

Understanding US Securities Markets: How Different Markets Behave and Connect

Emma Nagy

August 2025

Abstract

This study reveals that US securities markets are fundamentally heterogeneous, responding to economic conditions through distinct mechanisms rather than moving uniformly. Analyzing trading volumes and issuance patterns across seven major markets during 2019-2021, we document dramatic variation in sensitivity to interest rates, inflation, and credit stress. Markets show correlations ranging from strongly negative to nearly perfect positive, creating both natural hedges and amplification channels. Primary and secondary markets for the same securities respond to different drivers—issuance reflects strategic timing while trading responds to risk repricing. These patterns held during the COVID-19 crisis, validating their structural nature. For investors, the findings highlight diversification opportunities based on correlation structure. For policymakers, they explain why comprehensive crisis response requires multiple targeted tools. For risk managers, they reveal which market relationships amplify shocks and which provide natural offsets.

1 Introduction

Financial markets are the plumbing of the modern economy. When you deposit money in a bank, buy a house, or invest in a retirement fund, you’re participating in a complex system of interconnected markets. But how do these different markets actually behave? Do they all respond the same way to economic changes, or does each market have its own personality?

This study answers these questions by analyzing seven major US securities markets from January 2019 to August 2021. This time period is particularly interesting because it includes both normal economic conditions (2019) and an unprecedented shock (COVID-19 in 2020), followed by a massive policy response and recovery (2020-2021).

We focus on three key questions:

1. **How much trading activity occurs in each market?** Understanding the scale and volatility of different markets helps us see which are most important to the financial system.
2. **How do markets respond to economic conditions?** We examine relationships between trading activity and three economic indicators: interest rates (Federal Funds rate), inflation (CPI), and credit stress (high yield spreads).

3. **Do markets move together or independently?** Markets that move together amplify shocks, while independent markets provide diversification.

The markets we analyze include: US Treasury bonds (government debt), Repo markets (short-term lending), Equity markets (stocks), Fixed Income (all bond markets combined), Structured Finance (mortgages and asset-backed securities), Agency Debt (government-sponsored enterprises), and Corporate Bonds (company debt).

2 Data and Methodology

2.1 What We Measured

We collected data on monthly trading volumes that includes how many billions of dollars worth of securities changed hands each month for all seven markets. This data comes from SIFMA (Securities Industry and Financial Markets Association), the industry's main data provider.

To understand economic conditions during this period, we tracked three key indicators from the Federal Reserve Economic Data (FRED) database:

- **Federal Funds Rate:** The interest rate banks charge each other for overnight loans, effectively controlled by the Federal Reserve. When this rate falls, it signals that the Fed is trying to stimulate the economy by making borrowing cheaper.
- **Consumer Price Index (CPI) Year-over-Year:** Measures inflation—how much prices are rising. During our study period, inflation was relatively low until 2021 when it began increasing.
- **High Yield Spread:** The extra interest investors demand to hold risky corporate bonds instead of safe Treasury bonds. When this spread widens, it signals that investors are worried about the economy and credit risk.

2.2 Data Analysis

Our analysis has three components:

Descriptive Statistics: We calculated averages, volatility measures, and trends for each market. This tells us the "normal" state of each market and how much it fluctuates.

Correlation Analysis: We calculated correlations between:

- Each market and the three economic indicators
- Different types of securities within each market
- Total activity across different markets

Visual Analysis: We created time-series plots showing how markets evolved over time, and dual-axis plots showing market activity alongside economic indicators. These visualizations help us see patterns that numbers alone might miss.

3 Key Findings: How Individual Markets Behave

3.1 US Treasury Securities: The Foundation

The US Treasury market averaged \$605 billion in monthly trading volume during our study period, making it one of the world's largest and most liquid markets. The market demonstrated notable stability with a standard deviation of \$83 billion and a coefficient of variation of 13.7%. Trading volumes ranged from a low of \$492 billion to a peak of \$915 billion, with the distribution showing moderate positive skewness (1.65), indicating occasional surges in activity.

Treasury trading showed weak correlations with macro indicators: minimal relationship with the Federal Funds rate (-0.026) and inflation (-0.141), but a moderate positive correlation with high yield spreads (0.426). This flight-to-safety pattern is intuitive—when credit stress rises and high yield spreads widen, investors increase Treasury trading as they seek safer assets. The near-zero time trend correlation (-0.045) suggests the market maintained steady activity throughout the pandemic period rather than showing a pronounced upward or downward trajectory.

3.2 Repo Markets: The Invisible Plumbing

Repo (repurchase agreement) markets are the financial system's overnight funding mechanism, and their scale dwarfs many other markets. Primary Dealer repo averaged \$2,550 billion monthly, GCF Repo averaged \$2,392 billion, and Triparty Repo averaged \$4,472 billion—figures far exceeding Treasury trading volumes and highlighting the enormous short-term borrowing that underpins financial markets.

