging banks to lend and invest more freely.

By lowering interest rates and increasing the money supply, QE aims to boost economic activity by making borrowing cheaper for businesses and consumers. It can also raise asset prices, which enhances wealth and encourages spending through the wealth effect (

Quantitative Tightening (QT)

Quantitative Tightening is the reverse process of Quantitative Easing. It involves the central bank selling off assets from its balance sheet or allowing them to mature without reinvestment, effectively reducing the amount of money in the economy.

QT is implemented by the Fed either selling securities it holds or ceasing to reinvest the proceeds of maturing securities. This reduces the size of the Federal Reserve's balance sheet and decreases the excess reserves held by banks.

The primary goal of QT is to control inflation and stabilise the economy by soaking up excess liquidity. By reducing the money supply and increasing interest rates, QT can help temper an overheated economy, prevent an over-expansion of asset bubbles, and maintain price stability.

Both QE and QT are powerful tools that affect the economy by influencing liquidity levels, interest rates, and investor behaviour. The Federal Reserve decides which tool to use based on current economic conditions, objectives, and the effectiveness of previous measures (Board of Governors of the Federal Reserve System).

Monitoring Measure: Federal Reserve Balance Sheet - Total Assets

2.3.3. Other tools (Credit Facilities, Open market operations, Repo and Reverse Repo operations, Reserve requirements)

Of course, the Fed has a wide range of additional tools at its disposal, though not as impactful as the two previously mentioned. These include Credit Facilities, Open market operations, Repo and Reverse Repo operations, Reserve requirements. We will go through each one by one.

Credit Facilities: These are special mechanisms set up by the Fed to provide liquidity to specific parts of the financial markets during times of stress, ensuring that credit continues to flow to households and businesses.

Open Market Operations (OMOs): As the Fed's primary tool for monetary policy, OMOs involve buying or selling government securities in the open market to regulate the nation's money supply and influence interest rates. This is detailed in the Federal Reserve's description of their monetary policy tools (Board of Governors of the Federal Reserve System, n.d.).

Repo and Reverse Repo Operations: These operations help manage short-term liquidity. In repo operations, the Fed lends money overnight to financial institutions secured by collateral. Reverse repos absorb cash from the financial system, as outlined by the Federal Reserve Bank of New York (2021).

Reserve Requirements: Historically, this tool required banks to hold a minimum amount of reserves against deposits, directly influencing how much money they could lend. However, the Federal Reserve eliminated reserve requirements in March 2020, reducing their role in daily monetary policy. This elimination played a role in the events leading up to the bankruptcy of institutions like Silicon Valley Bank last year. With no reserve requirements, banks were able to lend more freely, but this also meant they had less liquidity on hand to manage sudden large withdrawals, contributing to their instability when facing financial stress (Federal Reserve, 2020).

These tools collectively enable the Fed to influence liquidity, manage interest rates, and ensure the stability of the financial system.

3. Eras of Monetary Policy Since 2008

Since the 2008 financial crisis, the Federal Reserve has undergone significant transformations in its approach to monetary policy, prompted by a sequence of profound economic upheavals and shifts in the global financial landscape. This period has been marked not only by the initial crisis but also by subsequent challenges and recoveries that have tested the Fed's policy frameworks and tools. This section of the thesis delves into the evolution of the Fed's monetary policy from 2008 through 2024, tracing how its strategies have adapted to a series of crises, recoveries, and unforeseen global events. Each phase in this timeline encapsulates a distinct response to specific economic contexts, highlighting how the Fed has recalibrated its policies to fulfil its dual mandate of promoting price stability and maximising employment (Board of Governors of the Federal Reserve System, n.d.).

3.1. Response to the Crisis (2008-2012)

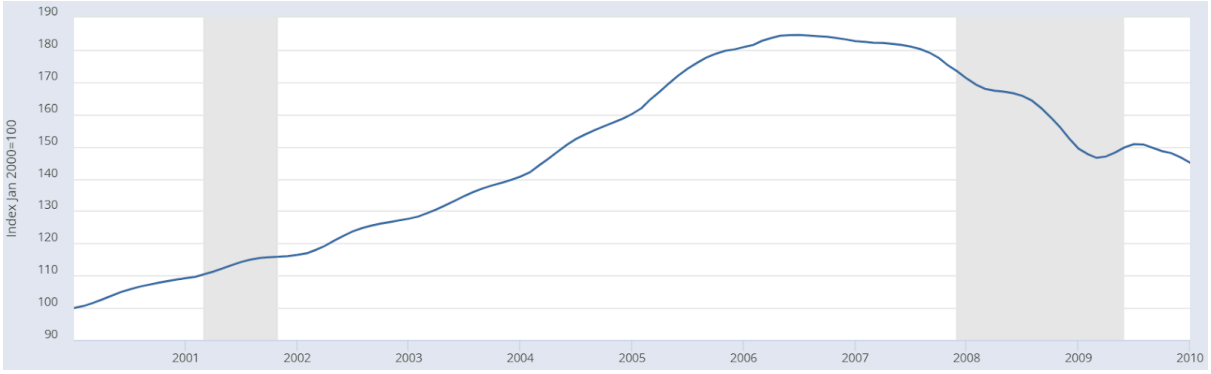
The period between 2008 and 2012 was marked by the most severe financial crisis since the Great Depression. The crisis triggered profound repercussions across the global economy, directly impacting the U.S. financial system and economy.

3.1.1. Context/Economic Situation

The period between 2008 and 2012 was marked by a global financial crisis that originated in the United States, stemming from a confluence of factors that transformed a housing market downturn into a full-blown economic meltdown. This crisis, one of the worst since the Great Depression, was precipitated by a dramatic expansion in the availability of credit, a surge in housing prices, and a significant increase in high-risk mortgage lending (Bernanke, 2015).

The housing boom in the early 2000s was fueled in part by historically low interest rates and an influx of investment in the housing market. Financial innovations, such as the securitization of mortgages and the widespread use of complex derivatives, allowed risk to be spread across investors globally but also obscured the true credit risks. These financial practices were predicated on the belief that housing prices would continue to rise, which encouraged both borrowers and lenders to take on increasingly speculative positions (Krugman, 2009).

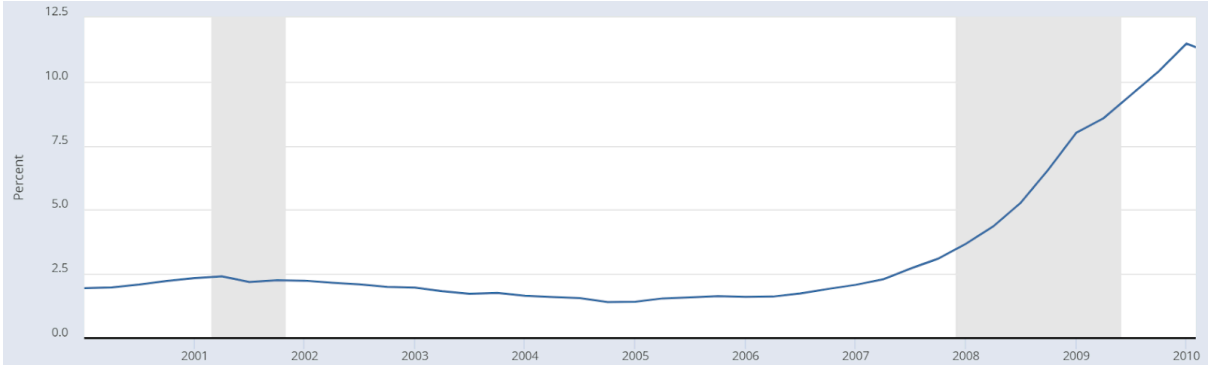
S&P CoreLogic Case-Shiller U.S. National Home Price Index (2000-2010):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

As housing prices began to plateau and then decline in 2006 and 2007, borrowers found themselves unable to refinance their mortgages, leading to a sharp increase in defaults, particularly among subprime borrowers who were most vulnerable to economic shifts. The defaults led to a rapid devaluation of mortgage-backed securities, which were held as assets by financial institutions around the world. As these assets plummeted in value, banks and other financial entities saw their capital reserves dangerously eroded, leading to a credit crunch where lending dried up across the economy (Bernanke, 2015).

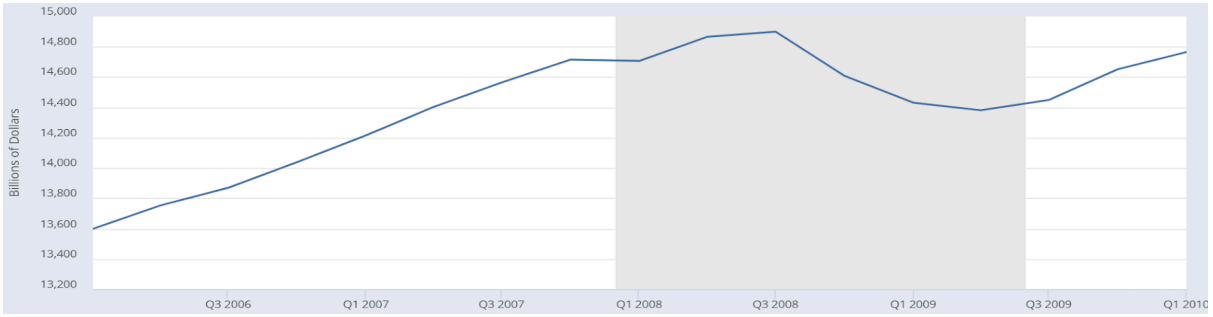
Delinquency Rate on Single-Family Residential Mortgages, Booked in Domestic Offices, All Commercial Banks (2000-2010):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

As can be observed in the graph below, the result was the first economic recession by definition (two negative GDP growth quarters - grey highlighted area) in decades.

Gross Domestic Product (2006-2010)



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

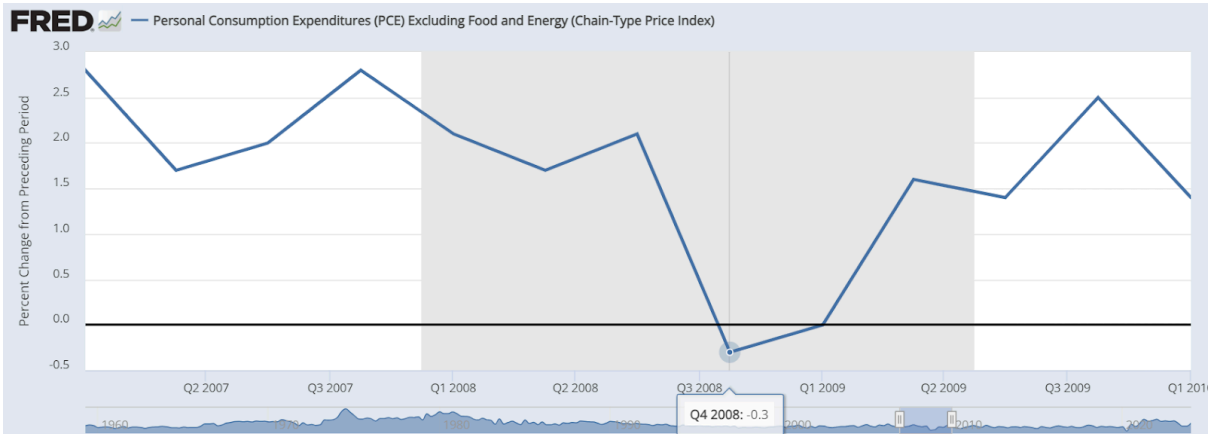
The impact was not confined to the financial sector; it spilled over into the broader economy through decreased consumer spending and business investment, leading to dramatic job losses and a steep economic downturn. The crisis brought significant flaws in financial regulation to light, risk management practices, and the understanding of complex financial products. It also prompted a reevaluation of the role of credit in the economy and the mechanisms of financial oversight (Krugman, 2009).

