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Investment Strategy & Research Highlights

- ▶ Market volatility is increasing as investors process data related to the economy, inflation, jobs, interest rates and the results of the recent U.S. elections.
- ▶ As inflation has cooled, the Federal Reserve has begun reducing rates and there is growing speculation about the timing and scale of potential additional interest rate reductions.
- ▶ In this economic landscape, corporate earnings have taken center stage as investors assess how forward earnings will compare to trailing earnings. The trajectory of artificial intelligence (AI) developments will significantly impact worker productivity, corporate earnings and economic growth.
- ▶ Investors are increasingly focused on how policy outcomes from the U.S. election might shape the economy. Maintaining discipline while adapting to an evolving landscape of opportunities and risks is essential for navigating what will likely be volatile markets ahead.
- ▶ Overall, we think that consumers will be able to manage economic challenges if they arise, due to their strong asset balances and reasonable credit loads.

Please note: This outlook was prepared before the final results of the Nov. 5 U.S. election were available. We will provide additional insights on any significant economic and market implications in a forthcoming Market Perspective article and in our Q1 2025 update.

Intro

Most measures of economic activity suggest the U.S. economy is stable, with modest gross domestic product (GDP) growth and strong employment, while inflation is under control—although still slightly above the Fed’s target of 2%. This environment allowed the Fed to reduce rates by 50 basis points in September, and it continues to assess policy decisions in future meetings. Additionally, the Fed regained its ability to stimulate the economy, when needed, by reducing rates further if the economy were to stumble.

However, equity valuations in the U.S. are stretched, implying that continued earnings growth increases are likely based on expected productivity gains from advances in AI. It appears the market is expecting even higher earnings growth in the U.S. over the next 10 years than in the previous decade.

Outside the U.S., international markets present a mixed picture. Europe, Japan and emerging markets are navigating their own sets of issues and opportunities. In general, their economies currently aren’t as strong as the U.S., but their equity valuations are generally more reasonable, especially for value stocks.

Stable Economic Growth, Moderating Inflation

Several data points, including the change in GDP, which is back within its range of the past 20-plus years, point to the stability of the U.S. economy. Other measures of economic health, such as bankruptcy rates, remain within their normal range over the past 25 years, while delinquencies and charge-offs on commercial and industrial loans are near 40-year lows.

To balance that perspective, other measures indicate economic weakness or suggest that a recession could lie ahead over the coming months or the next year. For example, a composite of leading economic indicators and the Federal Reserve Bank of New York’s Recession Probability Index indicates that troubles could be looming on the horizon. We take comfort knowing the Fed has largely regained its ability to ease monetary policy should trouble arise in the future.

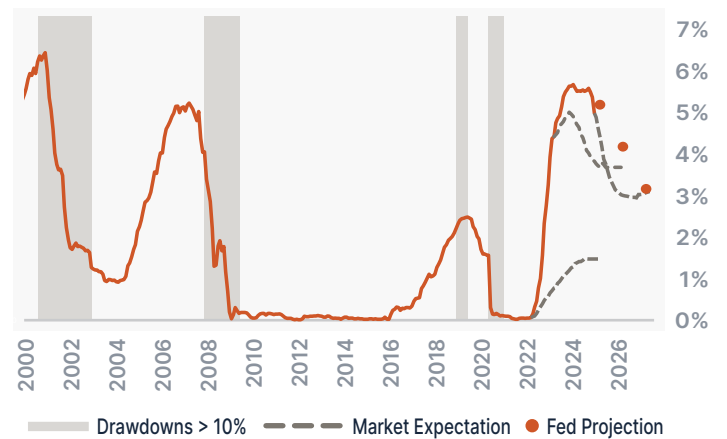
At the same time, aggregate inflation is neither a friend nor a foe. Inflation for goods has cooled dramatically. Pre-pandemic, goods inflation typically ranged between +5% and -5% year over year and it’s currently near -1% for the past year, averaging around 0% over the past couple of years.

Conversely, people-intensive services inflation remains somewhat above its historical range. Pre-pandemic, services inflation held steady between +3% and +4%, consistent with average annual wage gains. However, services inflation currently sits at 4.6%, which has the Fed’s attention as it considers further interest rate reductions.

