Macroeconomic Outlook

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Today's Macroeconomic Conversation

- Inflation
  - A conversation on what causes inflation
  - Mitigation strategies
  - The negative effects that inflation can have
  - Current inflationary situation in the U.S.
  - Unemployment
  - The outlook moving forward

"Most people use statistics like a drunk man uses a lamppost; more for support than illumination"…..Andrew Lang

Definition of Inflation

- The rate of increase in pries over a given period of time
- Measures how much more expensive a set of goods and services has become over a certain period of time (often 1 year is the benchmark)
- When price levels rise, each unit of currently buys fewer goods or services than it did before

Causes of Inflation

- **Demand – Pull inflation**
  - Keynesian concept
  - Demand "Pulls" prices higher
  - Imbalance of supply and demand where **demand** in an economy grows stronger than present supply can immediately adjust for
  - Eg. As the COVID pandemic slowed, low interest rates and public quarantines caused many people to decide to move into single family homes and out of apartments and condominiums. In the short run, the supply of existing homes is fixed and the supply of new homes is slow to adjust…the price of single family homes increased due to demand growing faster than supply could readily accommodate

Causes of Inflation

- **Cost – Push Inflation**
  - Input costs "Push" prices higher

- Production costs such as labor, land, capital, or other raw materials increases pushing prices higher
- Cost-Push Inflation is a supply side phenomena

- Eg. Tariffs on steel and aluminum increases the overall cost of raw steel and aluminum in the U.S. Consumer goods made using steel and aluminum increase in price to accommodate the increase in production costs

Causes of Inflation

- **Money Supply Inflation**
  - Money Supply inflation occurs when the money supply increases faster than the output of goods and services
  - Note: If the money supply grows slower than the output of goods and services in an economy, then we can have **deflation**.
- Eg. The U.S. treasury prints more paper money than needed to replace damaged or outdated currency as well as keep up with economic growth
- Eg.2 : The U.S. Federal Reserve buys bonds injecting cash into the economy
  - Note, the federal reserve either selling bonds, or stopping the rollover of short-term notes takes money out of the economy

Measures of Price Levels

- Consumer Price Index (CPI)
  - The rate of change in the prices paid by urban consumers for a basket of goods
- Producer Price Index (PPI)
  - The rate of change in prices received by domestic producers
- Gross Domestic Product Index (GDP)
  - Level of prices of all new, domestically produced, final goods and services
- Personal Consumption Expenditures Price Index (PCEPI)
  - Measures the prices paid for good and services by U.S. Residents

Core Inflation vs. Overall Inflation

- Core inflation is the rate of changes of prices using the **CPI but EXCLUDES Food and Energy**
  - Food and energy prices are considered volatile and can influence the CPI or the PCEPI dramatically in one direction or another
  - Food and energy are considered somewhat inelastic and consumption will not change as dramatically as it would for other goods
  - Food and energy prices will self correct more quickly than other goods to cost-push or weather related events such that inflationary periods may be relatively brief

Technical, Transient, or Structural Inflation?

- Many analysts and other commentators have stated that the current inflationary situation is "Transient"
  - **Technical Inflation:** This occurs as a result of timing in when inflation is measured, or after a correction from deflation. Eg. prices fall during the COVID pandemic such that if prices are measured during Q2 of 2020 then Q2 of 2021 after a recovery, there will appear a large inflationary surge
  - **Transitory Inflation:** Temporary supply chain or demand issues cause temporary surges in prices. Eg. The inability to secure computer chips for cars and machinery causes shortages in new vehicles being manufactured and also increases the price of used vehicles until supplies of chip components are able to meet demand
  - **Structural Inflation:** Changes in inflationary expectations for the population. Changes in labor and consumption trends, long run changes in population and GDP growth etc.

Impacts of Inflation

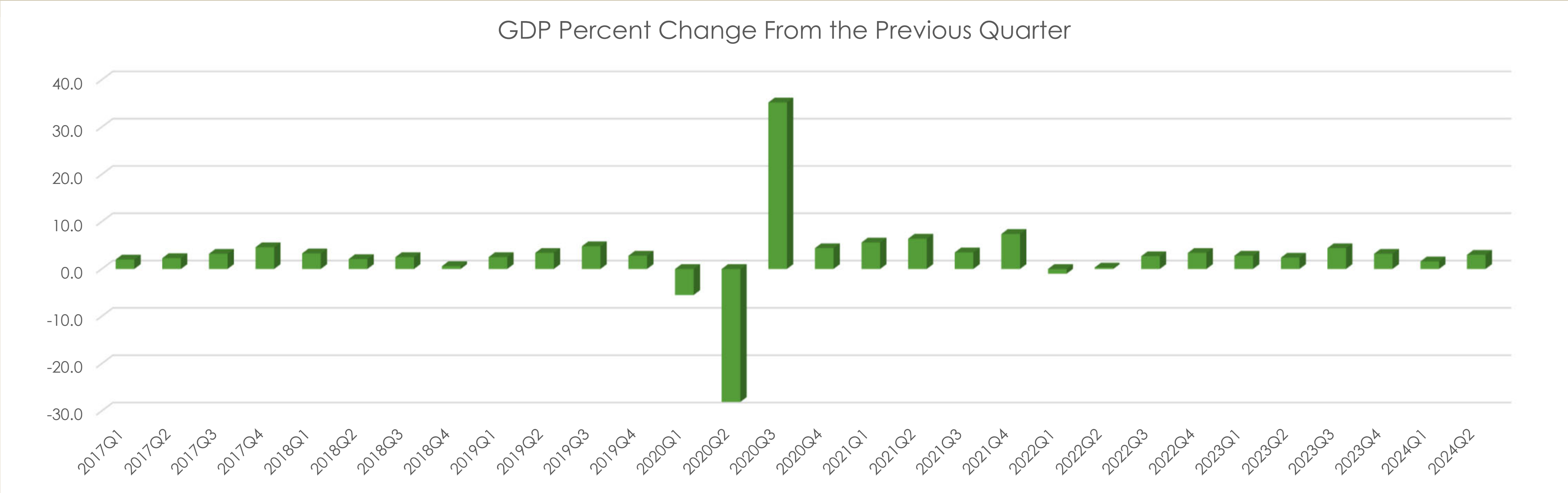
- Reduced buying power of a unit of currency
- Encourages Spending
- Potential Negative impact on those receiving a fixed income
  - Pensions, Social Security, annuities
- Can either increase, or decrease the cost of borrowing
  - If the inflation rate is higher than the interest rate, then the borrower benefits
- Seigniorage
  - The profit made by the government issuing currency where the cost of producing the currency is less than the face value
- Inflation is a tax that no one can evade

Technical, Transient, or Structural Inflation and The FED response

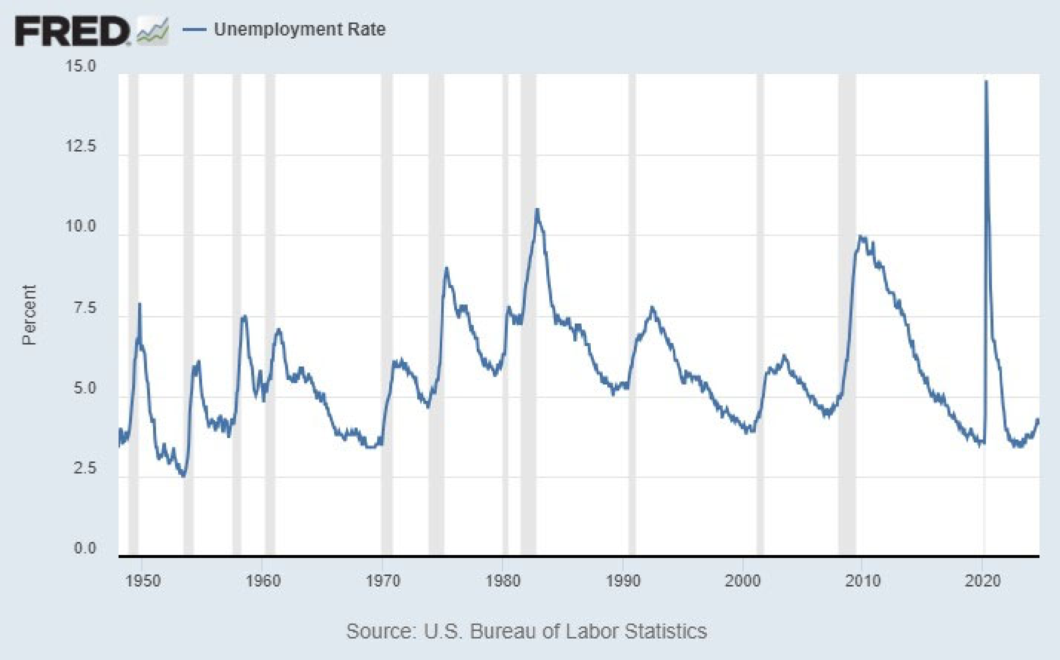
- The FED is unlikely to take action on structural or transitory inflation
  - Structural inflation may be viewed as more of a correction and should be expected after a deep recession
  - Transitory inflation is expected to self correct, and generally short lived enough that any FED action will not likely have an impact before price growth corrects itself
- Structural Inflation
  - Should the FED begin to believe or suspect that structural inflation is coming, or already happening, a response is likely including setting the federal funds rate higher and reducing the money supply