Fed's Dual Mandate - PCE and Unemployment:

- Core PCE: The sharp decrease in consumer spending and business investment resulted in a full year (Q4 2007 - Q4 2008) of demand-driven deflation, with the **PCE**

rate reaching all-time lows of **-0.3% in Q3 2008**. This is the first time the PCE rate ever came below 0.

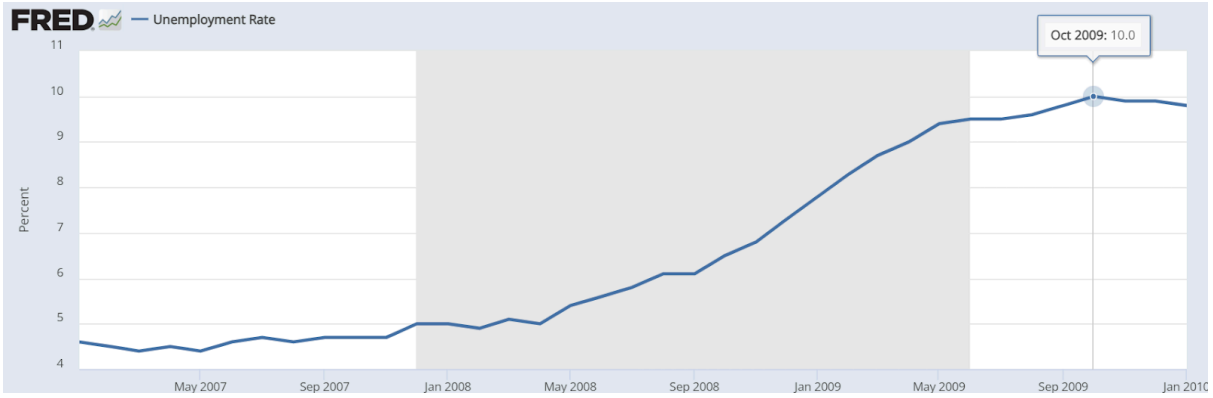
Core PCE Adjusted for Seasonality (Q4 2008):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

- U-3 Unemployment Rate: In regards to unemployment, the **U-3 Unemployment rate** reached the **10% mark by October 2009**, the highest level since November 1982.

U-3 Unemployment Rate (October, 2009):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

3.1.2. Monetary Policy Overview

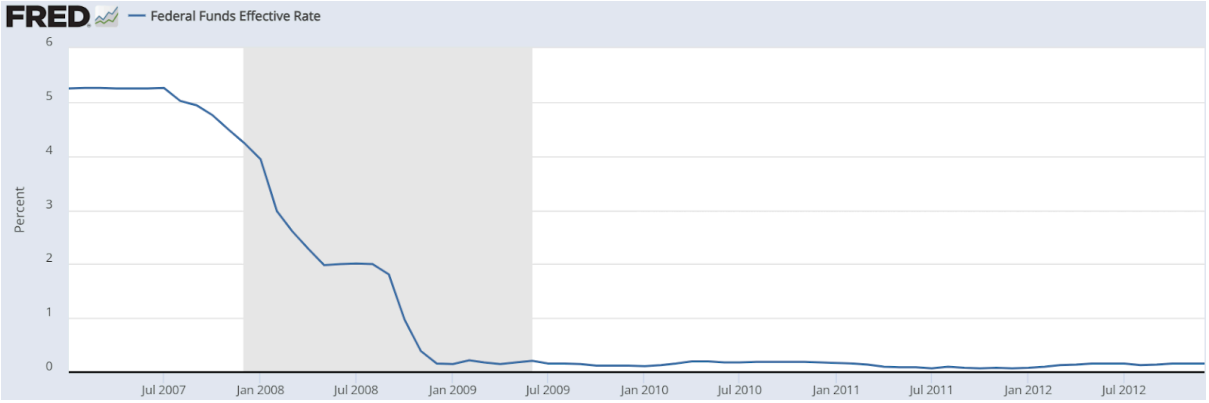
Following the 2008 financial crisis, the Federal Reserve implemented a series of extraordinary monetary policy measures to counteract the economic downturn and stabilise the financial system. The two main tools at its disposal during this period were adjustments to the Federal Funds Rate and significant changes to its balance sheet through activities known as Quantitative Easing (QE) and, eventually, preparations for Quantitative Tightening (QT).

Federal Funds Rate Adjustments:

As the financial crisis unfolded in 2008, the Federal Reserve faced a rapidly deteriorating economic landscape, marked by faltering financial institutions, plummeting stock markets, and rising unemployment. In response, the Fed aggressively cut the Federal Funds Rate,

lowering it from 5.25% in September 2007 to an unprecedented range of 0-0.25% by December 2008. This near-zero interest rate policy was intended to reduce borrowing costs, encourage lending, and stimulate economic activity. The decision to lower the rates to such a degree was directly influenced by the severe recessionary pressures and the need to boost economic confidence in a climate of extreme uncertainty (Board of Governors of the Federal Reserve System, 2020).

Fed Funds Rate (2007-2012):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

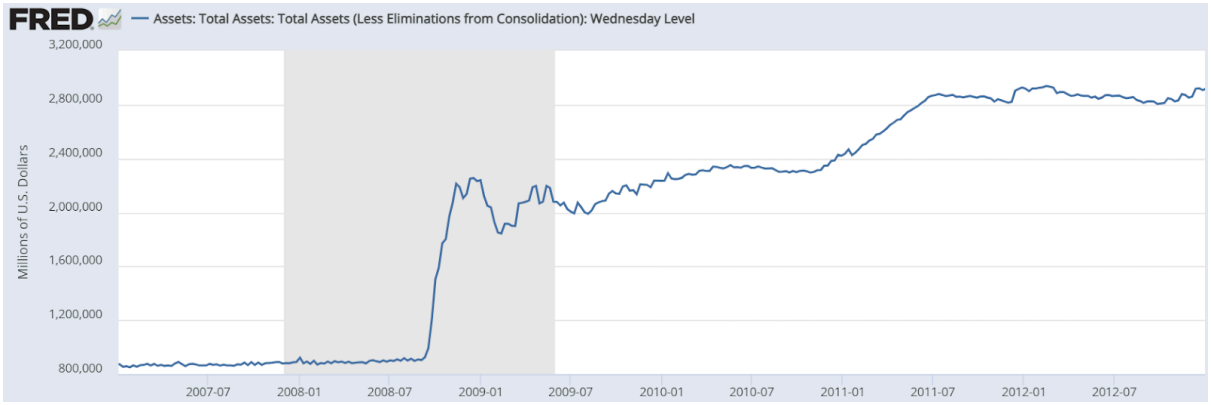
Quantitative Easing (QE):
As lowering the Federal Funds Rate proved insufficient to thaw the credit freeze and restore normalcy, the Federal Reserve embarked on a novel monetary policy experiment known as Quantitative Easing. QE involved the large-scale purchase of long-term securities, including Treasury bonds and mortgage-backed securities, to directly inject liquidity into the financial system. This was a departure from traditional monetary policy tools and was necessitated by the unusual economic conditions where more conventional tools had limited effectiveness due to already low interest rates.

The first round of QE began in late 2008, with the Fed announcing it would purchase up to $100 billion in government-sponsored enterprise (GSE) debt and $500 billion in mortgage-backed securities. The scope of QE was expanded over the following years through multiple rounds:

- QE1 (2008-2010): Focused primarily on stabilising the housing market by purchasing mortgage-backed securities.
- QE2 (2010-2011): Announced in November 2010, this involved purchasing an additional $600 billion in Treasury securities to further lower long-term interest rates and promote more economic spending (Yellen, 2013).
- Operation Twist (2011-2012): Though not a direct expansion of the balance sheet, this involved the Fed buying long-term Treasuries while simultaneously selling shorter-term government bonds to help lower long-term interest rates without further ballooning its balance sheet.

These measures can be observed looking at the size of the Fed's Total Assets, with a sharp spike in value in mid-2008, mainly a result of the purchase of mortgage-backed securities in response to the crisis.

Federal Reserve Balance Sheet - Total Assets (2007-2012):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

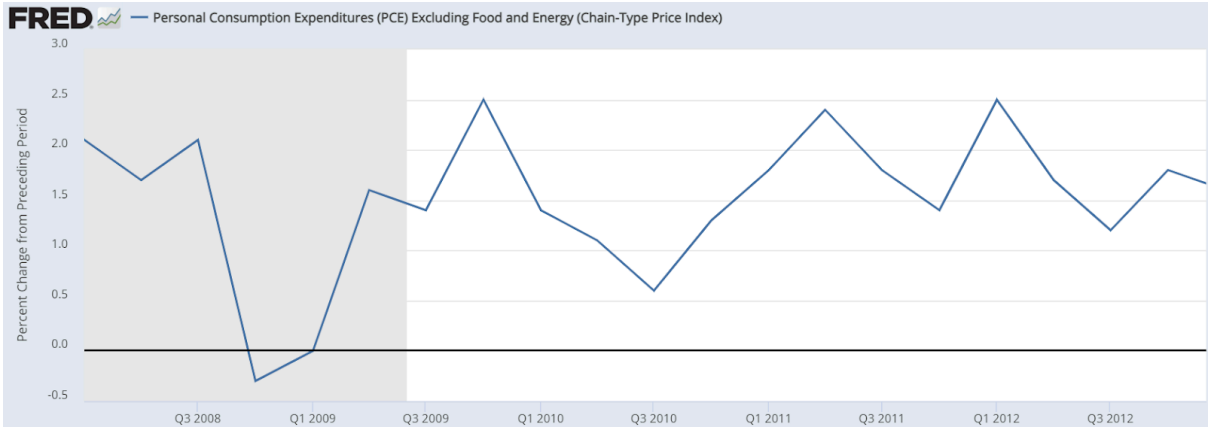
These measures aimed to depress long-term interest rates, encourage risk-taking, stabilise asset prices, and improve overall financial conditions by increasing the money supply and fostering greater liquidity. The impact of QE was profound, leading to a recovery in asset prices, lowering borrowing costs for companies and households, and contributing to a gradual return of confidence in the financial markets.