Despite serving similar functions, the three repo markets showed surprisingly different behaviors. GCF Repo displayed a strong positive correlation with interest rates (0.767) and moderate negative correlation with inflation (-0.424), suggesting it responds to monetary policy tightening. Primary Dealer repo showed more moderate correlations across all three macro indicators. In contrast, the correlations between the three repo market segments themselves were quite low (ranging from 0.030 to 0.434), indicating they serve distinct purposes or participant bases rather than functioning as a unified market. Triparty Repo showed a declining time trend (correlation -0.259), while GCF remained more stable.

3.3 Equity Markets: Monetary Policy Transmission

Equity markets exhibit both issuance and trading dynamics. Equity trading averaged \$440 billion in monthly volume with a strong upward trend throughout the period (time correlation: 0.779), indicating growing market activity from 2019 through mid-2021. Equity issuance, measured annually, showed different patterns driven by corporate capital structure decisions rather than short-term trading flows.

Equity trading demonstrated the clearest response to macroeconomic conditions of any market studied, with an exceptionally strong negative correlation with the Federal Funds rate (-0.803). This powerful relationship demonstrates that when the Federal Reserve cuts

rates to stimulate the economy, stock market trading surges, reflecting both increased investor optimism and cheaper margin borrowing costs. The relationship with inflation was weak and positive (0.201), while the correlation with credit spreads was minimal (0.155). Equity issuance showed a more moderate negative correlation with Fed Funds (-0.542) and near-zero relationships with inflation (-0.046) and high yield spreads (-0.022), indicating that capital raising decisions are largely independent of short-term macro fluctuations. Across different exchanges (NYSE, Nasdaq, and others), trading volumes showed high synchronization (average correlation 0.880), meaning that when activity picks up on one venue, it increases across all major exchanges simultaneously.

3.4 Fixed Income Securities: Broad Market Aggregation

The Fixed Income market, which aggregates trading across Treasury, Agency, Corporate, and other debt securities, averaged \$894 billion in monthly volume. As expected given its composition, Fixed Income trading showed an extremely high correlation with Treasury trading (0.954), essentially tracking the same underlying activity.

The market's macro correlations largely mirror those of Treasuries: near-zero relationship with Fed Funds (-0.032), weak negative correlation with inflation (-0.179), and moderate positive correlation with high yield spreads (0.472). The Fixed Income market also showed strong positive correlations with Corporate Bonds (0.767), confirming that these markets move together as part of the broader debt ecosystem. The time trend was slightly negative, similar to Treasuries, indicating stable rather than growing activity during the study period.

3.5 Structured Finance: Asset-Backed Securities Activity

Structured Finance, encompassing mortgage-backed securities (MBS) and asset-backed securities (ABS), averaged \$215 billion in monthly trading volume. The market showed moderate volatility with distinct subsegments displaying varied correlation patterns.

Structured Finance trading demonstrated weak correlations with all three macro indicators: -0.138 with Fed Funds, -0.285 with CPI, and 0.338 with high yield spreads. More interesting is the strong positive correlation (0.710) between Structured Finance and Equity Trading, suggesting these markets attract similar trader types or respond to common economic drivers. Within Structured Finance, Agency TBA (to-be-announced) MBS showed very high correlation (0.994) with total mortgage trading, indicating this sector dominates mortgage market dynamics. The overall market showed moderate stability with no strong directional time trend.

3.6 Agency Debt: Government-Sponsored Enterprise Funding

Agency Debt markets (Fannie Mae, Freddie Mac, Federal Home Loan Banks) averaged \$123 billion in monthly trading. The market showed moderate stability and weak macro correlations: -0.044 with Fed Funds, -0.264 with CPI, and 0.367 with high yield spreads.

Agency Debt trading showed stronger correlations with repo markets than with equity markets. The correlation with Primary Dealer Repo (0.552) and GCF Repo (0.320) suggests overlapping participant bases or similar portfolio management strategies among fixed

income traders. The relatively weak correlation with Equity Trading (0.020) confirms that Agency Debt behaves more like other fixed income instruments than risk assets. The market maintained relatively stable volumes throughout the study period.

3.7 Corporate Bonds: Credit Stress Sensitivity

Corporate bond trading averaged \$28 billion monthly, considerably smaller than Treasury markets but critical for business financing. The market showed moderate volatility with a coefficient of variation around 31%, and volumes ranged from \$13 billion to \$55 billion during the study period.

The defining characteristic of corporate bond trading is its strong positive correlation with credit stress (0.581 with high yield spreads). When investors grow concerned about credit quality and default risk, corporate bond trading activity surges as portfolios are rebalanced and risk is repriced. The market showed weaker relationships with interest rates (-0.134) and a moderate negative correlation with inflation (-0.371). Within the corporate bond market, Investment Grade and High Yield bonds move nearly in lockstep (correlation 0.889), suggesting traders respond to market-wide credit conditions rather than making sharp distinctions between safer and riskier corporate debt during volatile periods.

4 The Big Picture: How Markets Connect

4.1 Markets That Move Together

Cross-market correlation analysis reveals several strong positive relationships that indicate interconnected trading activity:

Treasury and Fixed Income (0.954): This near-perfect correlation is expected since Treasury securities constitute a major component of the broader Fixed Income market. They essentially measure overlapping activity.