Quick Pandemic Graphics

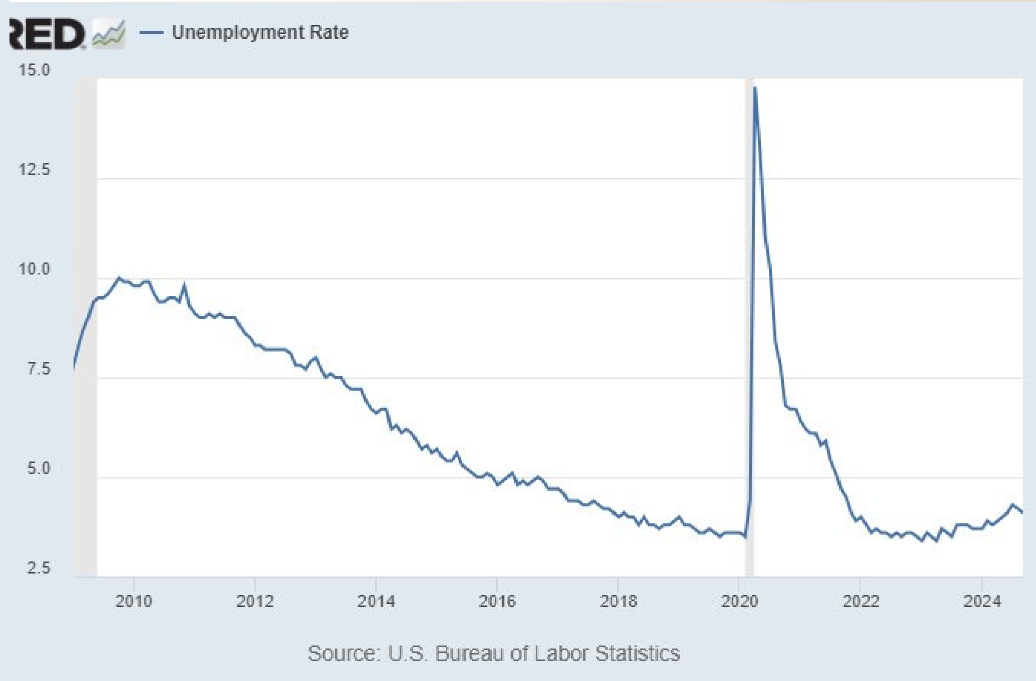
- Through the COVID 19 pandemic, the U.S. and the rest of the world experienced unprecedented employment volatility
- Prior to the pandemic, unemployment had remained below 4% for over 1 year (Jan 2019 – Feb 2020)
  - By April 2020 it had reached 14.8%
- GDP growth was strong prior to 2020 helping facilitate the low unemployment numbers and wage growth
- Since 2020, GDP growth has been fairly steady between 2 and 3% except for Q1 and Q2 of 2022