The aggressive monetary policies during 2008-2012 were a direct response to the economic turmoil described earlier. With the financial systems near collapse and traditional monetary policy tools exhausted by the zero lower bound of interest rates, the Federal Reserve's decision to expand its balance sheet was pivotal. It not only aimed at stabilising the financial markets but also at averting a deeper economic depression. The policies enacted during this period laid the groundwork for the economic recovery that would follow, although they also set the stage for new challenges in terms of unwinding these measures in subsequent years.

Fed's Dual Mandate - PCE and Unemployment (2008-2012):

- Core PCE: Inflation was maintained at stable levels during this period, at an average of c. 1.5%.

Core PCE Adjusted for Seasonality (2008-2012):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

- U-3 Unemployment Rate: Unemployment stopped rising coming into 2010, but remained sticky throughout the period.

U-3 Unemployment Rate (2008-2012):

Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

3.2. Recovery and Normalisation (2013-2019)

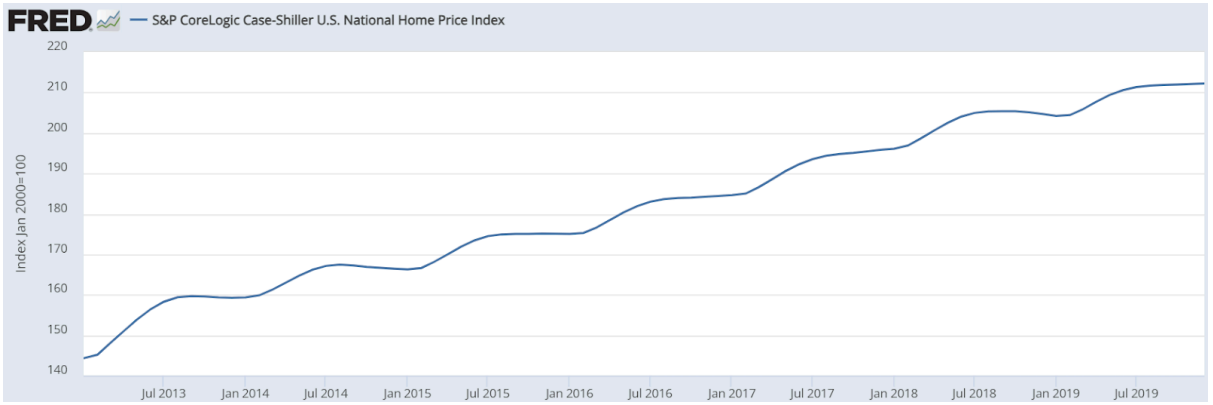
The phase of recovery and normalisation from 2013 to 2019 represented a crucial period in the aftermath of the 2008 financial crisis, marking the transition from immediate crisis response to fostering a stable and sustainable economic environment. This era was characterised by gradual healing and rebalancing in the U.S. economy, setting the stage for subsequent monetary policy decisions aimed at normalisation.

3.2.1. Context/Economic Situation

As the U.S. economy entered 2013, it was emerging from the depths of the financial crisis with foundational shifts underway across several key economic sectors. The labour market had begun to recover, yet the pace was uneven, with unemployment rates slowly receding from their peak in 2009. By 2013, the unemployment rate had dropped to under 8%, a significant improvement but still above pre-crisis levels, signalling ongoing challenges in achieving full employment (Board of Governors of the Federal Reserve System, 2014).

The housing market, which had been at the epicentre of the crisis, showed signs of stabilisation and gradual recovery. Housing prices began to rise, restoring wealth to homeowners and reigniting sectors connected to real estate and construction. This recovery in housing prices helped to mend household balance sheets and contributed to a slow but steady increase in consumer spending (Federal Reserve Bank of St. Louis, 2014).

S&P CoreLogic Case-Shiller U.S. National Home Price Index (2013-2019):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

Financial institutions had strengthened considerably by 2013, bolstered by stricter regulatory measures and an environment of low interest rates that facilitated debt restructuring and improved interest margins. The banking sector's recovery was further supported by a series of stress tests and capital requirements that ensured greater resilience against potential shocks (Bernanke, 2015).

Globally, the economic landscape was mixed, with Europe still grappling with the aftermath of its sovereign debt crisis and emerging markets experiencing varied growth rates. This global uncertainty underscored the interconnectedness of the U.S. economy with global financial markets and influenced domestic economic policies and conditions.

This period of recovery set a complex backdrop for the Federal Reserve's monetary policy strategies, as it balanced the dual objectives of fostering economic growth and ensuring financial stability. The improvements in employment and the stabilisation of the housing market were positive signs, but the full recovery was yet to solidify, necessitating careful and measured steps toward normalisation.

Fed's Dual Mandate - PCE and Unemployment by December, 2012:

- Core PCE: Stable, in the [1.5-2.0]% range
- U-2 Unemployment Rate: 8%.

3.2.2. Monetary Policy Overview

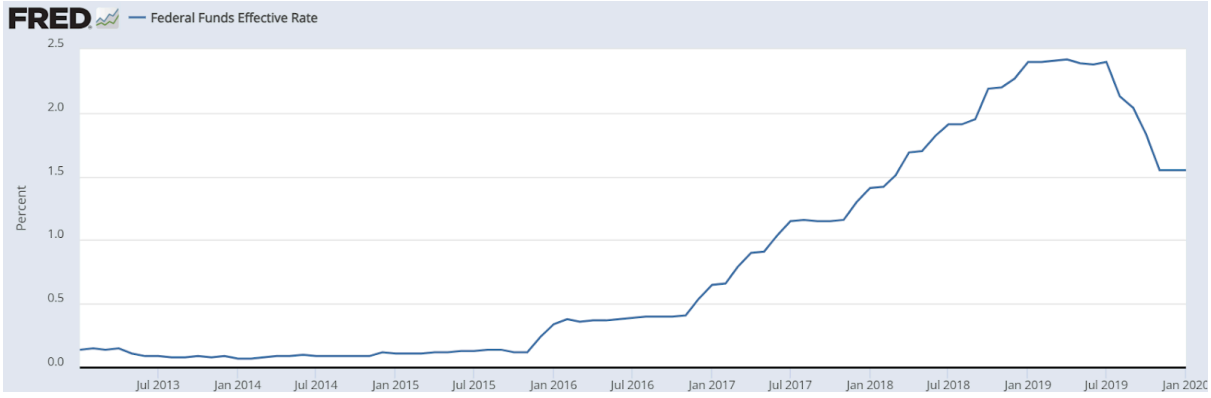
Building upon the foundation laid during the immediate recovery post-crisis, the period from 2013 to 2019 marked a significant shift in the Federal Reserve's monetary policy, characterised by a gradual movement towards normalisation of both the Federal Funds Rate and the Fed's balance sheet. The economic landscape, as described, had started showing signs of recovery, which influenced the Fed's strategic decisions during this period.

The start of this "normalisation" period was still marked by a relatively expansive monetary policy, though this would soon change as the economy recovered and growth came back.

Federal Funds Rate Adjustments:

In light of the recovering labour market and the stabilising housing sector, the Federal Reserve deemed it appropriate to begin tightening monetary policy. The first step in this process was signalled in December 2015, when the Fed raised the Federal Funds Rate for the first time since 2006, increasing it from near-zero levels to 0.25%-0.50% (Board of Governors of the Federal Reserve System, 2015). This decision was based on continued positive trends in the labour market and confidence that inflation would eventually rise to the Fed's target rate of 2%. Subsequent years saw further gradual increases in the rate, reflecting ongoing improvements in economic conditions and the Fed's confidence in the economy's resilience.

Fed Funds Rate (2013-2019):

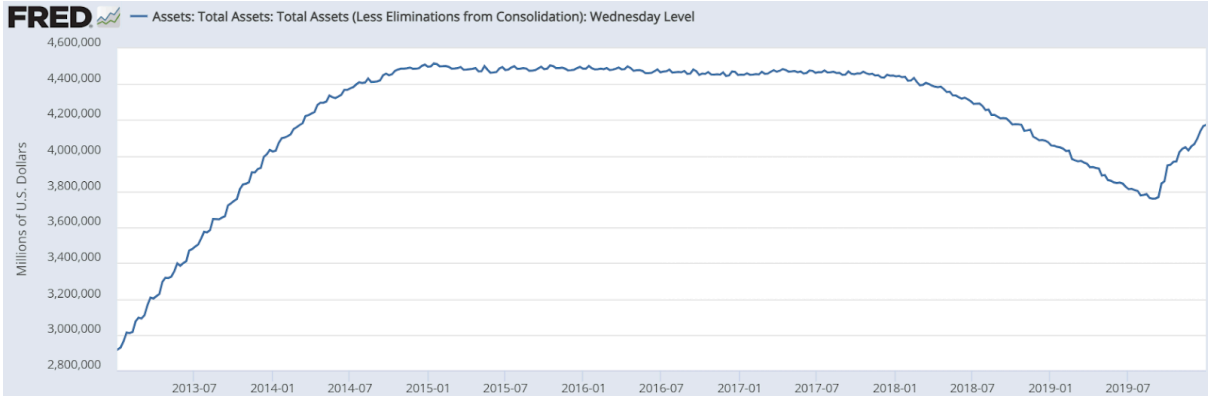


Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

Quantitative Tightening (QT):

In parallel with raising interest rates, the Federal Reserve also embarked on Quantitative Tightening (QT) to begin reducing the massive balance sheet it had accumulated during the rounds of Quantitative Easing. In October 2017, the Fed officially announced the start of its balance sheet normalisation program, outlining a plan to gradually allow securities to roll off its balance sheet without reinvestment (Board of Governors of the Federal Reserve System, 2017). This careful and measured reduction was intended to minimise market disruption while pulling back from the crisis-era monetary policy settings.

Federal Reserve Balance Sheet - Total Assets (2013-2019):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

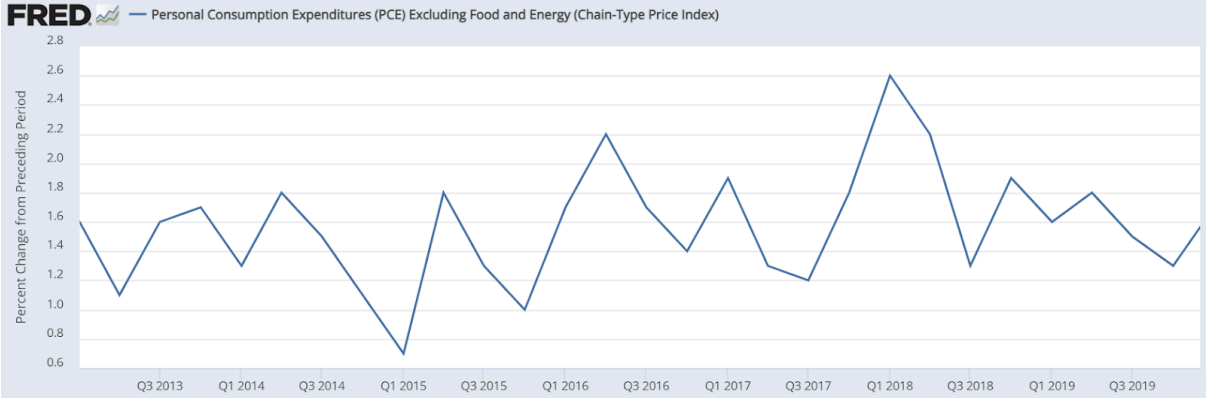
The Federal Reserve's shift towards policy normalisation was a direct response to the improved economic indicators and the lessening need for crisis-level support. The slow but steady recovery in employment levels, along with price stabilisation in the housing market, provided the necessary conditions for this shift. Financial institutions were now more robust, thanks to regulatory improvements and healthier balance sheets, which reduced the systemic risks that had justified extensive monetary easing previously (Bernanke, 2015).