Corporate Bonds and Fixed Income (0.767): Corporate bonds are part of the fixed income universe, so this strong co-movement makes sense. When fixed income trading accelerates, corporate bond activity rises proportionally.

Equity Trading and Structured Finance (0.710): This substantial positive correlation is more surprising and interesting. Mortgage-backed and asset-backed securities trading moves closely with stock market activity, potentially reflecting common investor bases or shared sensitivity to monetary policy.

Treasury and Corporate Bonds (0.718): The strong positive correlation between government and corporate debt trading suggests that general debt market conditions, rather than credit-specific factors, often drive trading activity across both markets simultaneously.

4.2 Markets That Move Independently or Oppositely

The most strategically important findings emerge from examining negative and near-zero correlations:

Repo GCF and Equity Trading (-0.639): This strong negative correlation is particularly noteworthy. When equity market trading heats up, GCF repo activity decreases substantially, and vice versa. This could reflect portfolio rebalancing (selling bonds to fund stock purchases), different participant behaviors (dealers vs. buy-side institutions), or competing demands for balance sheet capacity.

Equity Issuance and Repo Markets (-0.234 to -0.446): Companies issuing new equity and repo market activity move in opposite directions. When equity capital is readily available (high issuance), short-term debt funding needs decrease. The strongest negative relationship is with GCF Repo (-0.446).

Structured Finance and Repo GCF (-0.430): Similar to equity trading, structured finance trading activity moves inversely with GCF repo volumes, suggesting potential substitution effects or distinct trading strategies.

Near-Zero Correlations: Several market pairs show correlations close to zero, indicating statistical independence. Examples include Repo Triparty with Equity Trading (-0.049), Agency Debt with Equity Trading (0.020), and Repo Triparty with most other markets. This independence provides natural diversification.

4.3 Practical Implications

For Portfolio Construction: Markets with low or negative correlations provide diversification benefits. The -0.639 correlation between Equity Trading and Repo GCF suggests natural hedging opportunities. Investors seeking to reduce portfolio volatility should emphasize market pairs with correlations below 0.3.

For Risk Management: Highly correlated markets (0.7+) will amplify shocks. A disruption in Treasury markets will immediately impact Fixed Income markets given their 0.954 correlation. Risk managers must account for these transmission channels when stress-testing portfolios.

For Understanding Market Structure: The low correlations among the three repo markets (0.030 to 0.434) despite their similar functions reveal market segmentation. Different repo markets serve distinct participant groups with varying needs and behaviors, rather than functioning as a unified money market.

For Policy Transmission: Understanding these linkages helps predict how policy changes propagate through the financial system. Interest rate cuts primarily affect equity trading (-0.803 correlation with Fed Funds), while credit interventions more directly impact corporate bond markets (0.581 correlation with credit spreads). Policymakers need multiple tools to reach different market segments.

5 Issuance Markets: The Primary Market Perspective

While secondary market trading shows how existing securities change hands, primary market issuance reveals how much new capital enters the markets. This distinction matters because issuance patterns reflect fundamental funding needs and strategic timing by borrowers. Issuance data is reported annually rather than monthly, providing a longer-term perspective on capital formation.

5.1 Treasury Issuance: Fiscal Response to Crisis

Treasury issuance averaged \$830 billion annually during the study period, with extraordinary volatility (standard deviation of \$936 billion, CV of 113%). The distribution showed extreme positive skewness (2.60), reflecting the massive 2020 spike when annual issuance reached \$4.3 trillion—more than five times the normal level—as the federal government borrowed heavily to finance pandemic relief programs. The data includes net issuance (gross issuance minus redemptions), explaining why some periods show negative values when redemptions exceeded new borrowing.

Treasury issuance showed strong negative correlation with the Federal Funds rate (-0.511), indicating that government borrowing accelerated as the Fed cut rates to near zero. This relationship reflects both the coordinated policy response (fiscal and monetary stimulus moving together) and the mechanical advantage of lower interest costs on new debt. The correlation with inflation was also negative (-0.384), while the relationship with high yield spreads was weak and positive (0.138). Unlike trading activity, which responds to flight-to-safety during credit stress, issuance is driven primarily by fiscal needs and interest rate conditions.

5.2 MBS Issuance: Housing Finance Dynamics

Mortgage-backed securities (MBS) issuance patterns reflect the housing finance market's response to interest rate conditions and housing market activity. The market includes both agency MBS (guaranteed by Fannie Mae, Freddie Mac, or Ginnie Mae) and private-label securities, though agency MBS dominates issuance volumes.

MBS issuance responds to mortgage refinancing waves and new home purchases, both of which are highly sensitive to interest rate levels. When rates fall, homeowners refinance existing mortgages, generating new MBS issuance as old mortgages are paid off and new ones originated. The relationship between MBS issuance and macro conditions reflects this refinancing dynamic as well as the broader health of the housing market.

5.3 ABS Issuance: Consumer Credit Securitization

Asset-backed securities (ABS) issuance covers a diverse range of consumer credit, including auto loans, credit cards, student loans, and other receivables. The market provides an alternative funding channel for consumer lenders beyond traditional bank deposits.