U.S. Unemployment Rate from St. Louis FED



September 2024 Unemployment rate4.1%

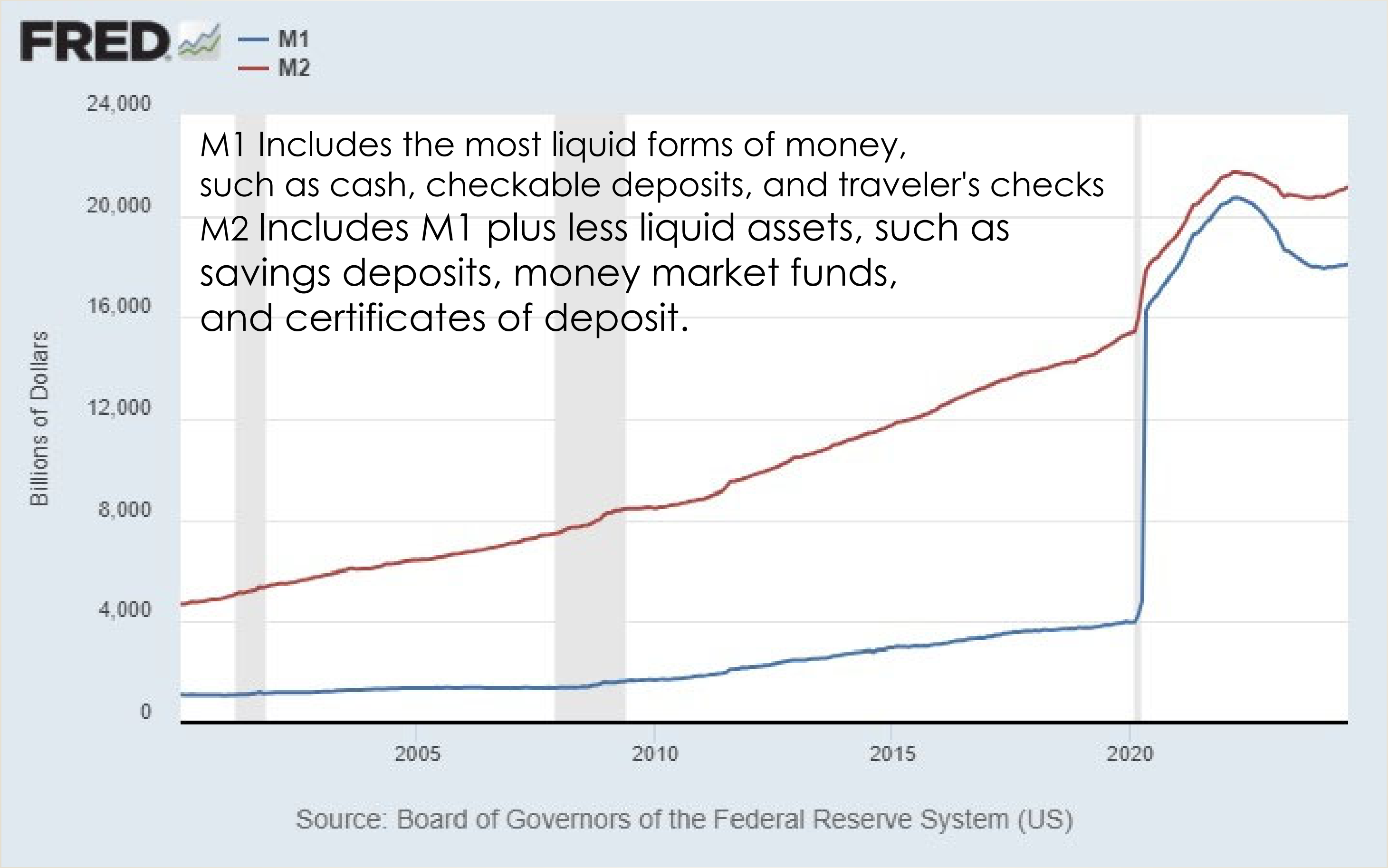


Since 1948, the average monthly unemployment
Rate is 5.7%

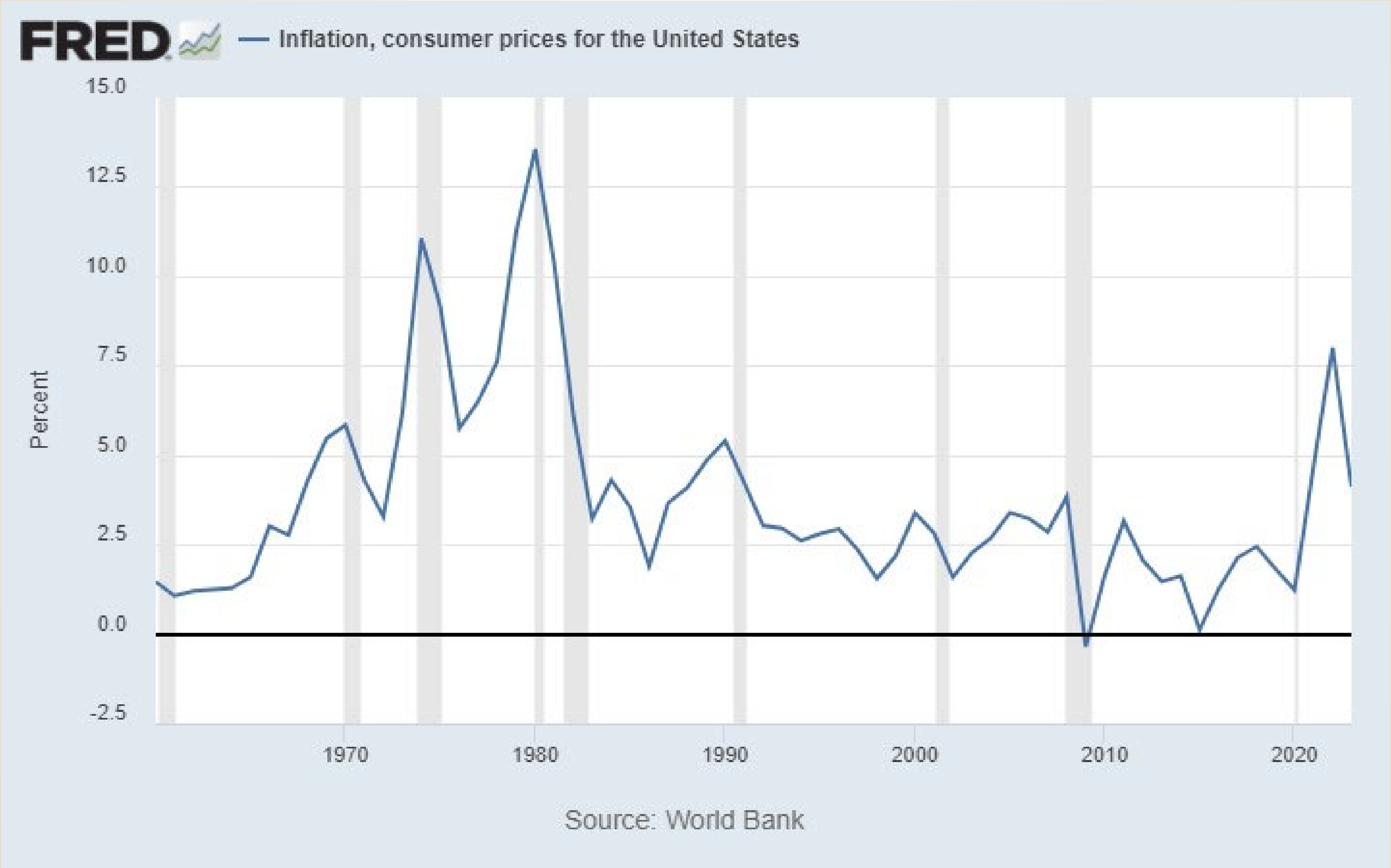
Median monthly unemployment rate 5.5%

Standard Deviation 1.7%
Coefficient of Variation 0.3

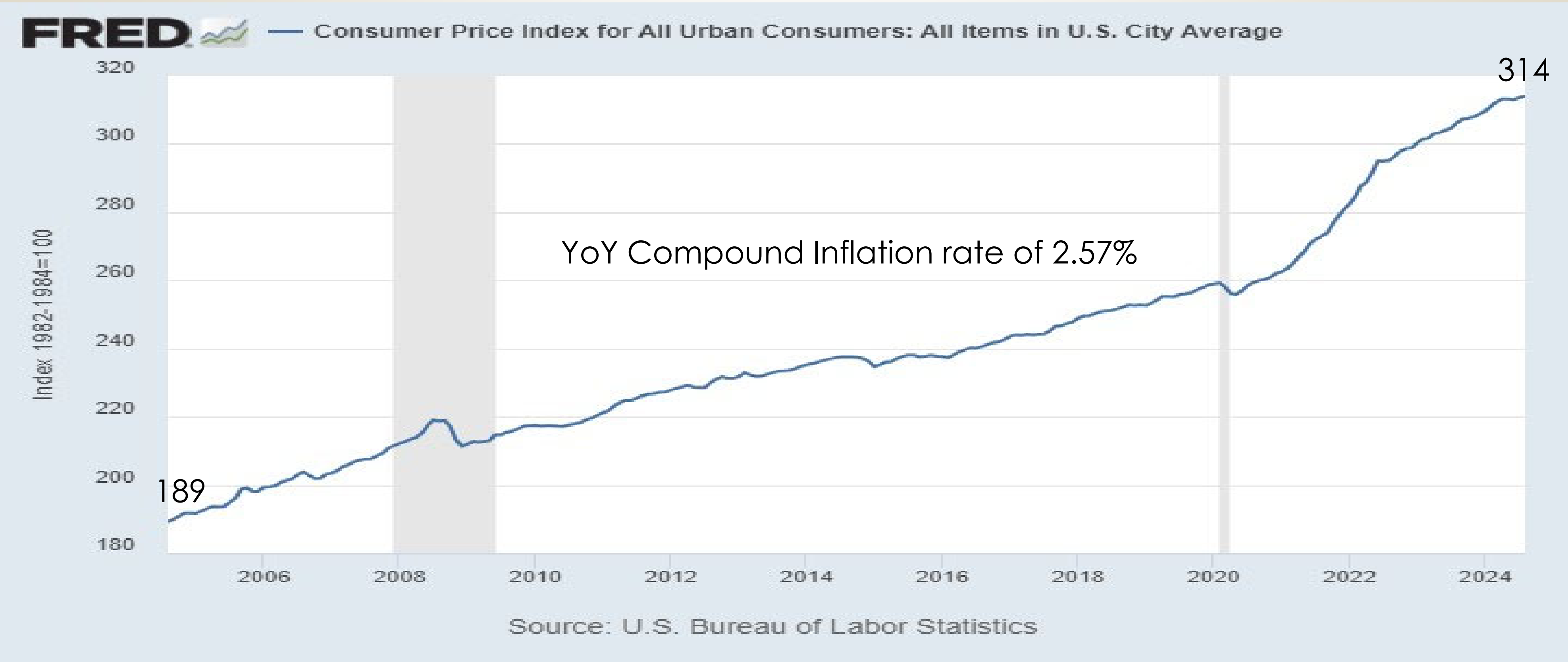
The FED and the U.S. Government Dramatically Increases the Money Supply in 2020



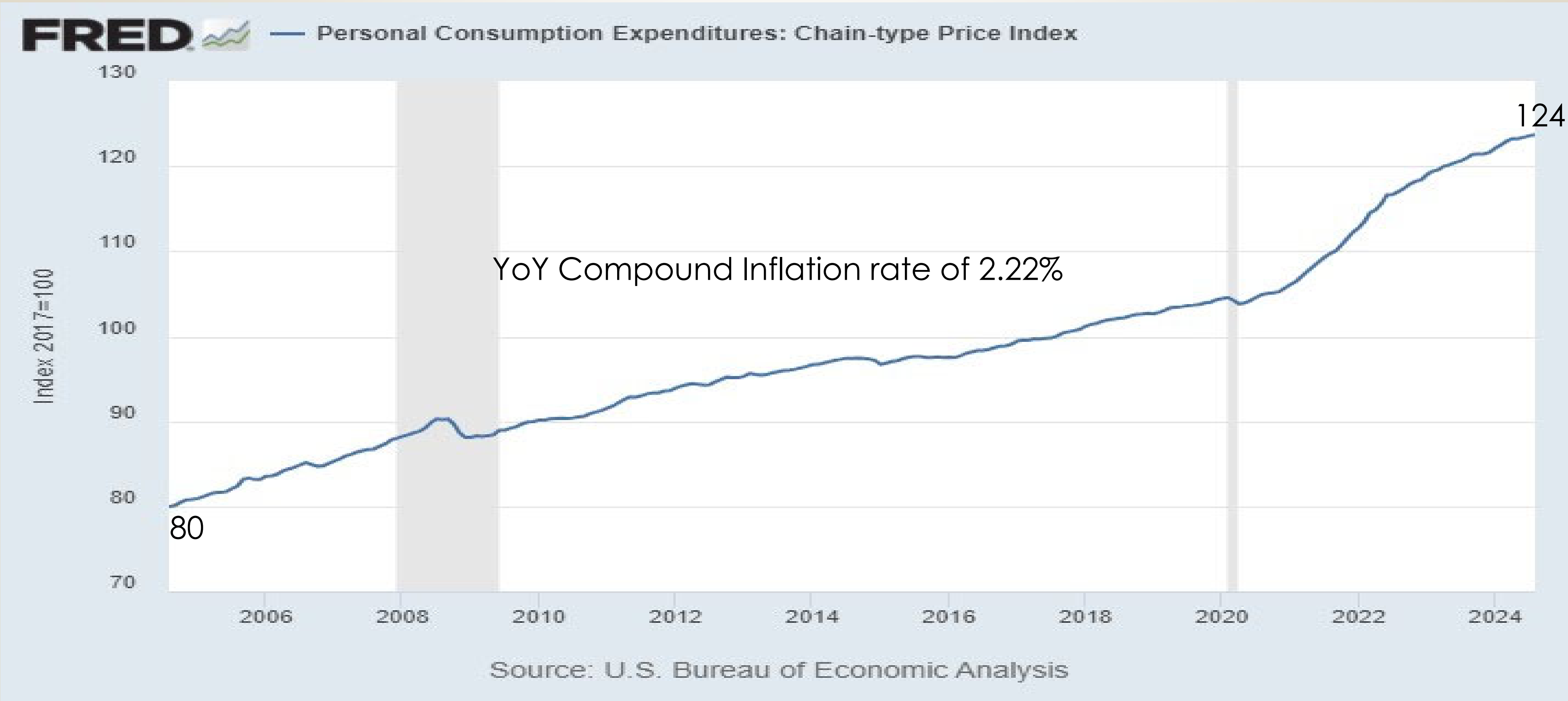
Standard Headline Inflation Rate Since 1960