These policy moves were, however, conducted against a backdrop of global economic uncertainty, with mixed performances in international markets potentially affecting U.S. economic outcomes. The Federal Reserve, therefore, proceeded cautiously, emphasising its data-dependent approach to ensure that each step toward normalisation was justified by economic developments (Yellen, 2016).

Fed's Dual Mandate - PCE and Unemployment (2013-2019):

- Core PCE: As evidenced by the graph below, inflation was maintained at stable levels during this period, at an average of c. 1.5%.

Core PCE Adjusted for Seasonality (2013-2019):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

- U-3 Unemployment rate: Economic growth brought unemployment from 8% in December 2013, to only 3.6% by December 2019. The Fed managed to apply contractionary monetary policy measures (Rate hikes and QT) without it affecting the gradual decrease in unemployment during this period

U-3 Unemployment rate (2013-2019):

Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

3.3. Return to Loose Monetary Policy due to COVID-19 (2020-2021)

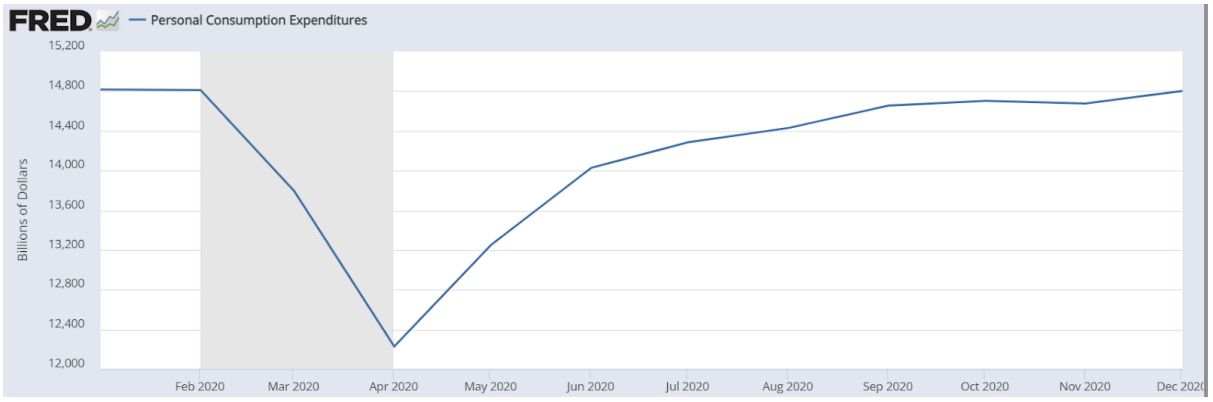
The global outbreak of COVID-19 in early 2020 triggered an unprecedented public health crisis that swiftly morphed into a profound economic and financial upheaval. The rapid spread of the virus and the subsequent lockdown measures implemented worldwide led to a severe economic contraction as businesses closed, supply chains were disrupted, and consumer spending plummeted. This situation necessitated a swift and substantial response from monetary authorities, including a return to loose monetary policies previously seen during the financial crisis of 2008-2009.

3.3.1. Context/Economic Situation

In early 2020, the emergence of the COVID-19 pandemic caused significant economic disruptions globally and in the United States. As the virus spread rapidly, governments worldwide, including the U.S., imposed lockdowns and social distancing measures to curb the spread of the disease. These public health measures, though necessary, had immediate and severe impacts on the economy. Businesses, particularly in the travel, hospitality, and retail sectors, faced abrupt closures, leading to massive layoffs and furloughs. The U.S. unemployment rate, which had been at historically low levels, spiked, reaching 14.7% in April 2020, the highest since the Great Depression (U.S. Bureau of Labor Statistics, 2020).

The economic fallout was exacerbated by a sharp decline in consumer spending, which is the largest component of U.S. economic activity. Consumer confidence plummeted as uncertainty about the duration and severity of the pandemic grew, leading to reduced spending even online as people prioritised essential goods over discretionary spending (Board of Governors of the Federal Reserve System, 2020). The combination of job losses, income insecurity, and health concerns effectively froze much of the economic activity, leading to a contraction in GDP and necessitating significant government and monetary interventions to stabilise the economy and provide relief to affected workers and businesses (Congressional Budget Office, 2020).

Personal Consumption Expenditures (2020):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

These conditions set the stage for the Federal Reserve and other global central banks to deploy expansive monetary policy tools, akin to those used during the 2008 financial crisis, to mitigate the economic impact of the pandemic and support a potential recovery.

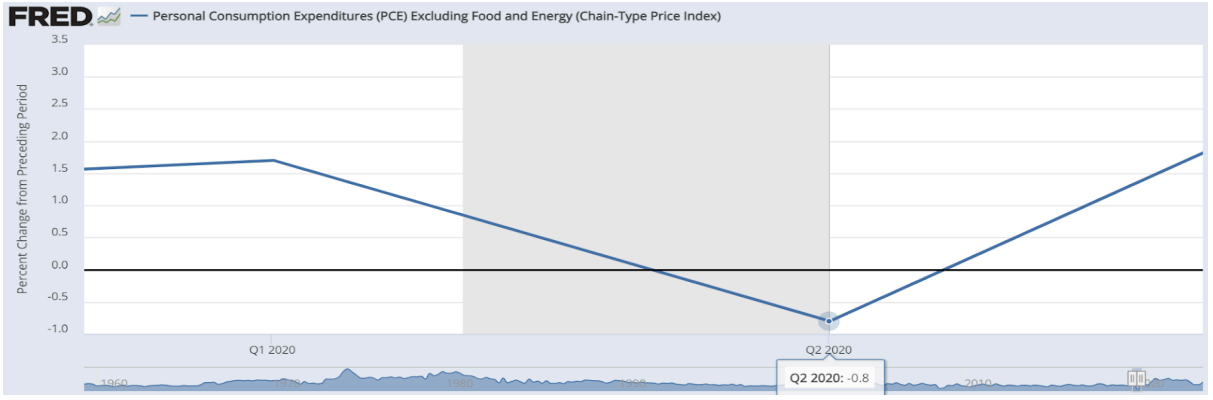
Negative GDP (Q419-Q220):

Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

Fed's Dual Mandate - PCE and Unemployment entering 2020:

- Core PCE: With the sharp decline in consumer spending, and for the first time since the 2008 Financial Crisis, Core PCE came below 0 to a record low of -0.8%.

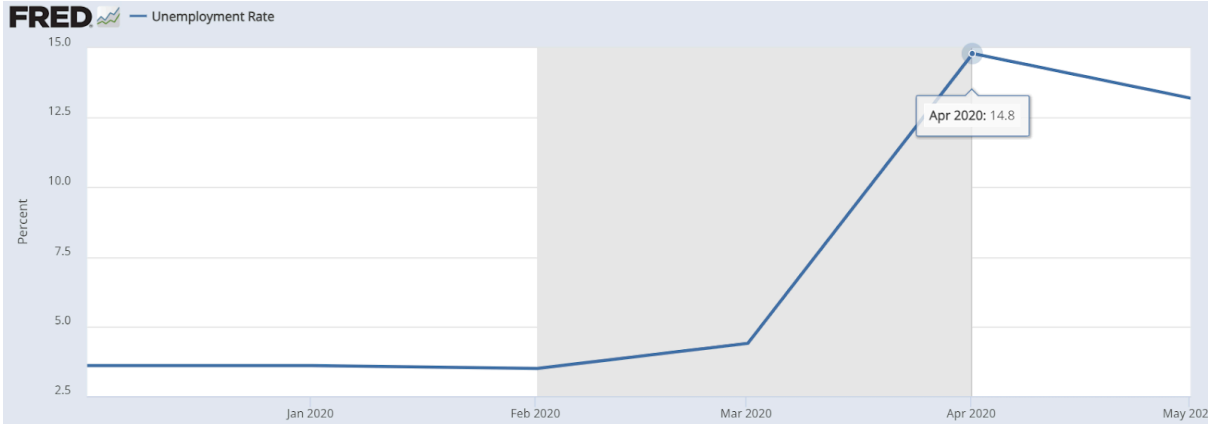
Core PCE Adjusted for Seasonality (Q2 2020):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

- U-3 Unemployment Rate: The lockdown resulted in the highest ever unemployment rate, which peaked at 14.8% in April 2020.

U-3 Unemployment Rate (April, 2020):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

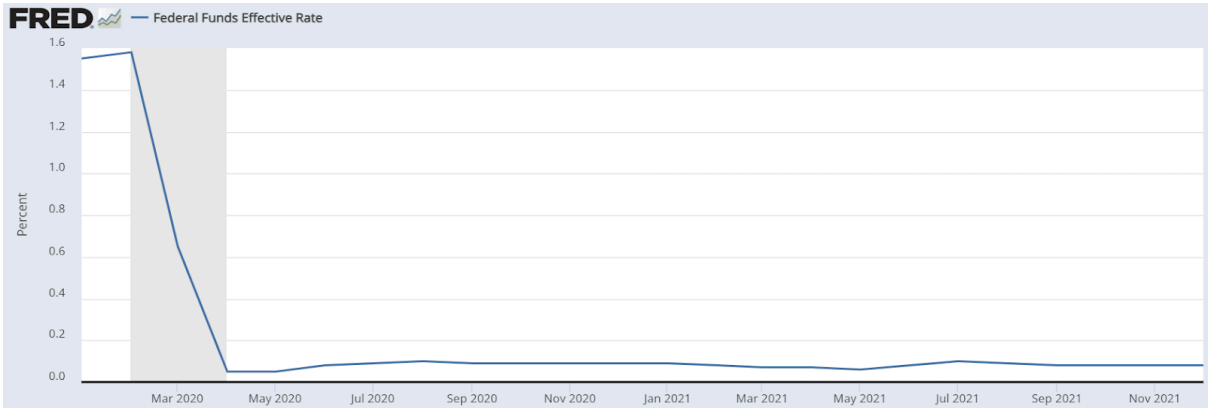
3.3.2. Monetary Policy Overview

The economic upheaval induced by the COVID-19 pandemic in early 2020 created conditions that required unprecedented monetary interventions by the Federal Reserve. Given the rapid increase in unemployment and the sharp decline in consumer spending, the Fed responded with aggressive monetary policies aimed at stabilising the economy. The primary tools utilised during this period were adjustments to the Federal Funds Rate and significant expansions of the Fed's balance sheet through Quantitative Easing (QE).