Fed Has Ample Ability to Ease

Figure 1 presents the federal funds rate, which is similar to short-term interest rates for U.S. Treasuries. As the Fed continues monitoring services inflation, among other factors, it has steadily reduced short-term interest rates. Nevertheless, Federal Open Market Committee (FOMC) members still expect rates to decrease from approximately 5% today to approximately 3% over the next two years, as indicated by the orange dots. The market has anticipated a more aggressive path of rate reductions, represented by the dashed light gray lines, as of December 2021, December 2022 and currently. Thus far, the market has been incorrect as the Fed opted to maintain its policy rate higher for longer to quell inflationary impulses.

FIGURE 1
U.S. Treasuries
Short-Term Interest Rates

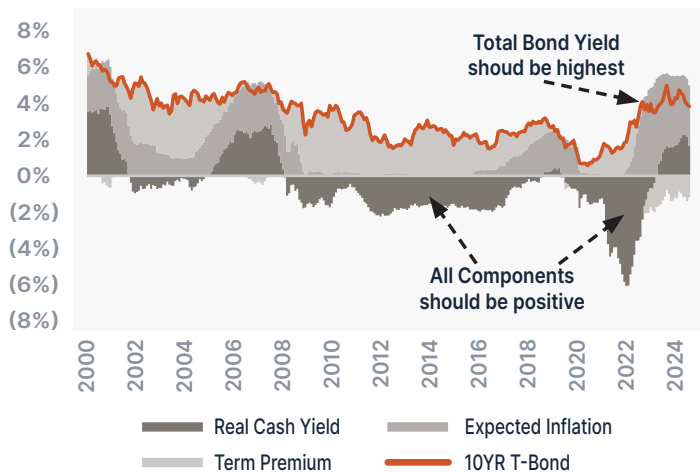


Data as of 9/30/24. Source: Aspiriant analysis. Data from Bloomberg, U.S. Department of Treasury. Please see additional disclosures regarding third-party data and other considerations.

Figure 2 breaks down the total treasury bond yield (the orange line) into three components:

1. The real cash yield, approximated by one-year treasury bonds minus expected inflation.
2. Expected inflation, estimated as the break-even yield for 10-year treasury bonds minus 10-year treasury inflation protected securities (TIPS).
3. The term premium, which is the difference between the yield on 10-year nominal bonds and three-month nominal bills.

FIGURE 2
10 Year Treasury Bond
Return Composition



Data as of 9/30/24. Source: Aspiriant analysis. Data from Bloomberg, U.S. Department of Treasury. Please see additional disclosures regarding third-party data and other considerations.

In a normal environment—characterized by positive economic growth and limited monetary or fiscal policy intervention—all three components should be positive contributors to the total yield on a 10-year treasury bond. In addition, the total bond yield should be the highest data series on the chart. In a normal environment, none of the components should be below 0%, and the orange line should appear at the top.

With that understanding, we can make two valuable observations. We believe:

First, real cash yields should be positive to compensate investors for holding cash without its value being eroded. Although that wasn't the case for much of the past 15 years (due largely to monetary policy intervention), it was the case in the early 2000s and late 2000s and is again the case today.

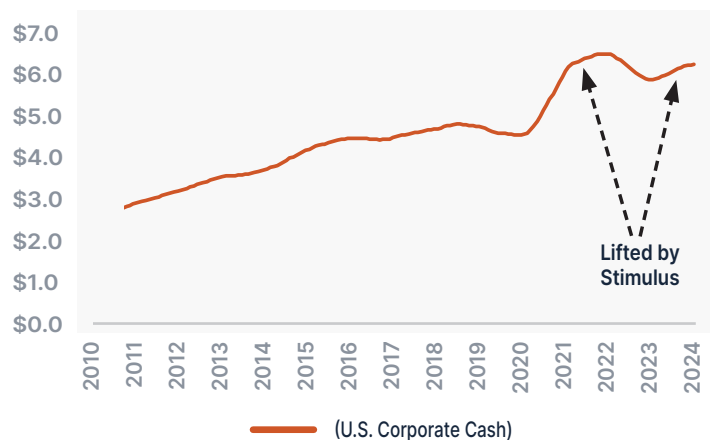
Second, there should be a positive term premium to compensate investors for holding longer-term, riskier bonds instead of shorter-term, less risky cash. Although it dipped below 0% in September 2022, the Fed would likely prefer to get the term premium back above 0%. This should occur as the Fed continues reducing short-term interest rates.