ABS issuance patterns reflect both consumer credit demand and lenders' strategic funding decisions. The market tends to be more active when credit conditions are favorable and investors have appetite for consumer credit risk. Unlike mortgage-backed securities, which are driven primarily by refinancing cycles, ABS issuance is more closely tied to the growth of consumer loan originations and the relative attractiveness of securitization versus other funding sources.

5.4 Fixed Income Issuance: Aggregate Debt Capital Markets

Fixed Income issuance aggregates new debt issuance across Treasury, Agency, Corporate, and other bond categories. As an aggregate measure, it captures the overall scale of new borrowing in the economy and responds to both public sector fiscal needs and private sector financing decisions.

The correlation patterns for aggregate Fixed Income issuance reflect a blend of its components. Government borrowing (Treasuries) dominates the total during periods of fiscal expansion, while corporate and agency issuance play larger roles during normal economic conditions. The aggregate measure provides a comprehensive view of debt capital markets but can mask divergent trends in its constituent parts.

5.5 Municipal Issuance: State and Local Government Financing

Municipal bond issuance funds state and local government projects, including infrastructure, schools, and public facilities. The market divides between general obligation bonds (backed by taxing authority) and revenue bonds (backed by specific project revenues), as well as between new capital projects and refunding of existing debt.

Municipal issuance is highly sensitive to interest rate levels, as lower rates create opportunities for governments to refinance existing debt at lower costs or to finance new projects more affordably. Tax policy also affects municipal issuance significantly, as the tax-exempt status of most municipal bonds makes them more or less attractive relative to taxable bonds depending on tax rates and investor demand.

5.6 Corporate Bond Issuance: Strategic Timing

Corporate bond issuance (including both convertible and non-convertible bonds) demonstrated clear evidence of strategic timing by borrowers. The market showed substantial activity with annual issuance averaging in the hundreds of billions, though the annual data frequency provides less granular insight into volatility patterns than monthly trading data.

The correlation between corporate issuance and the Federal Funds rate was strongly negative (-0.626), demonstrating that companies rush to issue debt when interest rates fall and borrowing costs decrease. This is textbook corporate finance—lock in low rates when available. The relationship with inflation was moderately negative (-0.250), suggesting companies pull back during inflationary periods when real borrowing costs become uncertain. Remarkably, the correlation with high yield spreads was nearly zero (0.011), contrasting sharply with the strong positive correlation (0.581) between corporate bond trading and credit spreads. This divergence suggests that while volatile credit conditions drive secondary market trading activity, they don't significantly deter companies from accessing primary markets—firms may simply accept higher costs or substitute bank credit.

5.7 Issuance vs. Trading: Different Dynamics

Comparing primary (issuance) and secondary (trading) markets reveals fundamental differences in market behavior. Secondary markets respond to investor sentiment, risk repricing,

and portfolio rebalancing, while primary markets reflect strategic decisions by borrowers about when and how to raise capital.

Corporate Bonds: Trading volume correlates strongly with credit stress (0.581 with high yield spreads) as investors actively rebalance portfolios during volatile periods, but issuance is insensitive to spreads (0.011). Companies continue accessing bond markets during credit stress, they just pay more. Both trading and issuance respond negatively to Fed rate cuts, but for different reasons—trading surges as investors reposition, while issuance increases as borrowing costs fall.

Equities: Trading volume shows the study's strongest correlation with Fed policy (-0.803), while issuance has a more moderate relationship (-0.542). Equity trading responds to changes in market liquidity and sentiment driven by monetary policy, while issuance reflects longer-term corporate finance decisions that are partially but not fully driven by interest rate levels.

Treasuries: Issuance correlates negatively with Fed Funds (-0.511) as fiscal expansion often accompanies monetary easing, while trading volume is essentially uncorrelated with rates (-0.026). Treasury trading responds to flight-to-safety (0.426 correlation with high yield spreads), while issuance is driven by fiscal policy needs largely independent of credit conditions (0.138 correlation).

These divergent patterns demonstrate that primary and secondary markets serve different economic functions and respond to different drivers, even for the same underlying securities.

6 Conclusions and Implications

This study set out to understand how different US securities markets behave and interact during normal and crisis conditions. The analysis reveals a financial system far more heterogeneous than conventional wisdom suggests—markets of vastly different sizes respond to economic conditions through distinct mechanisms, creating both natural hedges and amplification channels that matter for investors, risk managers, and policymakers.

6.1 Key Insights

Markets Are Fundamentally Different, Not Just Different-Sized. The most important finding is that market heterogeneity runs deeper than size differences. Large markets like repo can be stable, while smaller markets like corporate bonds can be volatile. Some markets surge when interest rates fall (equity trading), others rise when rates rise (GCF repo), and still others barely respond at all (Treasuries). This heterogeneity means there is no such thing as "the market" responding uniformly to "conditions"—each market has its own personality shaped by its participants, function, and role in the financial system.