Federal Funds Rate Adjustments:

In response to the emerging financial crisis caused by the pandemic, the Federal Reserve took swift action by cutting the Federal Funds Rate to near-zero levels in March 2020. This decision mirrored the emergency rate cuts during the 2008 financial crisis, setting the rate in a target range of 0-0.25%. The aim was to lower borrowing costs for consumers and businesses to stimulate economic activity and counteract the effects of economic slowdown (Federal Reserve, 2020).

Fed Funds Rate (2020-2021):

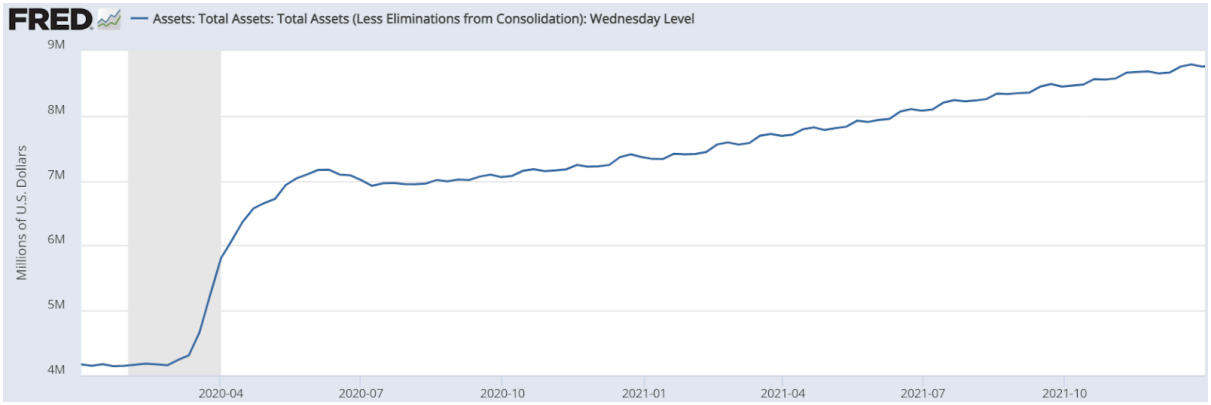


Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

Quantitative Easing (QE):

Simultaneously, the Federal Reserve launched an expansive Quantitative Easing program. Unlike the predefined limits in previous QE rounds, this new phase was characterised by an open-ended commitment to purchase Treasury securities and agency mortgage-backed securities "in the amounts needed" to support smooth market functioning and effective transmission of monetary policy (Federal Reserve, 2020). By June 2020, the Fed's balance sheet had expanded dramatically, surpassing $7 trillion, a clear indication of the scale of intervention deemed necessary to address the economic fallout (Federal Reserve's balance sheet data, 2020).

Federal Reserve Balance Sheet - Total Assets (2020-2021):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

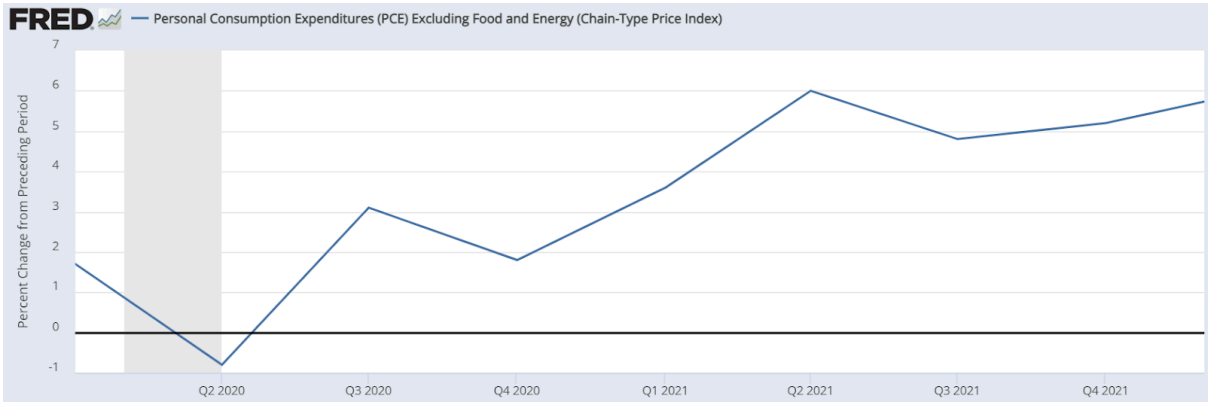
These monetary policy tools were directly responsive to the severe disruptions in the labour market and the broader economy caused by the pandemic. With historic levels of unemployment and a significant contraction in GDP, the Federal Reserve's actions were aimed not only at stabilising financial markets but also at ensuring that credit remained available to households and businesses. This approach was designed to cushion the economic shock and foster conditions conducive to recovery once the health crisis abated.

The use of these tools in 2020 was instrumental in addressing immediate liquidity issues in financial markets and in laying a foundation for economic recovery. The Fed's policies were crucial in mitigating the risk of a deeper financial crisis and in supporting the economy through unprecedented challenges. The strategy mirrored the actions taken during the 2008 crisis but adapted to the unique economic impacts of the global pandemic, reflecting the Fed's evolving approach to crisis management and economic stabilisation.

Fed's Dual Mandate - PCE and Unemployment (2020-2021):

- Core PCE: As a direct result of the unprecedented expansive monetary policies implemented (borrowing costs at near 0%; QE programme) to combat the results of the pandemic, inflation soared during this period up to levels of c. 6%.

Core PCE Adjusted for Seasonality (2020-2021):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

- U-3 Unemployment Rate: Following the peak in unemployment during the first months of lockdown, the adaption to Covid paired with the incentives (low borrowing costs and subsidies) for businesses and strong government spending, unemployment was effectively brought down from its record high to levels below 4.0% by the end of 2021.

U-3 Unemployment Rate (2020-2021):

Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

3.4. Combatting Pandemic-induced inflation (2022-2024)

As the world began to emerge from the grips of the COVID-19 pandemic, the U.S. economy faced new challenges characterised by pandemic-induced inflation. This period marked a significant shift from the immediate crisis management of 2020-2021 to addressing the economic repercussions of expansive fiscal and monetary policies, supply chain disruptions, and changing consumer behaviours. The rapid rebound in demand, coupled with ongoing supply constraints, fueled inflationary pressures, making the management of inflation a central focus of economic policy during this phase.

3.4.1. Context/Economic Situation

Emerging from the lockdowns and restrictions of the pandemic, the U.S. economy experienced a robust recovery driven by pent-up consumer demand and significant

government stimulus measures. However, this recovery was also marked by substantial inflationary pressures, a phenomenon not seen in several decades. In 2021, inflation rates began to climb, reaching levels that prompted concerns among economists and policymakers (U.S. Bureau of Labor Statistics, 2022).

Several factors contributed to this surge in inflation. First, supply chain bottlenecks (i.e. geopolitical tensions with China leading to a shortage of semiconductors), exacerbated by sudden shifts in demand patterns and ongoing COVID-19-related disruptions, led to shortages of key goods, pushing prices higher. Additionally, labour market dynamics changed, with many sectors experiencing labour shortages that drove up wages and, subsequently, the cost of services (Federal Reserve Bank of San Francisco, 2022). Energy prices also saw significant volatility, influenced by global geopolitical tensions and production adjustments (Instability in energy-producing regions like Ukraine/Russia and the Middle-East).

The most impactful however was consumer behaviour, which shifted significantly during the pandemic, with spending transitioning from services to goods. This shift was exacerbated as consumers, flush with savings accumulated during the lockdowns due to reduced travel and leisure activities, began spending heavily on goods like home improvement items and recreational goods. This sudden spike in demand placed additional pressure on already strained supply chains, contributing to broader price increases across various sectors (Board of Governors of the Federal Reserve System, 2022).

Personal Consumption Expenditures: Durable Goods (2020-January, 2022)

Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

These dynamics set the stage for the Federal Reserve and other policymakers to focus on strategies to combat inflation, ensuring that the economic recovery could be sustained without leading to runaway inflation or the need for harsh corrective measures that could jeopardise the gains made during the recovery phase.

Fed's Dual Mandate - PCE and Unemployment (January 2022):

- Core PCE: Inflation was at record highs of 6% as a result of the expansive monetary policies previously mentioned.
- U-3 Unemployment Rate: Unemployment as at c. 4% and decreasing.

With unemployment under control, the Fed’s clear focus from this point until today has been on fighting inflation.

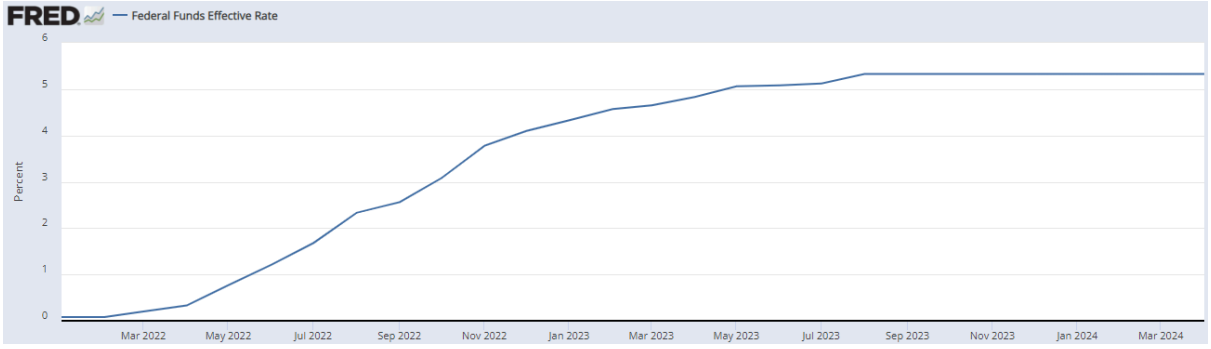
3.4.2. Monetary Policy Overview

As the U.S. economy emerged robustly from the pandemic-induced downturn, it faced mounting inflationary pressures that have not been encountered in several decades. In response to these pressures, the primary focus of the Federal Reserve's monetary policy since 2022 has been on controlling inflation. This was achieved through significant adjustments to the Federal Funds Rate and strategic management of the Fed's balance sheet.

Federal Funds Rate Adjustments:

To combat escalating inflation, the Federal Reserve initiated a series of aggressive interest rate hikes beginning in 2022. The central aim of these increases was to cool the overheated economy by making borrowing costlier, thus dampening consumer and business spending. This policy shift marked a decisive move away from the expansive monetary policies of previous years and was aligned with the Federal Reserve’s mandate to maintain price stability. These interest rate decisions were taken in light of the persistent inflation that threatened to destabilise the economic recovery (Board of Governors of the Federal Reserve System, 2023).