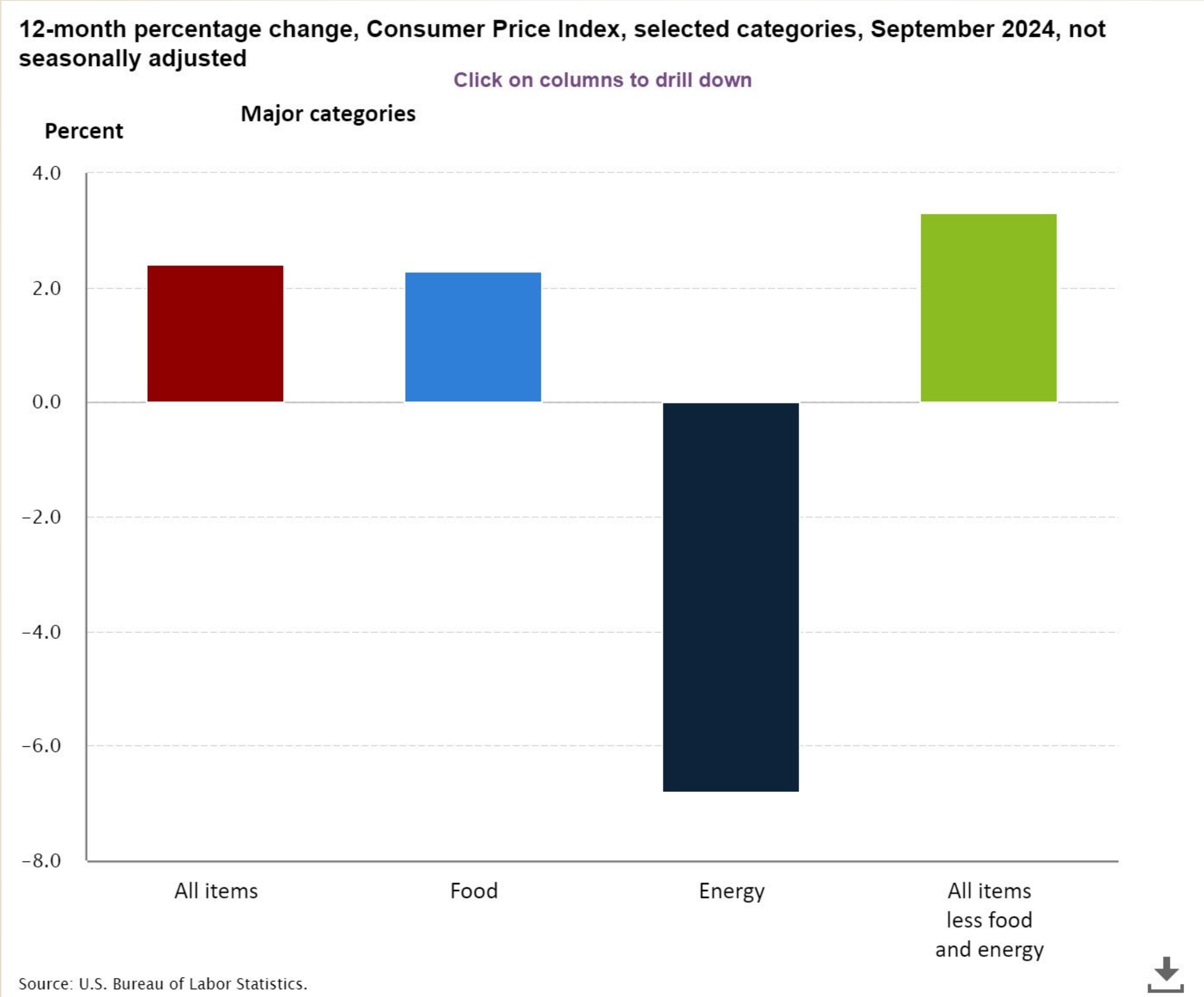
20 Year CPI from St. Louis Federal Reserve



Ten Year PCEPI from St. Louis Federal Reserve



September (released oct) 2024 Inflation Chart



Headline inflation 2.4%

Core inflation 3.3%

Energy down 6.8%

There were other causes too the recent inflationary period

- Factory shutdowns in other countries (China)
- Logistical Challenges (loading dock workers and trucking shortages)
- People leaving the workforce causing labor shortages
- Pent-up demand caused by a near 6-12 month shutdown in many areas

Federal Reserve Inflation Target

- The FED has stated that it wants a 2% year over year average inflation rate
  - With a 2% YoY rate, the purchasing power of $1 today will be approximately $0.55 in 30 years
- So why does the FED want inflation at all? Why not try and hit 0%?
  - **Deflation**
    - A low positive inflation rate acts as a buffer to help prevent deflation
    - Deflation will hurt borrowers with fixed interest rates as they are paying back debts with dollars "worth more" than when they borrowed them (the great depression)
    - Deflation can hurt employers as wages are much more difficult to correct downwards than upwards
    - If prices fall, and continue to fall, then people expect them to keep falling and stop spending reducing business profits and creating a deflationary spiral (consumer spending about 70% of GDP)

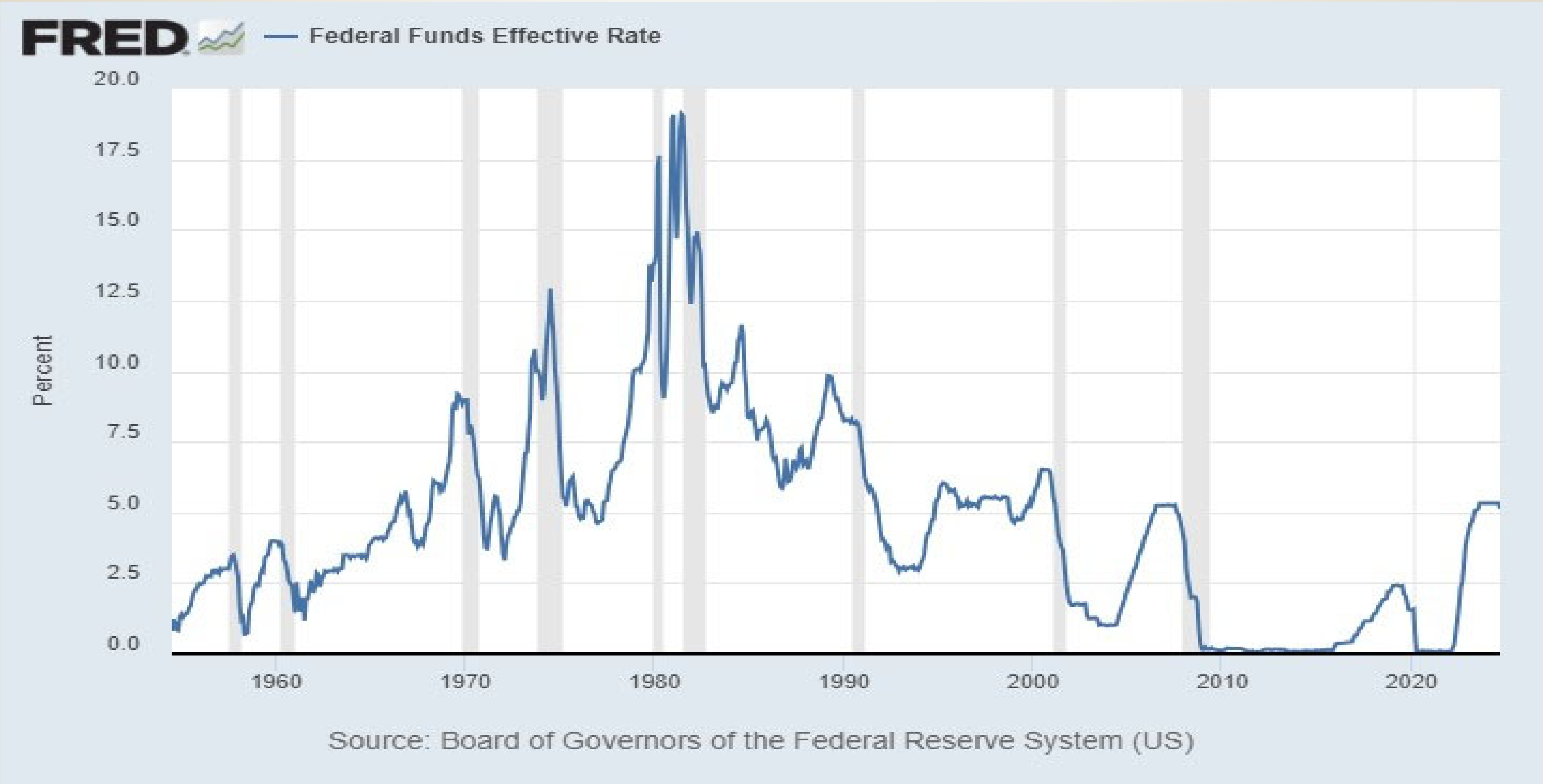
Governmental Measures to Slow/Stop Inflation

- Reduction in physical currency
  - This could either be a reduction in the issuing of new currency, or issuing new currency at a rate lower than economic growth/damage currency replacement warrants
- Federal reserve sells bonds or stops rolling over matured bonds
  - This takes currency out of the money supply by reducing the supply of loanable funds and increasing the interest rate
    - Increasing the interest rate reduces borrowing and therefore spending by consumers/businesses and slows growth
- Federal Reserve increases the required reserve ratio
  - This also reduces the supply of loanable funds with a similar impact to the FED selling bonds or stopping rollovers
- Price controls
  - Government puts a ceiling on prices that can be charged for goods or services
    - Generally a poor option as it creates shortages