Corporate Balance Sheets

Figure 3 traces corporate cash balances since 2010. Similar to the accumulation of cash by consumers during the pandemic, corporate cash ballooned from 2020 to 2022, rising from roughly \$4.5 trillion to \$6.5 trillion—a 44% increase. Cash, regardless of the balance sheet, typically doesn't sit idle for long. In recent years, excess cash has been used to fund a range of corporate activities, from share buybacks and increased dividends to mergers and acquisitions—all of which tend to support equity prices. Other notable uses of this cash include capital expenditures (CapEx) for long-term asset investments and research and development (R&D).

FIGURE 3
U.S. Corporate Cash

12M Trailing in Trillions of Dollars



Data as of 9/30/24. Source: Aspiriant analysis. Data from Bloomberg. Please see additional disclosures regarding third-party data and other considerations.

Investment in CapEx, as shown in **Figure 4**, has doubled since 2010 and is up 40% since 2021. Research and development spending has increased even more dramatically, more than quadrupling since 2010 and rising 60% in recent years. The increases in both CapEx and R&D can be linked to the emergence and development of AI arms race among large tech platforms to maintain their leadership positions in their respective ecosystems. Amazon, Alphabet, Microsoft and Meta, account for roughly 23% of total U.S. CapEx. Ten years ago, the share of total U.S. CapEx for those same four companies was just 3%.

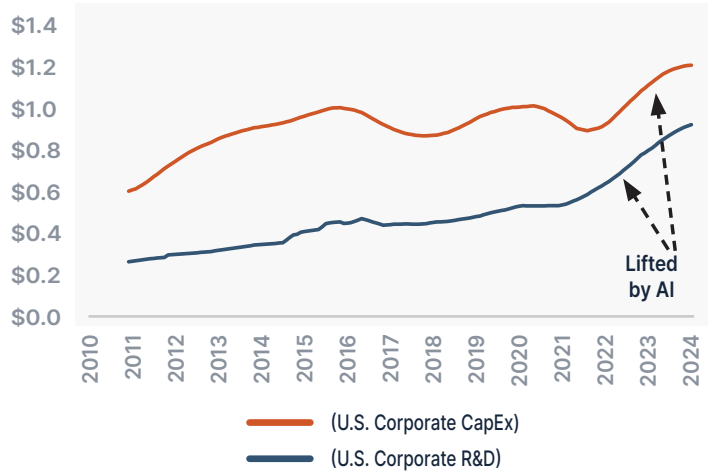
Labor

Over time, the hope is that these investments in CapEx and R&D will lead to higher worker productivity. Improvements in productivity, through the adoption of new technologies and processes, allow the economy to grow and produce more goods or services per unit of input (capital or labor). Over the past 30 years, productivity has expanded by around 1.5% on average. As shown in **Figure 5**, there has been some recent upward movement in productivity, though not significantly. It is still early to see the full effects of recent spending and investment in AI, but this is clearly something worth tracking in the coming years.

Aside from existing workers producing more goods and services, productive capacity and output can expand by increasing the supply of labor. The principal means of growing long-term labor supply is through population growth. The components of total population growth are net births (births minus deaths) and net migration. Since 2005, the trend in total population growth through 2020 declined, with both components falling. Lower fertility rates, elevated death rates and pandemic lockdowns caused population growth to bottom in 2020. Since then, population growth has recovered, largely due to net migration, which accounted for 85% of the population growth in 2023. The strength of the U.S. economic recovery and better relative opportunities in the U.S. are the principal factors driving these results. Overall, population growth in 2023 was substantially above levels in recent years and the highest reading in almost 20 years. With immigration cited by voters as one of their top policy priorities in the 2024 federal election, it may become increasingly difficult to maintain the same level of population growth in the years ahead.

FIGURE 4
U.S. Corporate
CapEx and R&D

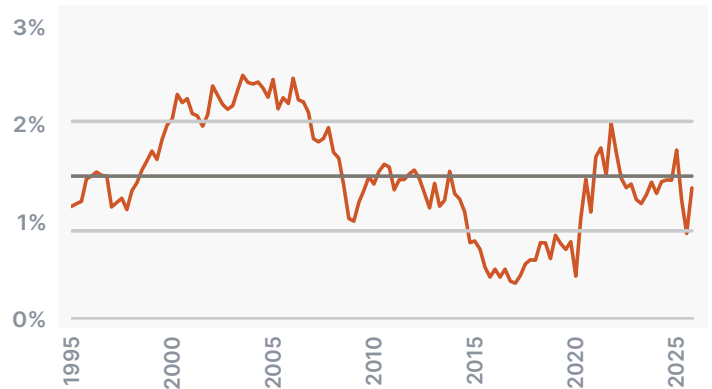
12M Trailing in Trillions of Dollars



Data as of 9/30/24. Source: Aspiriant analysis. Data from Bloomberg. Please see additional disclosures regarding third-party data and other considerations.