Fed Funds Rate (2022-Present)

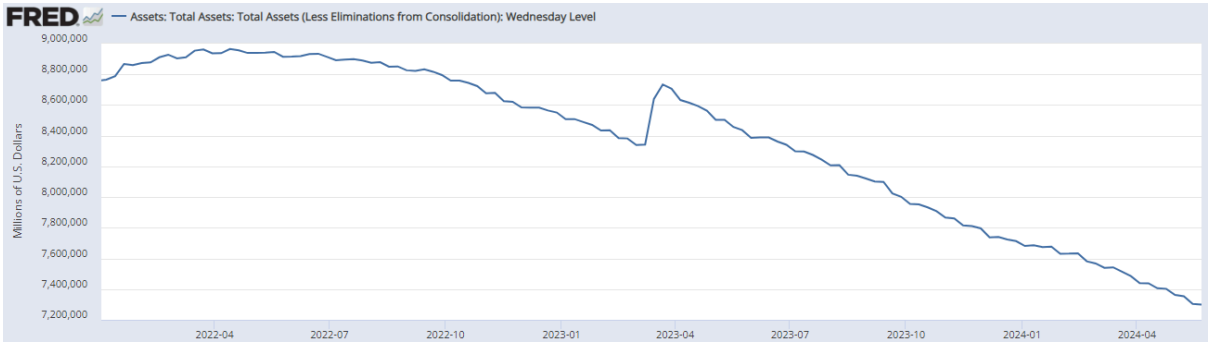


Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

Quantitative Tightening (QT):

Concurrent with the interest rate hikes, the Federal Reserve also engaged in Quantitative Tightening by reducing its holdings of Treasury securities and mortgage-backed securities. The QT process started in 2022 aimed at reducing the excess monetary supply that had been built up during the periods of Quantitative Easing. By letting these assets mature without reinvestment and reducing the overall size of its balance sheet, the Fed sought to withdraw some of the liquidity from the financial system, thereby exerting upward pressure on interest rates and helping to contain inflation (Federal Reserve Board, 2023).

Federal Reserve Balance Sheet - Total Assets (2022-Present):



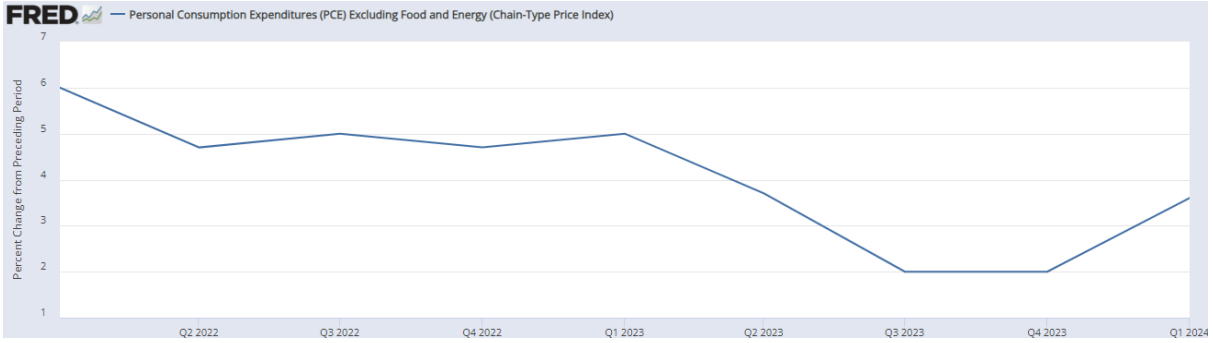
Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

The transition to these tighter monetary policies was a direct response to the substantial inflation driven by rapid economic recovery, supply chain bottlenecks, and shifts in consumer spending patterns. The Federal Reserve's focus on controlling inflation reflects its proactive stance in ensuring that the post-pandemic economic expansion does not lead to runaway inflation, which could erode economic gains and reduce real income for American households. This period of policy tightening aims to strike a balance between mitigating inflation and avoiding the induction of a recession, illustrating the complex trade-offs that the Fed must navigate in its policy decisions.

Fed's Dual Mandate - PCE and Unemployment (2022-Present):

- Core PCE: Aggressive rate hikes have had their effect on inflation, though the 2% objective has not yet been reached, partly a result of supply chain disruptions causing supply-side inflation (current PCE at c. 3.5%).

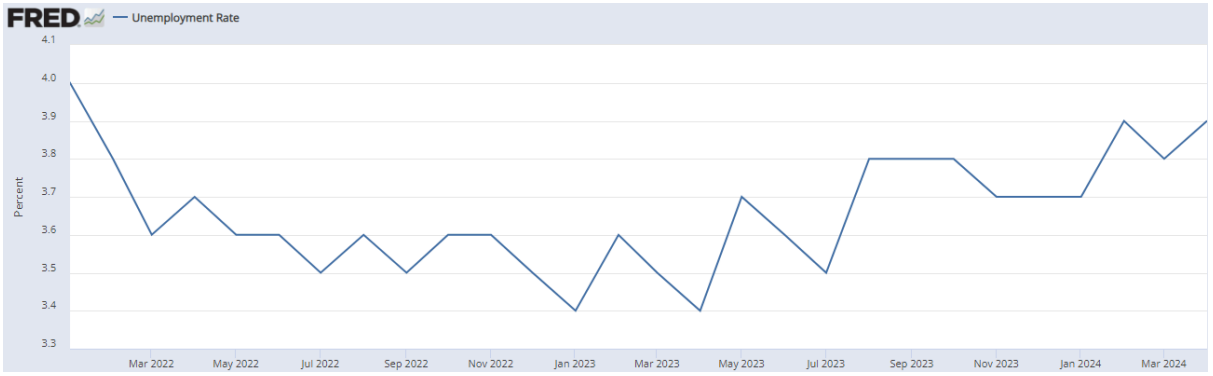
Core PCE Adjusted for Seasonality (2022-Present):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

- U-3 Unemployment Rate: unemployment has remained at positively low levels (c. 3.5-4%).

U-3 Unemployment Rate (2022-Present):



Source: FRED (Federal Reserve Economic Data - Fed Bank of St. Louis)

3.5. Current situation

All in all, analysts conclude that given the current state of the economy, it is perhaps still too soon for monetary policy to loosen.

In her remarks delivered on May 17, 2024, Michelle W. Bowman from the Board of Governors of the Federal Reserve System provided insights on the evolving challenges and strategic responses in U.S. monetary policy and economic regulation (Bowman, 2024). Emerging from the disruptions caused by the COVID-19 pandemic, the economy faced significant inflationary pressures due to a combination of supply chain constraints, altered labour market dynamics, and shifts in consumer spending patterns. In response, the Federal Open Market Committee (FOMC) has maintained the federal funds rate in a target range of [5.25 - 5.5]% while adjusting the pace of the Federal Reserve's securities holdings reduction to manage inflation effectively. Despite these measures, inflation rates, as measured by the Personal Consumption Expenditures (PCE) and the Consumer Price Index (CPI), have remained elevated, indicating a persistent inflationary trend that continues to impact consumer sentiment and economic stability (Bowman, 2024).

4. Evaluation of the Hypotheses

"There has been a substantial change in the Fed's monetary policy focus since the 2008 financial crisis, and its monetary policy has been effective in achieving its dual mandate of price stability and maximum employment"

Each hypothesis will be tested individually based on different criteria:

- Evidence of Policy Focus shifts: tested through the economic context prior to each monetary policy shift.
- Effectiveness of Monetary Policy: tested via the Fed's ability to fulfil its dual mandate of Price Stability and Maximum Employment, as well as the speed with which it has.

4.1. Evidence of Policy Focus shifts

Each of the four policy focus shifts identified in this paper have been preceded by a unique economic context/situation, which in itself is already an indicator that the focus behind each shift must have varied somewhat over time, even if the Fed's dual mandate hasn't.

Financial Crisis Recovery (2008-2012)

During the tumultuous period following the 2008 financial crisis, the Federal Reserve's primary focus was on stabilising the financial system. This was critical because the stability of financial institutions and markets is foundational to the overall economy. The collapse of major financial entities and the subsequent credit freeze threatened to deepen the economic downturn. The Fed responded by injecting substantial liquidity into the financial system and by facilitating credit flow to prevent a complete financial meltdown. These actions were supported by closely monitoring financial stress indices and interbank lending rates, which provided insights into the health of the financial markets and the effectiveness of the implemented measures.

Simultaneously, the Fed focused on stimulating economic activity to counteract the recession. With consumer spending and business investment plummeting, lowering interest rates and implementing quantitative easing were crucial to making borrowing cheaper and encouraging investment. Economic indicators like GDP growth rates and consumer spending metrics were essential for assessing the impact of these policies and determining necessary adjustments to foster economic recovery.

Focus: Financial market stability, economic stimulation

Recovery and Normalisation (2013-2019)

As the economy transitioned from recovery to normalisation, the Federal Reserve shifted its focus towards fostering sustainable economic growth and stabilising the housing market, which had been central to the initial crisis. Efforts to support the labour market were paramount, as employment is a key driver of economic stability. Reducing unemployment to pre-crisis levels involved policies that encouraged businesses to hire and invest. The U-3

unemployment rate and JOLTS data helped the Fed gauge the effectiveness of its policies in improving job markets.

The stabilisation of the housing market was also a significant focus. A stable and recovering housing market not only supports overall economic confidence but also enhances consumer wealth through increased home equity. Monitoring the S&P/Case-Shiller Home Price Index and construction spending allowed the Fed to evaluate the health of the real estate sector and its influence on the broader economy.

Focus: Labor market recovery, housing market stabilisation

Response to COVID-19 Pandemic (2020-2021)

The onset of the COVID-19 pandemic required a swift and decisive return to loose monetary policies as the Fed faced a dual threat of a health crisis and its severe economic repercussions. The immediate focus was on stimulating economic activity to counteract the impacts of lockdowns and social distancing measures that had led to business closures and a spike in unemployment. Measures such as reducing the Federal Funds rate and renewing quantitative easing aimed to maintain liquidity and encourage spending and investment in a period of acute uncertainty.

Supporting employment became equally crucial as the pandemic eradicated millions of jobs within weeks. The Fed's policies aimed at facilitating a swift recovery in employment levels, closely tracking unemployment rates and jobless claims to tailor its responses to the evolving labour market needs.

Focus: Economic stimulation, labour market recovery

Combatting Pandemic-Induced Inflation (2022-2024)

Post-pandemic, as the economy began to show signs of robust recovery, it encountered a new challenge: rising inflation. The Fed's focus shifted significantly towards controlling inflation, which had reached levels not seen in decades. Adjustments in the Federal Funds rate and the implementation of quantitative tightening were geared towards cooling the economy sufficiently to tame price rises without triggering a recession. Core PCE and CPI were instrumental in monitoring inflation trends, providing the Fed with the data needed to adjust its policy stance effectively.