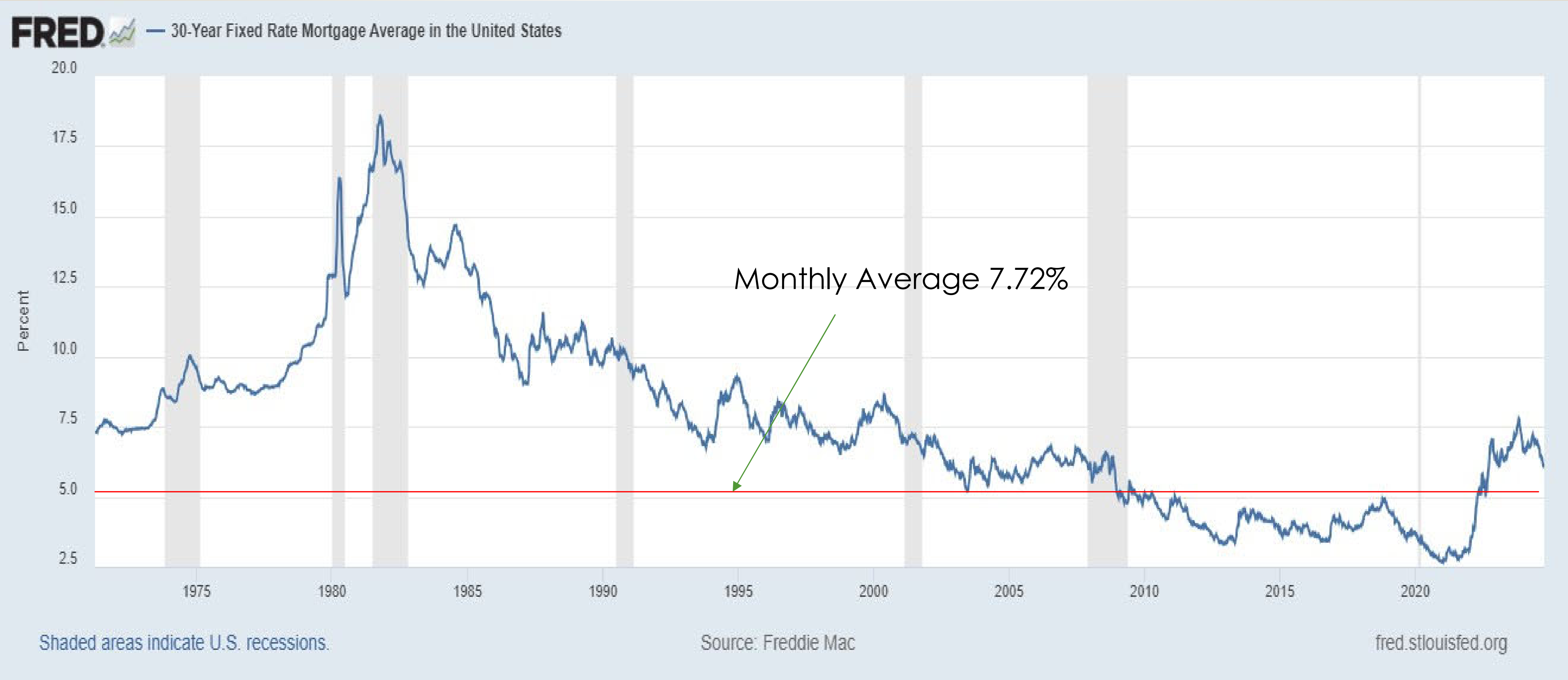
Federal Funds Rate History Since March 2022

FOMC Meeting Date	Rate Change (bps)	Federal Funds Rate
Sept 18, 2024	-50	4.75% to 5.00%
July 26, 2023	+25	5.25% to 5.50%
May 3, 2023	+25	5.00% to 5.25%
March 22, 2023	+25	4.75% to 5.00%
Feb 1, 2023	+25	4.50% to 4.75%
Dec 14, 2022	+50	4.25% to 4.50%
Nov 2, 2022	+75	3.75% to 4.00%
Sept 21, 2022	+75	3.00% to 3.25%
July 27, 2022	+75	2.25% to 2.50%
June 16, 2022	+75	1.50% to 1.75%
May 5, 2022	+50	0.75% to 1.00%
March 17, 2022	+25	0.25% to 0.50%

Federal Funds Rate Since 1954



30 Year Fixed Rate Mortgage Since 1970



Federal Reserve September 18th 2024 Minutes

- Job gains have slowed and while the unemployment rate has increased, it remains low.

- Inflation has made progress toward the Committee's 2% objective but remains elevated

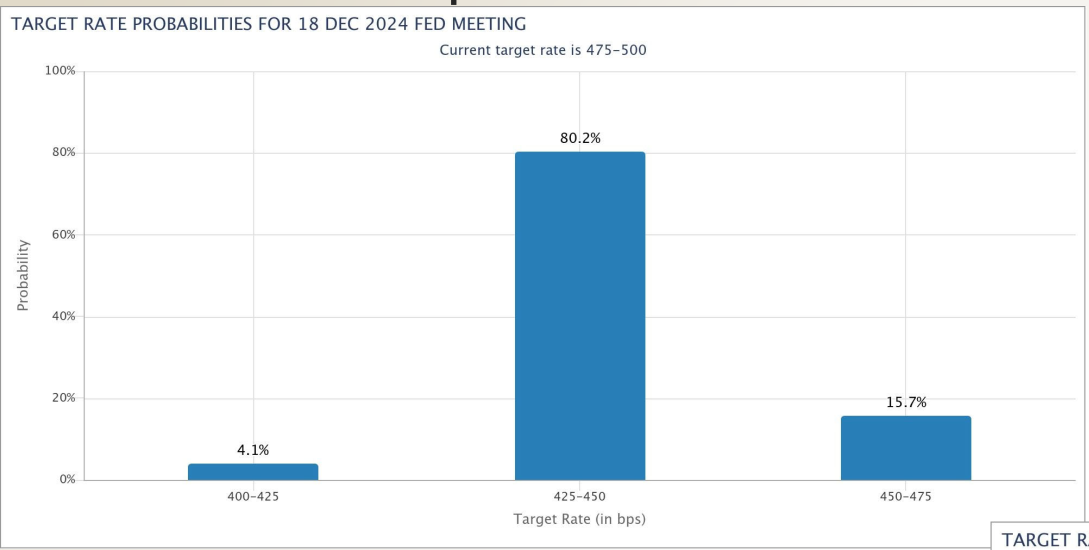
- The Federal Funds rate is being reduced from 5.25-5.5% to 4.75-5.0% (50 basis points) in light of inflation progress

- The economic outlook remains uncertain, the committee will asses the data and remain attentive to the risks associated with the dual mandate (price stability and full employment.

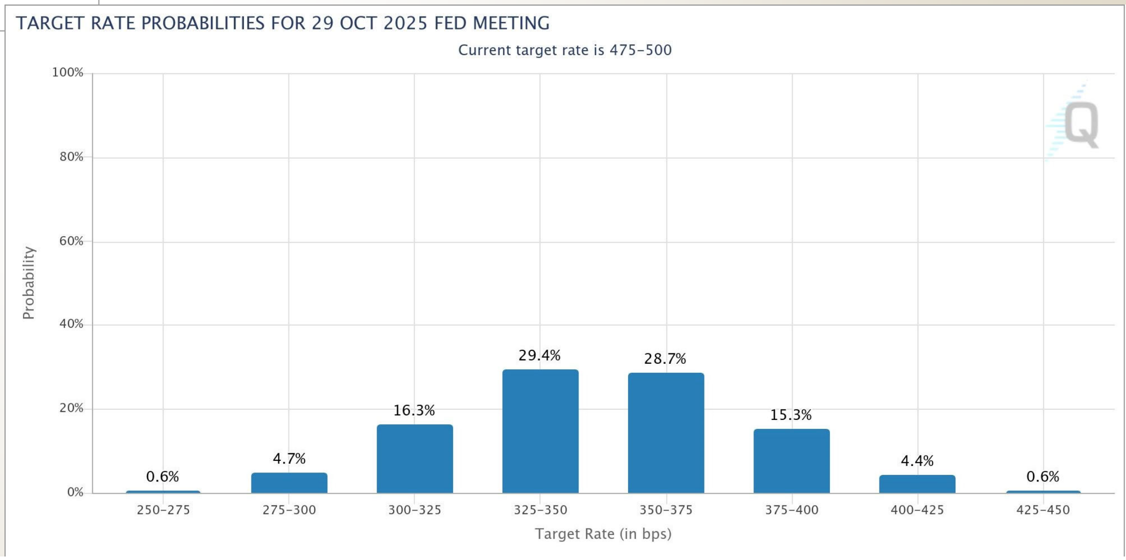
More on the consequences of higher interest rates

- High interest rates discourage debt financing for business, and consumers.
  - This means less consumer spending, less business growth…especially businesses who cannot sell equity
  - Lower growth means less hiring and less commerce in general
- High interest rates incentivizes savers to put money into bonds rather than equity
  - This further slows growth for large and small companies
- The slow growth and low commerce slows or stops wage growth, increases unemployment, and slows consumer/commercial spending and slows or stops price inflation
- If rates are too high, or at least too high for too long, it can force a recession and possibly cause deflation