Different Economic Levers Pull Different Markets. Monetary policy powerfully affects equity markets and repo funding, but barely touches Treasuries and shows weak effects on corporate bonds. Credit stress drives corporate bond trading activity but doesn't significantly deter issuance. Inflation shows inconsistent effects across markets. This variation explains why comprehensive policy responses require multiple tools—rate cuts alone reach only certain market segments, while credit facilities, fiscal expansion, and liquidity provisions

address others. The 2020 crisis response validated this insight: the Fed deployed numerous targeted facilities precisely because different markets needed different interventions.

Negative Correlations Create Natural Hedges. Perhaps the most practically useful finding is that some markets move in opposite directions. When equity trading heats up, certain repo segments cool down. When companies issue equity, repo activity declines. These negative correlations aren't statistical curiosities—they represent real portfolio diversification opportunities and reveal underlying structural relationships in how the financial system allocates capital and balance sheet capacity.

Market Plumbing Matters More Than Market Size. The repo markets handle trillions of dollars monthly yet showed surprising segmentation—the three major repo types behave almost independently despite serving similar functions. This reveals that operational details, participant bases, and collateral types create genuine market segmentation. For policymakers, this means assuming "repo markets" are unified would miss important stress points. For risk managers, it means subsegment diversification actually works in repo markets, unlike most other markets where all components move together.

Primary and Secondary Markets React to Different Catalysts. Issuance markets and trading markets respond to different drivers even for identical securities. Companies strategically time bond issuance to interest rate levels but continue issuing during credit stress when secondary trading is turbulent. This divergence suggests primary markets are more resilient to volatility than secondary market activity would suggest. The implication: secondary market stress doesn't necessarily signal primary market dysfunction.

6.2 What This Means in Practice

For Portfolio Construction: Stop treating bonds as "bonds" and stocks as "stocks." The negative correlation between equity trading and certain repo segments suggests balanced portfolios across these markets provide genuine hedging. Similarly, the near-independence of some market pairs offers diversification that within-asset-class diversification cannot provide. Size-based portfolio allocation misses these opportunities—strategic positioning based on correlation structure could reduce portfolio volatility more effectively.

For Risk Management: Traditional approaches assuming markets move together during stress are wrong for some market pairs and right for others. Treasury and aggregate fixed income markets will amplify shocks through their tight coupling. But equity and certain repo markets may move oppositely even during stress, providing natural offsets. Risk models should distinguish between these patterns rather than assuming uniform crisis correlations.

For Crisis Response: The next crisis will demonstrate again that comprehensive responses require multiple tools targeting different markets. Anticipate that rate cuts will affect equity markets most strongly, that credit interventions will be necessary to stabilize corporate bond trading, and that repo market stress may require segment-specific facilities rather than broad-based liquidity provision. The heterogeneous sensitivities documented here provide a roadmap for which tools reach which markets.

For Market Monitoring: The correlations established here serve as baselines. Large deviations—if equity markets stopped responding to rate cuts, if corporate bond trading became insensitive to credit stress, if Treasury and fixed income markets decoupled—would

signal structural problems requiring investigation. Regular monitoring of these relationships can provide early warning of emerging stress or structural change.

6.3 The COVID-19 Natural Experiment

The pandemic provided a test of these relationships under extreme stress. When the Fed cut rates to zero, equity trading surged as predicted by the strong negative correlation. When credit spreads blew out, corporate bond trading activity exploded as investors repriced risk. Treasury trading increased as flight-to-safety flows accelerated. Treasury issuance spiked to unprecedented levels as fiscal and monetary stimulus coordinated.

These weren't coincidences—they were the correlation mechanisms documented here playing out in real time. The relationships held under stress, validating their structural nature and demonstrating their predictive value. Future stress episodes will likely show similar patterns unless fundamental market structures change.

6.4 Looking Forward

The financial system that emerged from the pandemic reflects the diverse ecosystem documented in this study. Markets didn't respond uniformly—each played its characteristic role. Equity markets rebounded quickly when the Fed cut rates. Corporate bond markets stabilized after targeted credit interventions. Treasury markets absorbed massive issuance without disruption. Repo markets adjusted to changing funding needs across segments.

This diversity is both a strength and a challenge. It provides resilience through diversification and multiple policy intervention points, but requires nuanced understanding to navigate effectively. For practitioners managing portfolios or risk, for policymakers designing interventions, and for researchers studying market dynamics, the key insight is simple but profound: embrace the heterogeneity. Markets are not monolithic, shocks don't propagate uniformly, and one-size-fits-all approaches will miss the mark.

The correlations documented here describe the normal functioning of US securities markets during a period spanning calm and crisis. They provide a baseline for understanding how markets typically behave and interact. When these patterns break down—when established relationships reverse or weaken—that's when attention is required. Until then, the diversity itself is the system's strength.

A Figures

This appendix contains all figures from the analysis. For each market, we present a time series plot followed by three macroeconomic relationship plots displayed side-by-side (Federal Funds Rate, CPI, and High Yield Spread), and where applicable, a correlation heatmap.