Additionally, maintaining financial market stability remained a priority. The Fed needed to ensure that its inflation control measures did not destabilise financial markets or negate the economic gains achieved through recovery efforts. This required a balanced approach to tightening monetary policy, carefully calibrated against real-time economic data.

Focus: Inflation control, financial market stability

Throughout these eras, the Federal Reserve's policies reflect a responsive and dynamic approach, adapting to the unique challenges presented by each period while always striving to fulfil its dual mandate of maximising employment and stabilising prices.

Comparative chart of the Fed's monetary policy focus points:

FED POLICY FOCUS	*2008-2012*	*2013-2019*	*2020-2021*	*2022-Present*
Economic stimulation	x		x	
Financial market stability	x			x
Housing market stabilisation		x		
Inflation control				x
Labour market recovery		x	x	

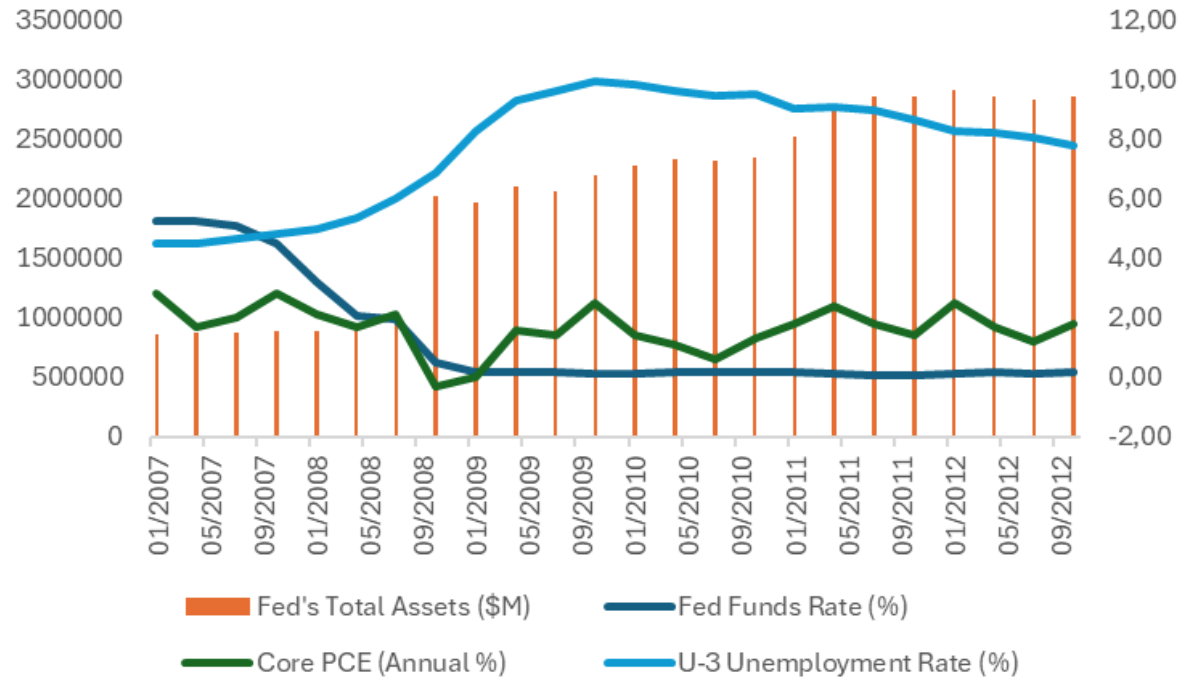
Source: Own elaboration

4.2. Effectiveness of Monetary Policy

The effectiveness of each era of monetary policy will be measured according to its ability to fulfil the Fed's dual mandate of Price Stability and Maximum Employment. Effectiveness will be measured on three levels (1-3), 1 being very effective and 3 being ineffective.

Financial Crisis Recovery (2008-2012)

During this period the Fed sought to stabilise the economy via an expansive monetary policy, evidenced by bringing the Fed Funds Rate down to c. 0%, and the aggressive purchase of securities from late 2008 onwards (QE).



Source: Own elaboration via FRED data

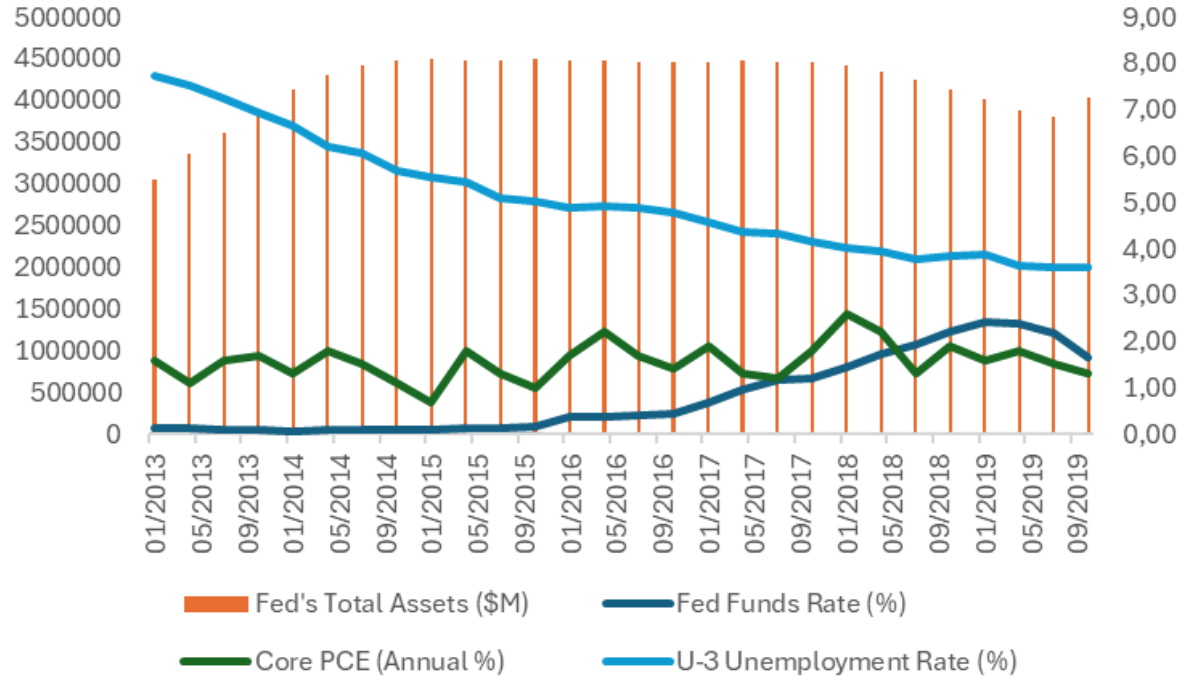
Fed's Dual Mandate - PCE and Unemployment (2008-2012):

- Core PCE: Inflation was maintained stable during this period, and came back from below 0% (deflation) at the end of 2008, to at an average level very close to the 2% objective. **(LEVEL 1)**
- U-3 Unemployment Rate: The accelerated rise in unemployment was stopped towards the end of 2009, but only decreased from c. 10% in its peak to 8% by December 2012. **(LEVEL 2)**

Time lags: If we assume the full implementation of monetary policy started around Q3 2008, its effect in terms of inflation and unemployment came to light around a year later, in Q3 2009.

Recovery and Normalisation (2013-2019)

During this period the Fed's objective was to strengthen the financial ecosystem and further stabilise the economy, in an effort to prevent a second crisis the likes of 2008. Economic growth having returned, these were times of stricter monetary policy (slightly higher rates and no QE) for sustained growth but also with the aim of bringing unemployment to lower levels.



Source: Own elaboration via FRED data

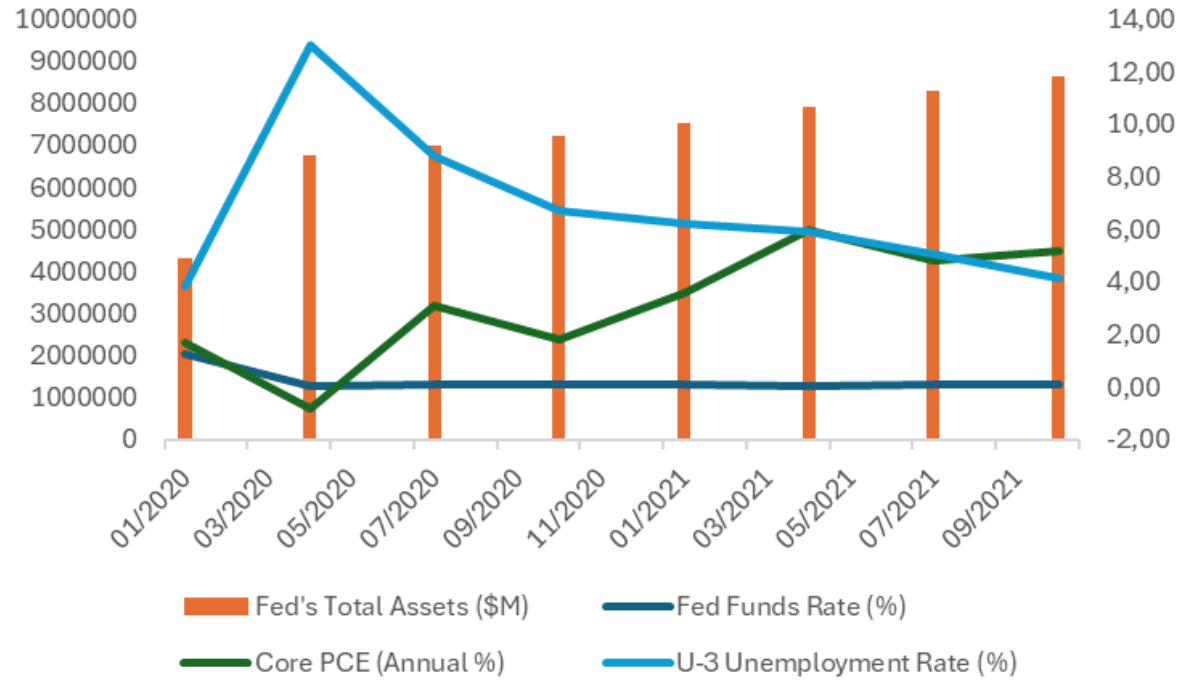
Fed's Dual Mandate - PCE and Unemployment (2013-2019):

- Core PCE: Inflation continued to remain at very stable levels close to that 2% objective during this period. **(LEVEL 1)**
- U-3 Unemployment Rate: Unemployment came down from c. 8% at the start of the period to below 4%. **(LEVEL 1)**

Time lags: Cause and effect is harder to measure in this case, since inflation remained at similar levels to the previous period and the reduction in unemployment is largely an effect of previous expansive monetary policy.

Response to COVID-19 Pandemic (2020-2021)

In a very similar effort to the 2008 response by the Fed, a new era of expansive monetary policy returned in an effort to bring the economy back to its feet. The Fed Funds Rate was set to 0% levels and the Fed embarked on a new QE strategy.