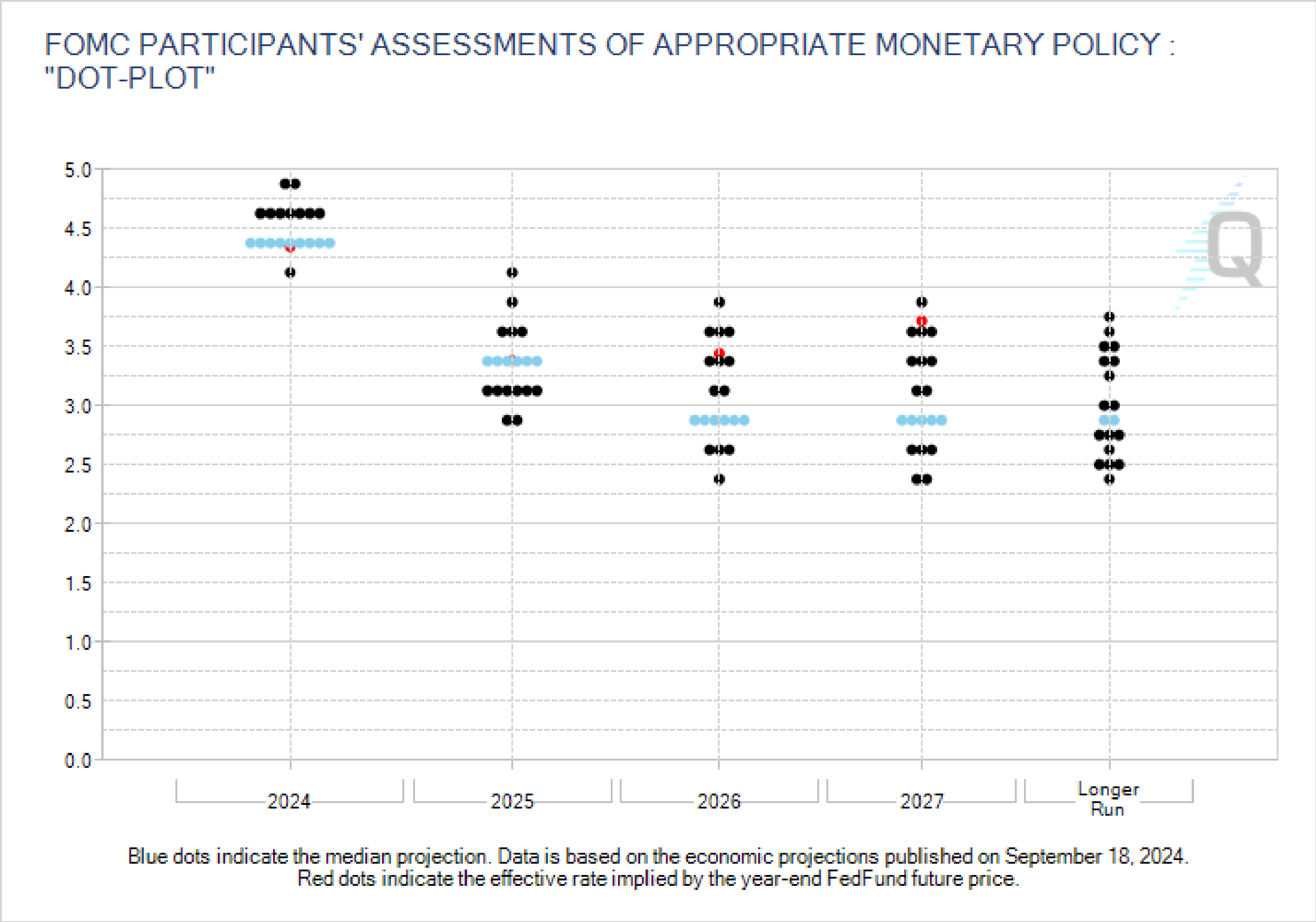
Market Expectations for the Federal Funds rate



These projections are more useful in showing what the market thinks right now and how things could change if expectations are not met vs. what will actually happen



FOMC Appropriate Monetary Policy Chart

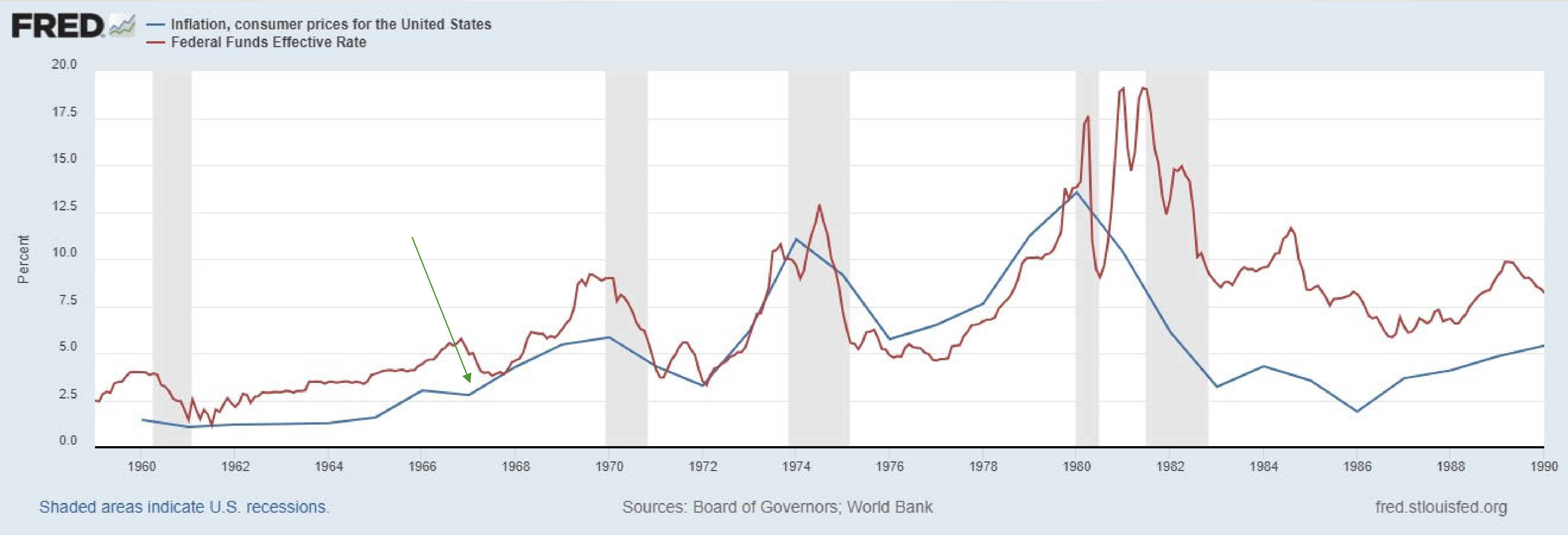


But what can happen if the FED lowers rates too quickly?

- Double dip inflation
  - If rates are dropped too soon, and the fundamentals that caused inflation in the first place have not changed, inflation can spike up again quickly

  - The last time rates were lowered too soon, and inflation spiked quickly, the necessary actions to bring it back down were severe and created a deep recession.

Inflation and the Federal Funds Rate 1960 – 1990.

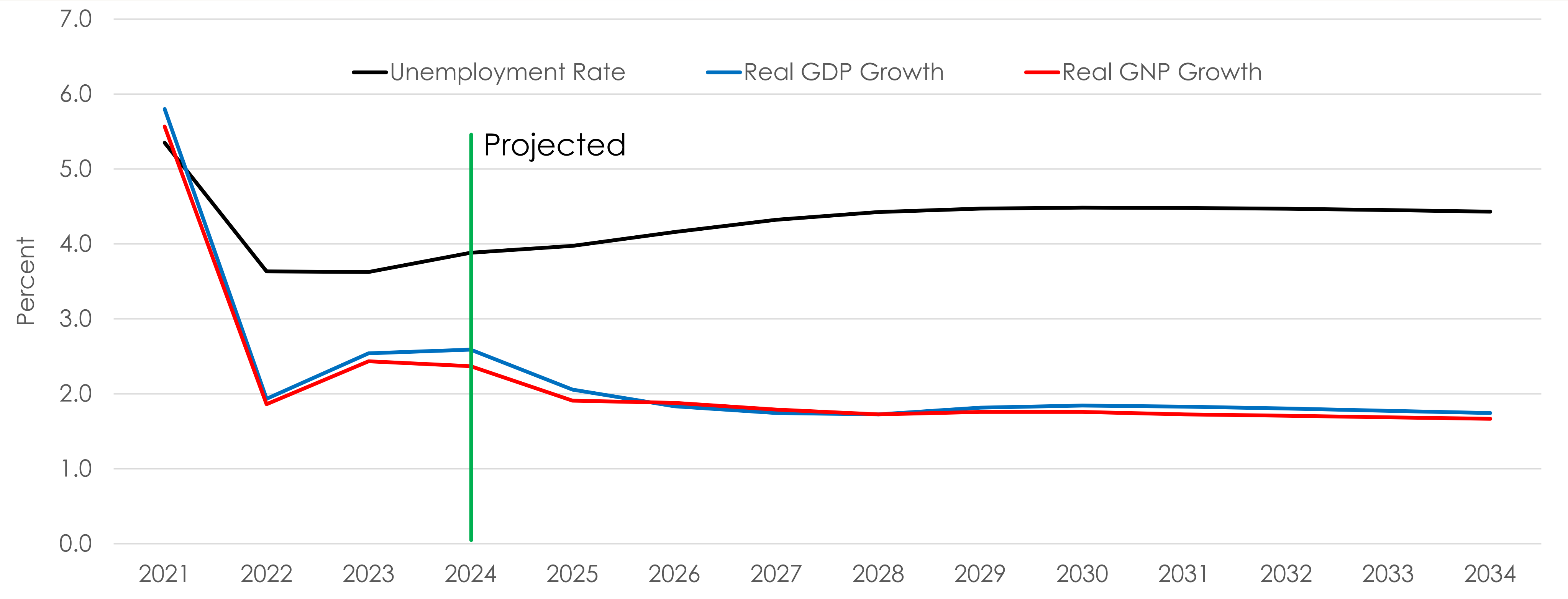


Is there an “optimal” Federal Funds Rate?