FIGURE 5
Worker Productivity
OECD U.S. Labor Productivity Index

5-Year Rolling Annualized Average



Data as of 9/30/24. Source: Aspiriant analysis. Data from Bloomberg, Organisation for Economic Co-operation and Development (OECD). Please see additional disclosures regarding third-party data and other considerations.

Wealth Effect

Household balance sheet are displayed in **Figure 6** in terms of household assets as a multiple of GDP. From 1951 to the late 1990s, household assets rose from 3.5x to about 5x GDP. From there, assets ascended another 28% and now approach around 6.4x GDP. A combination of factors—including lower labor and debt costs, fewer regulations, declining taxes and technological and medical advances—can explain this pronounced rise in asset values.

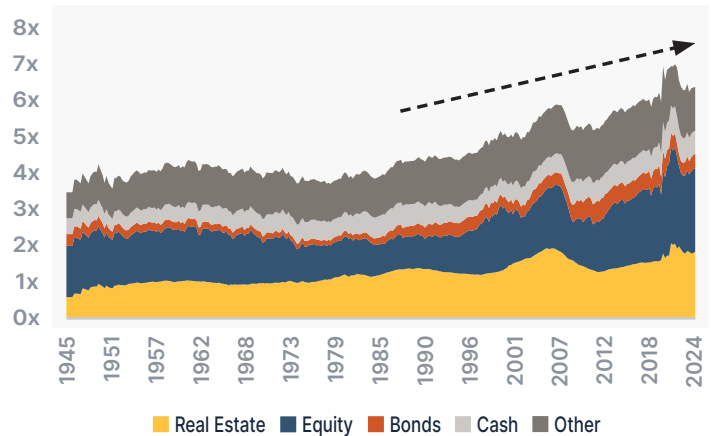
As a balance sheet includes both assets and liabilities, we also examine credit across the economy, including households, businesses and the public sector. Like household assets, credit across the economy jumped from 1.3x to 2.7x GDP from 1951 to the late 1990s. From there, U.S. credit to GDP rose to 3.8x in 2008 and peaked in 2020 at 4.1x. Today, credit to GDP sits around 3.1x. Interestingly, the mix of credit has shifted. While government credit—federal credit in particular—has more than doubled as a multiple of GDP since the global financial crisis, the private sector has deleveraged steadily. For example, household credit was about 1.0 times GDP in 2008 and today is less than 0.7x. Relative to household assets, household credit has fallen even further, down about 40% from 2008. As a result, U.S. household net worth exceeds \$160 trillion. This increase in wealth means consumers, especially affluent ones, have a greater ability to maintain spending across the economic cycle.

Economic Growth Amplified by Credit Creation

The wealth effect described above supports our view that economic growth can be amplified by the healthy use of credit. As a reminder, personal consumption accounts for about 63% of GDP growth and the use of credit allows consumers to purchase more than they otherwise could if limited to only their income or savings.

Credit amplifies economic activity because one person's spending is another person's income. When that person's income increases, they, in turn, spend more. Similarly, one company's spending becomes another company's revenue, which can then be used to hire more employees, make purchases and invest further. The healthy use of credit can

FIGURE 6
Household Assets
As a Multiple of GDP



Data as of 9/30/24. Source: Aspiriant analysis. Data from Federal Reserve Bank of St. Louis (FRED), Board of Governors of the Federal Reserve System. Please see additional disclosures regarding third-party data and other considerations.

help expand and extend business cycles. However, excessive credit use can lead to severe consequences, as seen during the Global Financial Crisis.