A.1 Individual Market Analysis - Trading Volumes

A.1.1 Treasury Securities



Figure 1: US Treasury Trading Volume by Security Type (2019-2021)

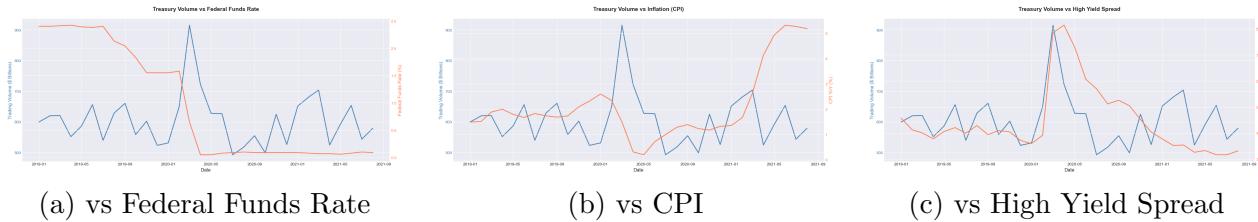


Figure 2: Treasury Trading Volume - Relationships with Macroeconomic Indicators

A.1.2 Repo Markets

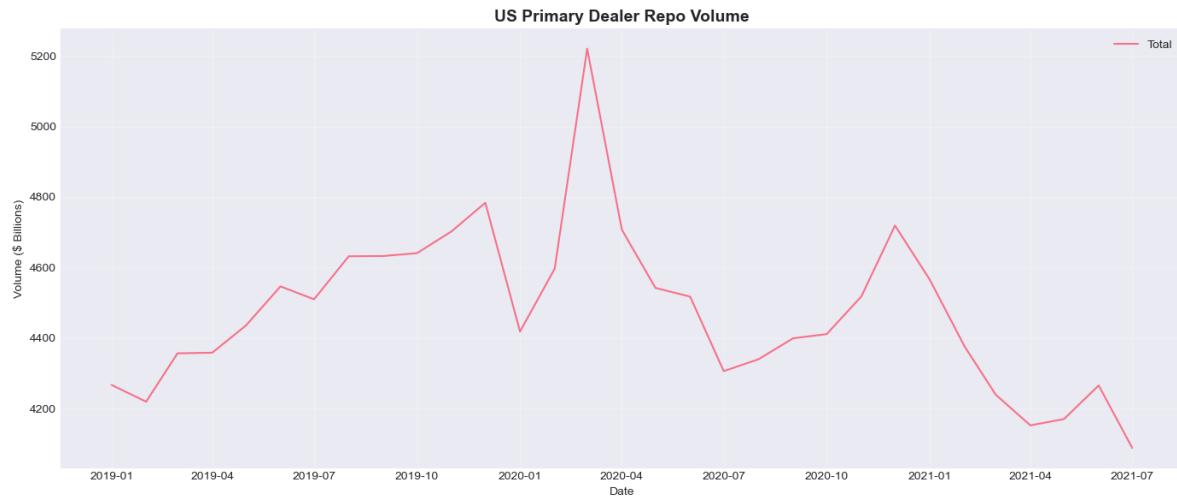


Figure 3: Primary Dealer Repo Activity Over Time