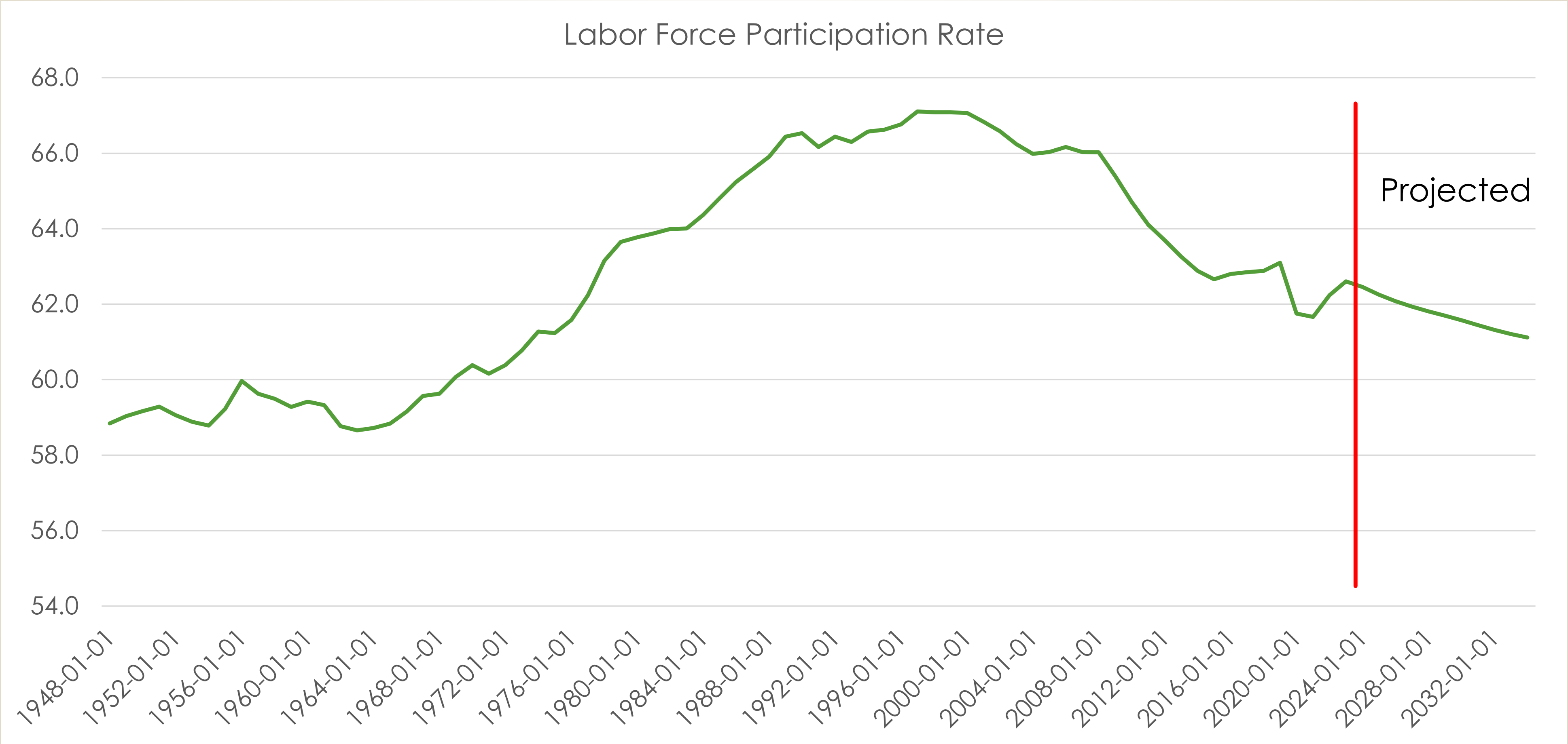
- While there is no “optimal” rate, there is what is referred to as the neutral rate
  - The neutral rate is neither restrictive (hawkish) or accommodative (dovish).
  - The neutral rate is typically thought to be somewhere from 2.5-3.5% for the Federal funds rate
    - While there are a lot of factors beyond the Federal Funds rate that determine interest rates, this would imply a long run 30 yr rate of from about 4.5 – 6.5%

Some Long Run Macroeconomic Projections

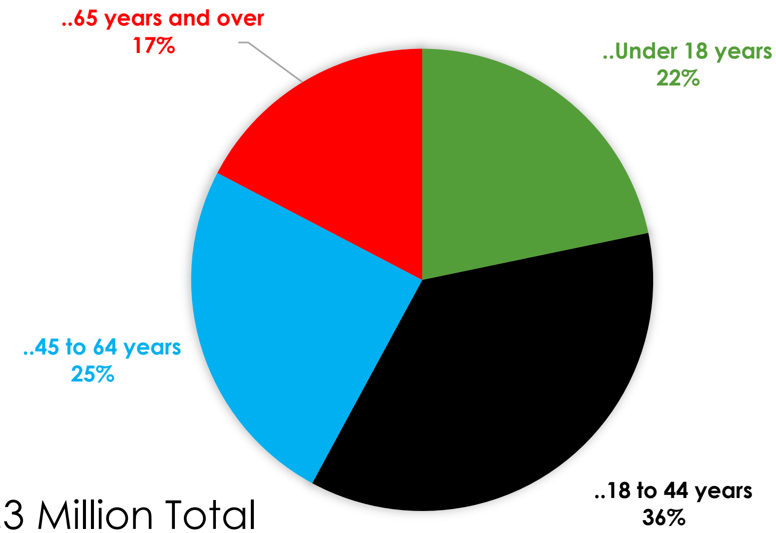
Projected GDP Growth, GNP Growth, and Unemployment Rate to 2034



Projected Labor Force Participation Rate (1971 & 2034 The same 60.1%)

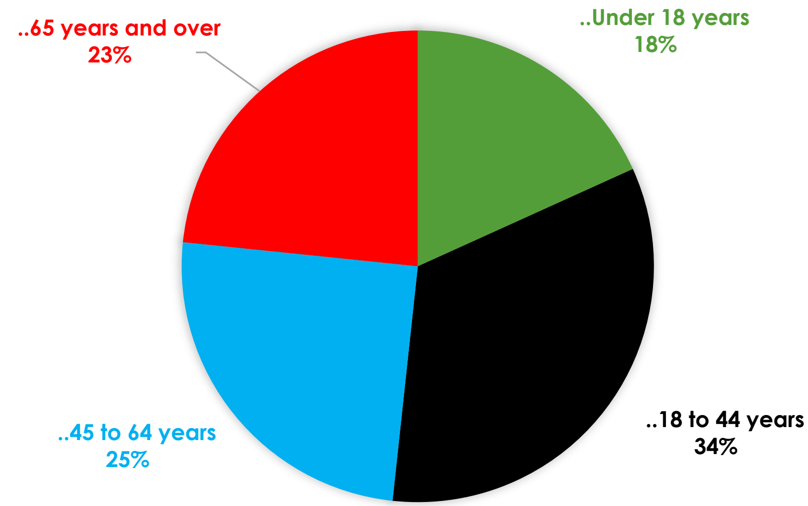


2022 U.S. POPULATION AGE DEMOGRAPHICS



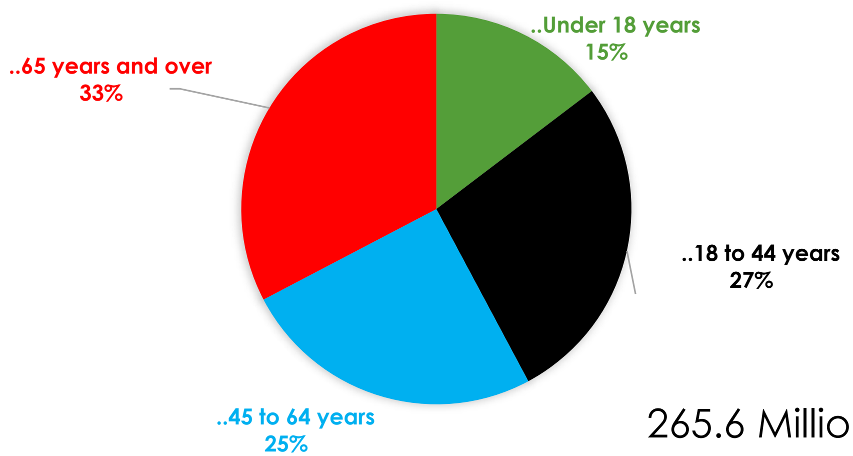
333.3 Million Total

2040 U.S. POPULATION AGE WITH NO IMMIGRATION



326.2 Million Total

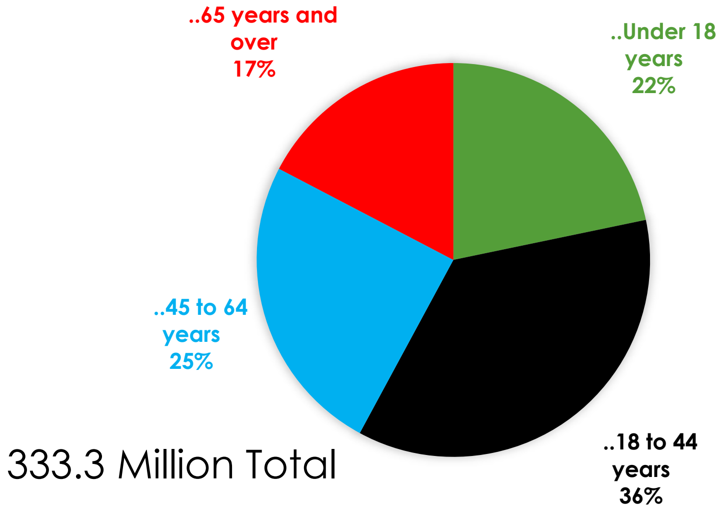
2080 U.S. POPULATION AGE WITH NO IMMIGRATION