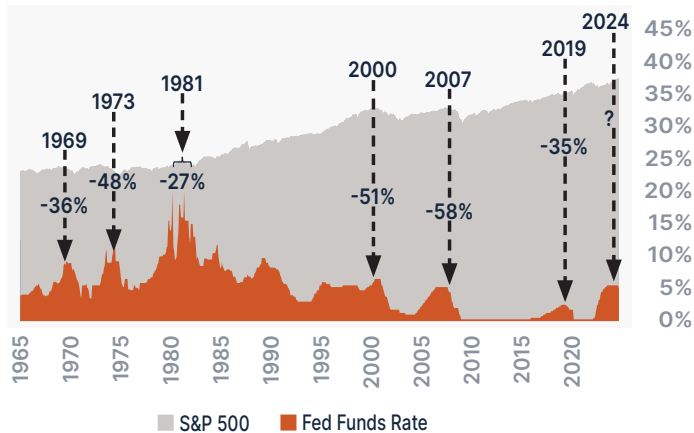
Today, revolving consumer credit stands at about \$1.4 trillion, or approximately 4.7% of GDP, which is running at about \$29 trillion per year. While this is much higher than levels seen pre-1990s, it's considerably lower than the roughly 6.8% reached during the 2000s. Moreover, while current credit card rates are around 22%—one of the primary ways consumers make purchases—we believe they are expected to fall as interest rates decrease over the next two years.

Overall, we think consumers will be able to manage economic challenges if they arise, due to their strong asset balances and reasonable credit loads.

Fed Rate Cuts – Mixed for Equities & Bonds

Figure 7 chronicles six rate-cutting cycles, or pivots, following their respective rate-hiking cycles. These six cycles began in 1969, 1973, 1981, 2000, 2007 and 2019. On average, across all six cycles, the Fed cut rates by about 6%, and over the ensuing 14 months the S&P 500 dropped approximately 36%. To be clear, that drop occurred after the Fed had begun cutting rates, implying many investors thought the Fed was too late. Although painful, on average, the S&P regained its prior level within about two years. While we do not believe a significant drop in equities is likely during the current rate-cutting cycle, such a drop could occur.

FIGURE 7
S&P 500 When FED Pivots



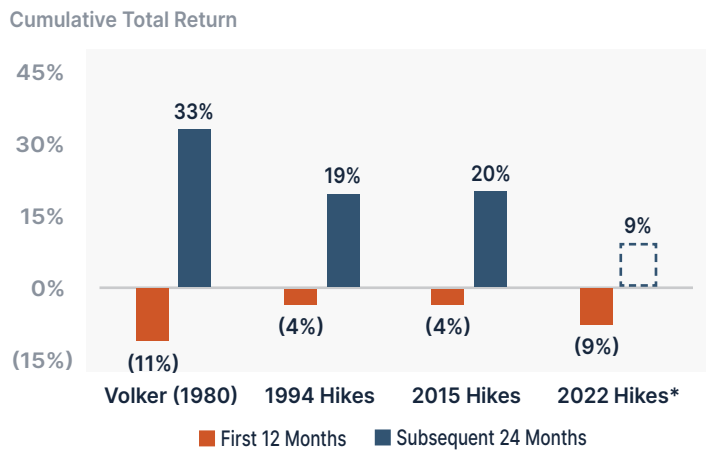
Data as of 9/30/24. Source: Aspiriant analysis. Data from Bloomberg, Board of Governors of the Federal Reserve System. Past performance is not indicative of future results. All investments can lose value. Indices are unmanaged and have no fees. An investment may not be made directly in an index. Please see additional disclosures regarding third-party data and other considerations.

Figure 8 shows the impact on bonds during four rate-hiking cycles that began in 1980, 1994, 2015 and the most recent cycle in 2022. On average, across all four cycles, bonds decreased by about 7% over the 12 months following the rate-hiking cycles and then increased by about 20% over the subsequent 24 months.

In the first 12 months following the 2022 rate-hiking cycle, bonds fell by 9% and in the next 21 months recovered by 9%. They're roughly flat over the period, but we believe there will be higher-than-average returns going forward—with bonds expected to outperform some equity asset classes in the years ahead.

Bonds don't always act like a ballast to equities—2022 was an example of when both asset classes sold off—but they often do, and we believe they will continue to do so going forward.

FIGURE 8
Fixed Income in Rising Rate Environments
Bloomberg Municipal Bond Index



Data as of 9/30/24. Source: Aspiriant analysis. Data from Bloomberg, Board of Governors of the Federal Reserve System. *2022 Hikes - Blue hollow bar represents subsequent 21 months (Jan 2023-Sep 2024) following the 2022 hiking cycle. Past performance is not indicative of future results. All investments can lose value. Indices are unmanaged and have no fees. An investment may not be made directly in an index. Please see additional disclosures regarding third-party data and other considerations.