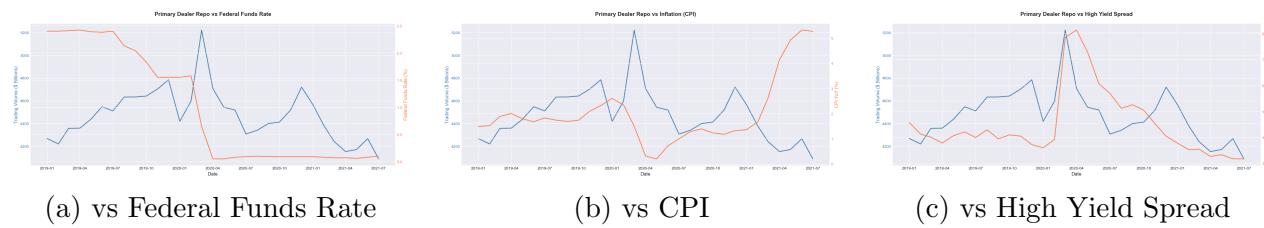


Figure 4: Primary Dealer Repo - Relationships with Macroeconomic Indicators

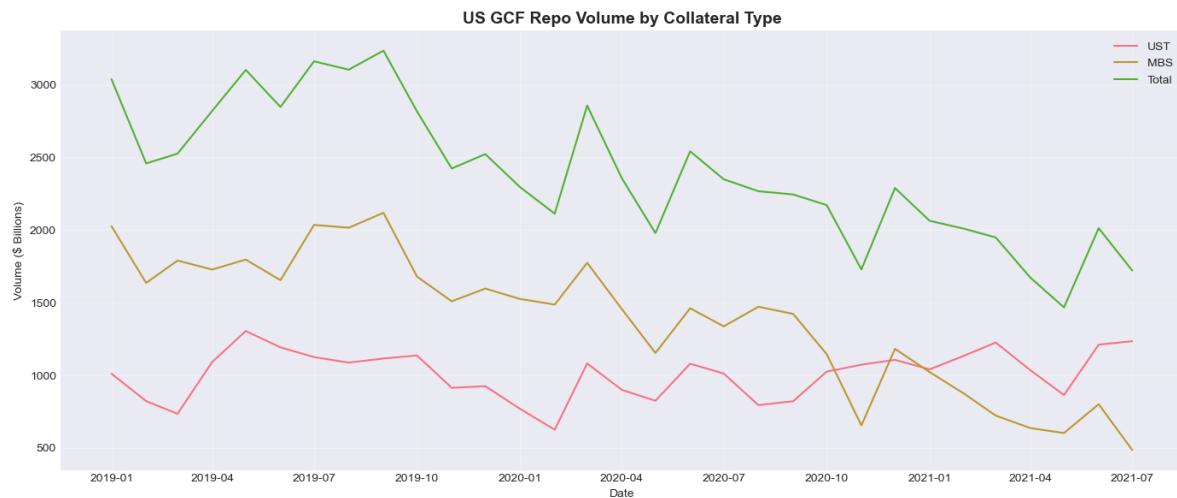


Figure 5: GCF Repo Index by Collateral Type

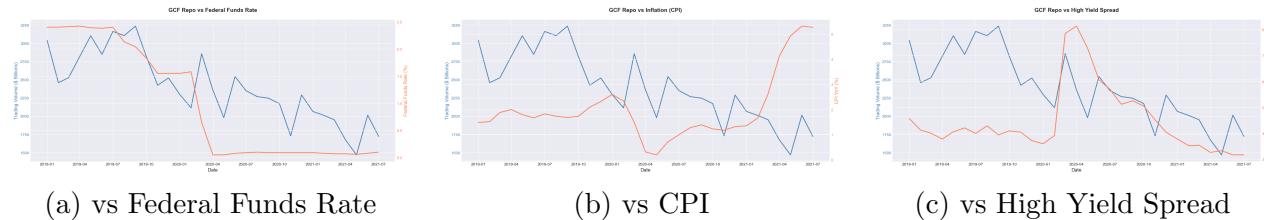


Figure 6: GCF Repo - Relationships with Macroeconomic Indicators

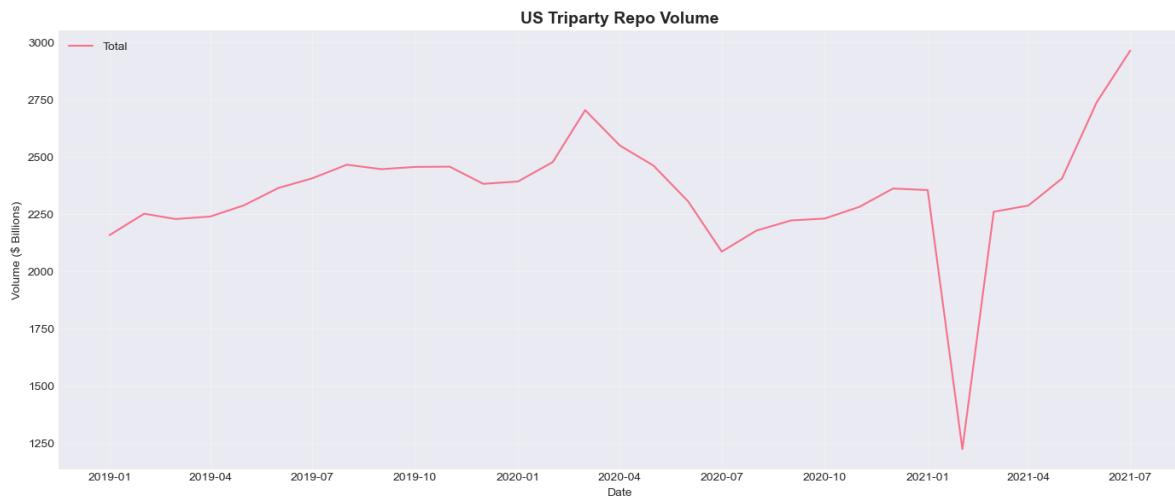


Figure 7: Triparty Repo by Collateral Type