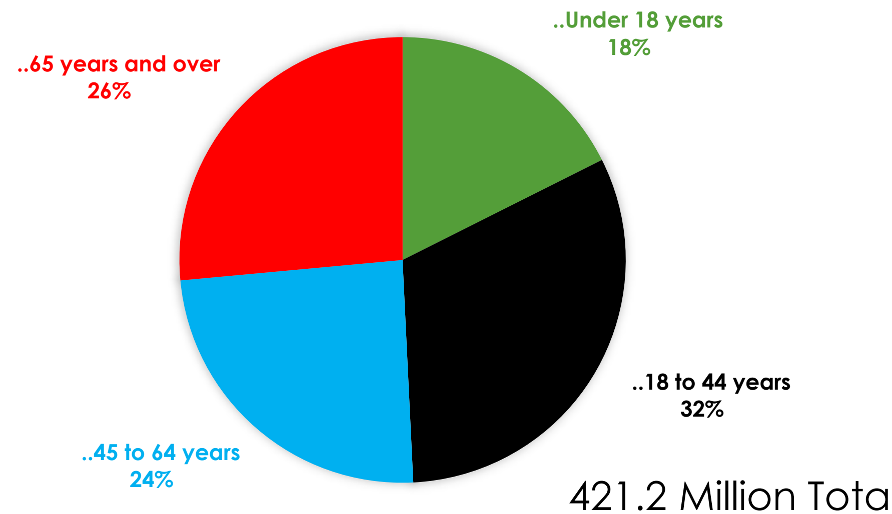
265.6 Million Total

Source: U.S. Census Bureau, Population Division

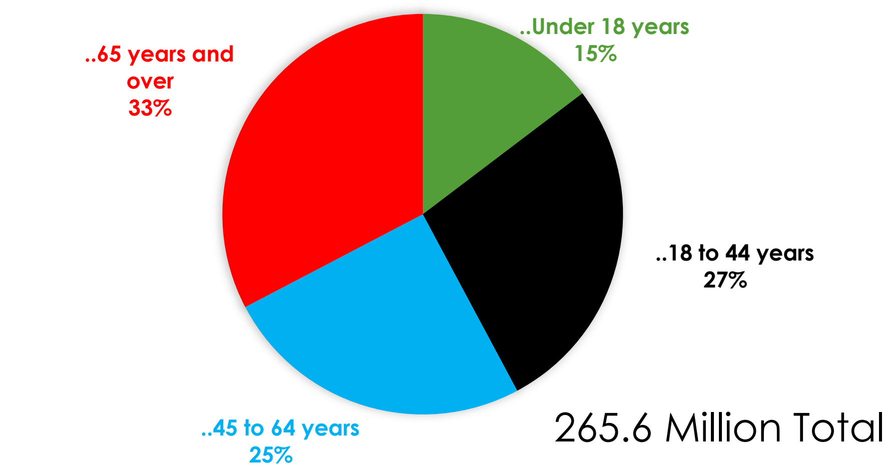
2022 U.S. POPULATION AGE DEMOGRAPHICS



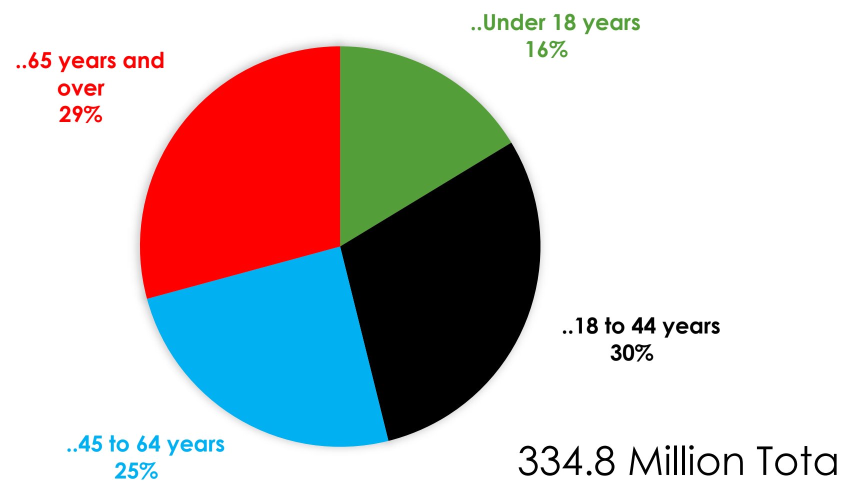
2080 U.S. POPULATION WITH HIGH IMMIGRATION



2080 U.S. POPULATION AGE WITH NO IMMIGRATION

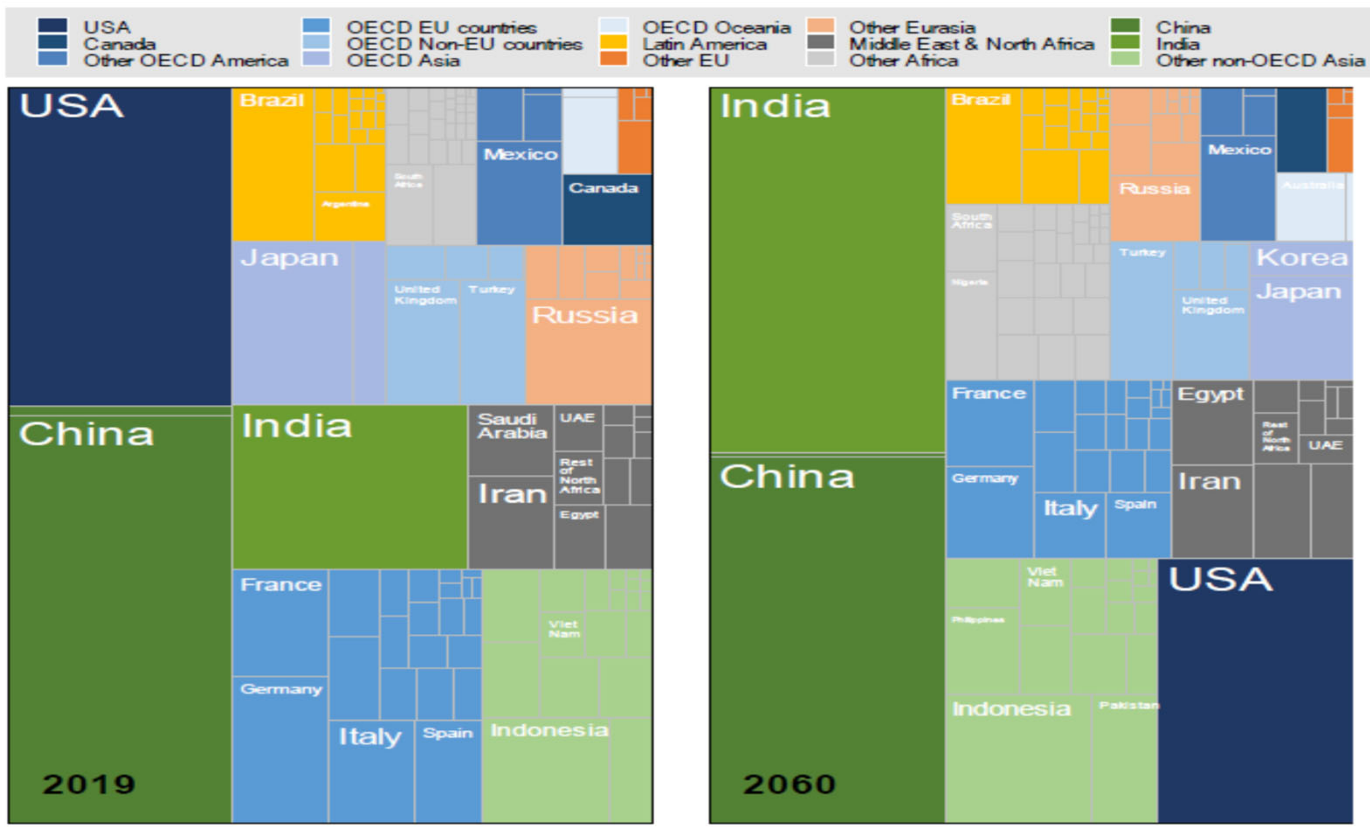


2080 U.S. POPULATION WITH LOW IMMIGRATION



The Largest Economies over the next 35 Years

Share of GDP by region in 2019 and 2060, represented by their area, *Baseline* scenario



Source: OECD ENV-Linkages model; based on short-term forecasts by OECD Economics Department (OECD, 2020[5]) and International Monetary Fund (IMF, 2020[6]).

Final Thoughts

- Inflation has been slowing down over the last few quarters, but core inflation remains stubbornly above 3%
- The Federal Reserve made the first expected rate cut, but the pace of future rate cuts remain in question and will depend upon the data coming out in the future
- The Fed must be careful not to cut rates too quickly risking a worse inflationary period down the road
- The U.S. is entering a period where the population is aging and living longer with fewer people in prime working age. Without immigration, the total population will begin to decline soon and retired age individuals could make up over 1/3 of the total population.

Thank You!

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