Source: Own elaboration via FRED data

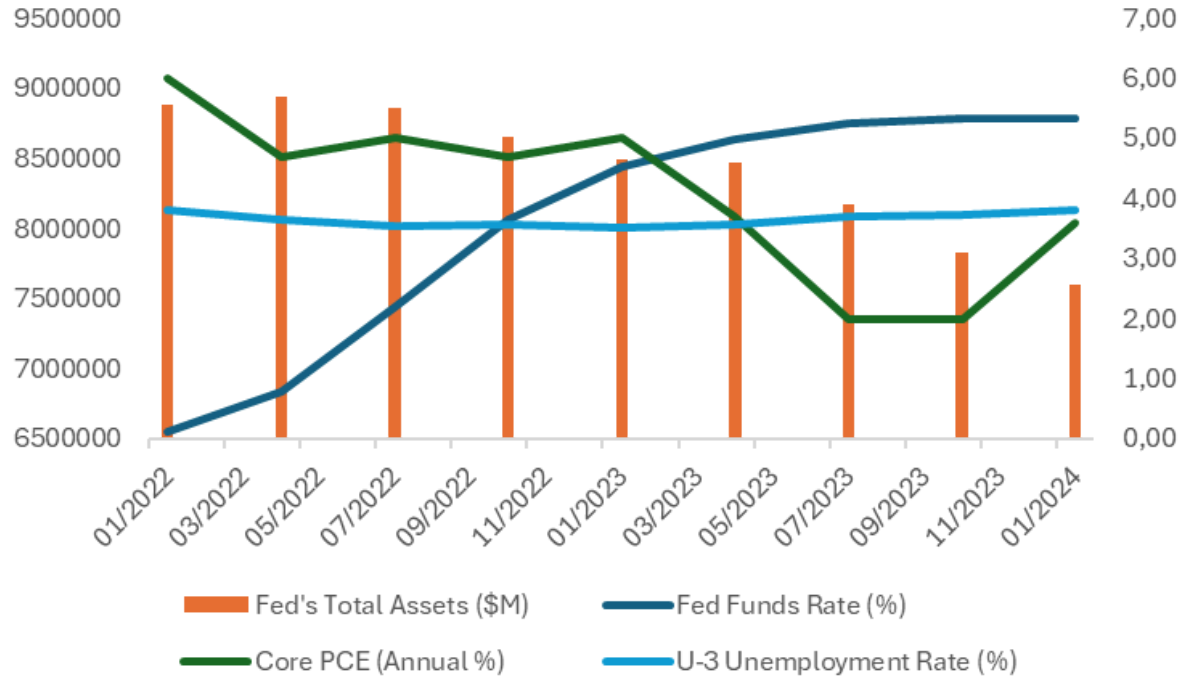
Fed's Dual Mandate - PCE and Unemployment (2020-2021):

- Core PCE: In the Fed's attempt to spur growth at any cost, the combination of its aggressively expansive monetary policy together with a series of other factors (high savings levels, supply chain disruptions) allowed inflation to reach levels above 5%. **(LEVEL 3)**
- U-3 Unemployment Rate: Unemployment came down swiftly from an all-time high of >12% to around 4% in less than two years, largely an effect of lockdown ending but strongly supported by the Fed's policies for growth (i.e. extremely low costs of borrowing for businesses and individuals). **(LEVEL 1)**

Time lags: Effect on inflation and unemployment was almost immediate, partly a result of lockdown ending, and took c. one quarter to take place.

Combatting Pandemic-Induced Inflation (2022-2024)

The main focus since 2022 has been to combat the Inflation induced both by the pandemic and the Fed's aggressively expansive monetary policies, without hurting economic growth in other areas (i.e. unemployment). The Fed has implemented tight monetary policies in the form of aggressive rate rising (currently at over 5%) and QT measures.



Source: Own elaboration via FRED data

Fed's Dual Mandate - PCE and Unemployment (2020-2021):

- Core PCE: Such rate rises had a direct effect on inflation, which has considerably come down since the start of the period but is not yet fully under control, meaning we can expect high rates for longer than expected. **(LEVEL 2)**
- U-3 Unemployment Rate: Unemployment has remained at levels around 4%, which is a positive outcome considering the rise in borrowing costs and the lower liquidity levels in the economy. **(LEVEL 1)**

Time lags: Judging by inflation (the Fed's main focus during this period), since the first rates rise (early 2022), almost a year went by until inflation levels started decreasing in a consistent manner.

5. Conclusions

The objective of the study was to test two hypotheses:

- *H1: Has the Fed's focus changed with respect to its monetary policy?*
- *H2: Has the Fed been effective in achieving its dual mandate?*

The following is a summary of the evidence presented in the testing of these hypotheses, together with the implications of these findings for the Fed's future monetary policy as well as future lines of investigation on this topic.

5.1. Study Limitations

With the aim to simplify this study, I have applied two main limitations to it that have helped in the analysis and interpretation of the data here used:

- *L1: The only tools used by the Fed as part of its monetary policy are the Fed Funds Rate and QE/QT measures.*
- *L2: The effectiveness of the Fed's monetary policy is only measured by its dual mandate (Inflation and Unemployment rates).*

5.2. Summary of the findings

Evidence of Policy Focus shifts

Even if the Fed has its dual mandate, which represents a more general objective of sustained economic growth and economic well-being, the uniqueness of the economic landscape has forced it to focus on specific economic factors/data with the aforementioned objectives in mind.

Fed's monetary policy focus throughout the years:

- Financial Crisis Recovery (2008-2012): *Financial stability, economic stimulation*
- Recovery and Normalisation (2013-2019): *Labor market recovery, housing market stabilisation*
- Response to COVID-19 Pandemic (2020-2021): *Economic stimulation, employment support*
- Combatting Pandemic-Induced Inflation (2022-2024): *Inflation control, financial market stability*

As the prior analysis shows, the Fed's focus has changed in response to each economic context and problems. Although the main objective and its dual mandate remain the same, the US economy's complexity requires the Fed to be flexible and to take other factors into account in order to anticipate potential deviations from the bigger "plan".

Hypothesis evaluation: The Fed's Policy Focus has indeed changed over the years

Effectiveness of Monetary Policy

Judging by the Fed's ability to fulfil its dual mandate, the results of effectiveness measured on three levels from most to least effective are as follows:

- Price stability (Core PCE at 2%): Average effectiveness level of 1.75
- Maximum employment (Lowest Unemployment Rate possible): Average effectiveness level of 1.25

The Fed has been more effective in managing unemployment than price stability, where in recent years it has struggled to promote growth post-Covid without maintaining stable inflation levels. It is clear that in relatively normal periods (i.e. 2013-2019) the Fed does a good job of keeping things "as they are", but are less effective in response to unexpected economic crises (2008 Financial Crisis, Covid-19).

In terms of the time it takes for the Fed to have a real impact in the economy, we can observe results in c. 1 year's time at most, which is relatively quick considering how complex the whole economic system is.

Hypothesis evaluation: The Fed's monetary policy has not been entirely or consistently effective over the years.

5.3. Implications for future monetary policy

The Federal Reserve's approach to monetary policy has consistently adapted in response to past economic challenges and crises. This ongoing process of learning from previous experiences is crucial as it shapes future policy decisions.

Looking ahead, the Fed is likely to continue refining its strategies based on these lessons. This means staying flexible and responsive to new economic data and trends. The ability to adjust quickly is vital for effectively managing the dual mandate of promoting employment and controlling inflation.

In future, we can expect the Fed to use its accumulated knowledge to better predict and respond to economic disruptions. This will not only help in safeguarding the economy but also ensure that the Fed remains prepared for any challenges that may arise, thereby minimising their potential impact.

5.4. Future lines of investigation

As this is a relatively short paper based that only scratches the surface of both the Fed and its effect on the economy, I believe a more thorough analysis could be carried out by including:

- All of the tools at the Fed's disposal as part of its monetary policy.
- A more in depth analysis of the Fed's effect on the economy, taking other economic indicators of the US economy's well being into account (i.e. GDP) when measuring the Fed's effectiveness.
- Taking into account economic situations that are the result of external factors (i.e. Covid) and are out of the Fed's control.

6. Bibliography

The following is a list of all the academic sources, official documents, and articles used in the elaboration of this paper, in alphabetical order:

Bernanke, B. S. (2015). *The Courage to Act: A Memoir of a Crisis and Its Aftermath*. W.W. Norton & Company.

Board of Governors of the Federal Reserve System. (2014). *Economic Research and Data*.

Board of Governors of the Federal Reserve System. (2015). *Press Release*.

Board of Governors of the Federal Reserve System. (2017). *Federal Reserve issues FOMC statement*.

Board of Governors of the Federal Reserve System. (2020). *Monetary Policy Report*.

Board of Governors of the Federal Reserve System. (2021). *Minutes of the Federal Open Market Committee*.

Board of Governors of the Federal Reserve System. (2021). *The Federal Reserve System Purposes & Functions*.

Board of Governors of the Federal Reserve System. (2023). *Monetary Policy Report*.

Bowman, M. W. (2024). *Brief remarks on the economy, monetary policy, and bank regulation*. Board of Governors of the Federal Reserve System.

Congressional Budget Office. (2020). *The Budget and Economic Outlook: 2020 to 2030*.

Federal Reserve. (2020). *Federal Reserve issues FOMC statement*.

Federal Reserve. (2022). *Monetary Policy Report*.

Federal Reserve Bank of St. Louis. (2014). *Housing Market Conditions*.

Federal Reserve Bank of St. Louis. (2022). *FRED Economic Data*.

Federal Reserve Bank of San Francisco. (2022). *Economic Letter, Labor Markets and Pandemic Inflation*.

Federal Reserve Board. (2023). *Statement Regarding Monetary Policy Implementation and Balance Sheet Normalization*.

Krugman, P. (2009). *The Return of Depression Economics and the Crisis of 2008*. W. W. Norton & Company.

Mankiw, N. G. (2018). *Macroeconomics* (14th ed.). Worth Publishers.

Meltzer, A. H. (2003). *A History of the Federal Reserve, Volume 1: 1913–1951*. University of Chicago Press.

Mishkin, F. S. (2007). *The economics of money, banking, and financial markets* (7th ed.). Pearson Education.

Mishkin, F. S., & Eakins, S. G. (2018). *Financial Markets and Institutions*. Pearson Education.

U.S. Bureau of Labor Statistics. (2020). *Labor Force Statistics from the Current Population Survey*.

U.S. Department of Commerce. (2022). *Economic Indicators*.

Yellen, J. (2013). *A Painfully Slow Recovery for America's Workers: Causes, Implications, and the Federal Reserve's Response*.

Yellen, J. (2016). *Speech at the Economic Club of New York*. New York.

Yellen, J. L. (2018). *A challenging decade and a question for the future*. Business Economics, 53(1), 42-53.

7. AI declaration of use

I confirm I have made use of Chat GPT in the elaboration of this paper for the following purposes:

- Research and literature
- Mathematical formulas

Signed: Johannes Knieriem