Final Thoughts & Portfolio Considerations

The U.S. economy has outperformed expectations and displayed unusual resilience in light of aggressive monetary policy and a dramatically different rate environment over the past couple of years. Typically, higher interest rates and more expensive borrowing costs curb spending and lower aggregate demand, prompting a downward spiral in the economy. This has not occurred for a number of reasons. Private sector balance sheets—for both individuals and companies—were in good shape going into and out of the pandemic. Many were able to extend debts at low fixed rates and adjust their spending to minimize the effects of higher interest rates. Significant government transfers and the build-up of excess savings during and following the pandemic allowed consumers and businesses to draw down these funds as inflation and interest rates spiked.

Rising asset values have also given people, particularly affluent households, the confidence to keep spending even if incomes have not kept pace with inflation. Additionally, public sector spending since 2018 has shifted from countercyclical to procyclical, with the federal government now running elevated deficits of around 6% of GDP despite low unemployment.

While demand has held steady, the supply side of the economy has normalized and, in many cases, surpassed pre-pandemic measures. Supply chain dislocations have faded and are no longer a pressure point in the movement of goods. The emergence of artificial intelligence—and the existential threat it poses to large tech platforms—has fueled a significant CapEx and R&D cycle that, over time, may accelerate recent gains in worker productivity.

Finally, there are five million more workers employed, due to strong workforce participation and immigration, than before the pandemic. Together, these supply conditions helped reverse the sharp price movements of the past couple of years, with inflation now within reach of the Fed's target of 2%.

Despite the underlying strength of the U.S. economy, the outlook for U.S. stocks is mixed. U.S. markets had an extraordinary run over the past 10 years. The S&P 500, for example, returned well above its historical annual average and now trades at more than 22x forward earnings. The U.S. market accounts for about 65% of global market capitalization, up

from 40% in 2010. While the U.S. economy represents a little more than 25% of the global economy in dollar terms. Further, U.S. market gains have been heavily clustered around the largest stocks, creating a wide disparity between the returns of the market-cap-weighted index and the equal-weighted index in recent years. Outside the U.S., valuation risks are less prevalent, but economic and geopolitical risks are more pressing. Given the wide range of risks facing investors, we believe diversification across markets and asset classes is key to balancing risks.

Given where equities are currently priced, we believe returns will be lower over the next decade than we saw in the last decade and that there will be some portfolio tailwinds from value stocks and non-U.S. equities. Broad portfolio diversification is critical, as companies and countries are in different phases of their economic and market cycles.

Within fixed income, core or investment-grade bonds are generally priced to deliver better returns than they have in recent years. Additionally, bonds could offer more stability, once again acting as a ballast in portfolios if equities encounter challenges in the years ahead.

Although not all portfolios hold diversifiers, for those that do, we believe these assets to continue offering enhanced diversification through allocations in strategies such as long/short hedging, relative value (profiting from pricing differences between related assets), global macro (capitalizing on global economic trends) and gold.

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Glossary of Terms Used in this Issue

AI: Artificial intelligence, including machine learning and large language models.

Bloomberg Municipal Bond Index: A rules-based, market-value-weighted index for the long-term tax-exempt bond market, with four main sectors: general obligation bonds, revenue bonds, insured bonds and pre-refunded bonds.

CapEx: Capital expenditures.

Dow Jones U.S. Total Stock Market Index: Measures all U.S. equity securities with readily available prices.

Federal Funds Rate: The interest rate at which banks lend reserve balances to other banks overnight, influenced by the Federal Reserve to implement monetary policy.

Federal Open Market Committee (FOMC): It is the branch of the Federal Reserve responsible for setting monetary policy, specifically by managing the federal funds rate and guiding open market operations.

Market-Cap-Weighted Index: An index in which each component is weighted according to its total market capitalization, such as the S&P 500.

Net Migration: The difference between the number of immigrants entering and the number of emigrants leaving a country over a specified period, contributing to population growth.

Revolving Credit: A type of credit that does not have a fixed number of payments, such as credit card debt, allowing for continuous borrowing up to a limit.

S&P 500: A market-capitalization weighted index of 500 widely held companies, selected based on market size, liquidity and industry representation.

Term Premium: The extra yield that investors require for holding a longer-term bond instead of a series of shorter-term bonds, representing compensation for interest rate risk.

Treasury Inflation-Protected Securities (TIPS): U.S. government bonds designed to protect investors from inflation by adjusting the principal based on the Consumer Price Index (CPI).