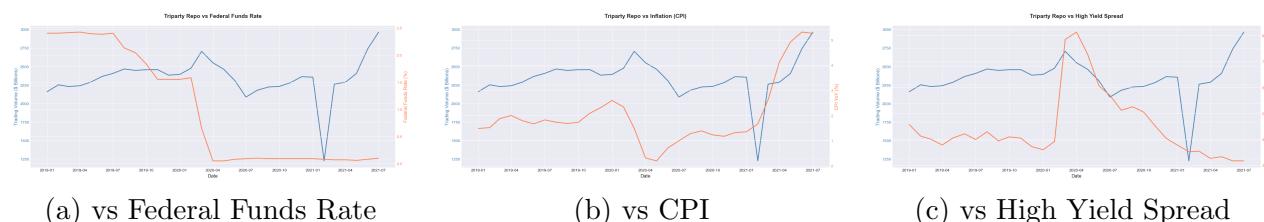


Figure 8: Triparty Repo - Relationships with Macroeconomic Indicators

A.1.3 Equity Markets

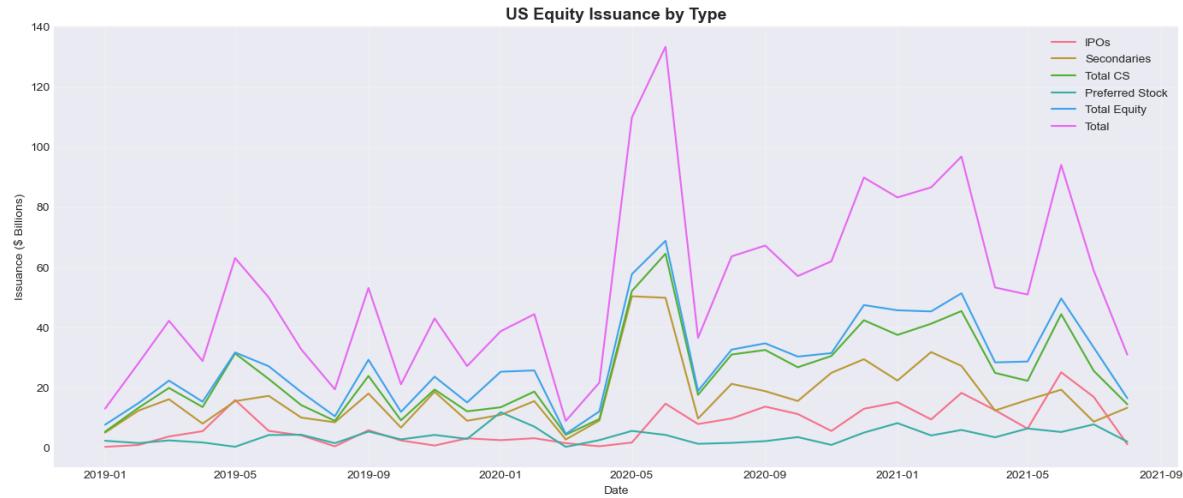


Figure 9: US Equity Issuance by Type

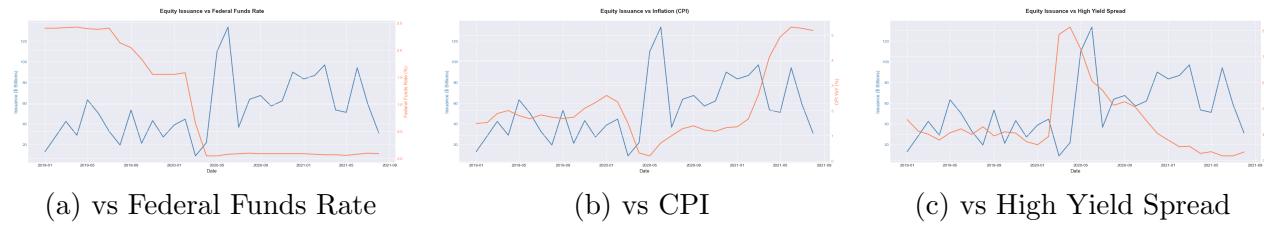


Figure 10: Equity Issuance - Relationships with Macroeconomic Indicators

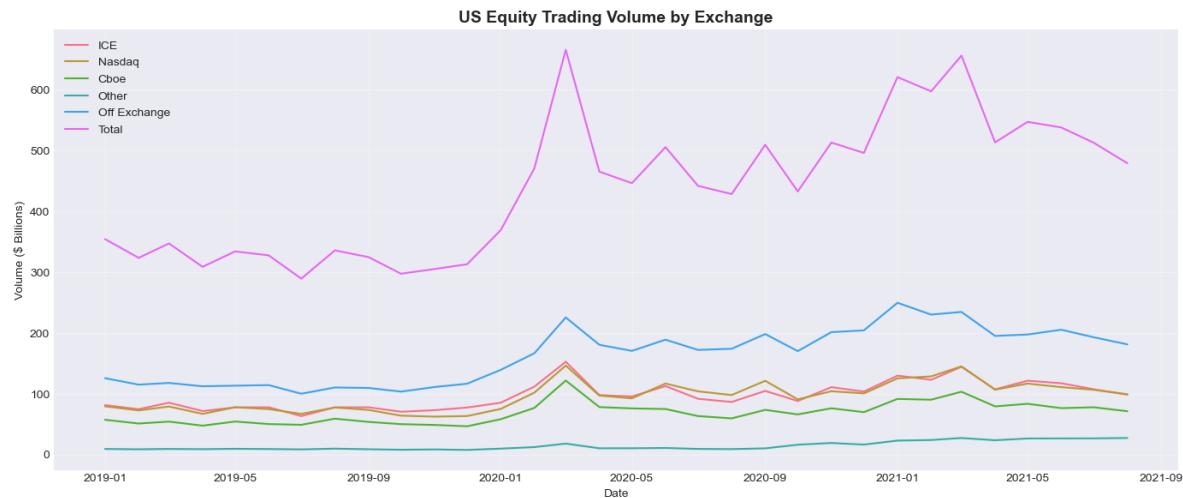


Figure 11: Equity Trading Volume by Exchange

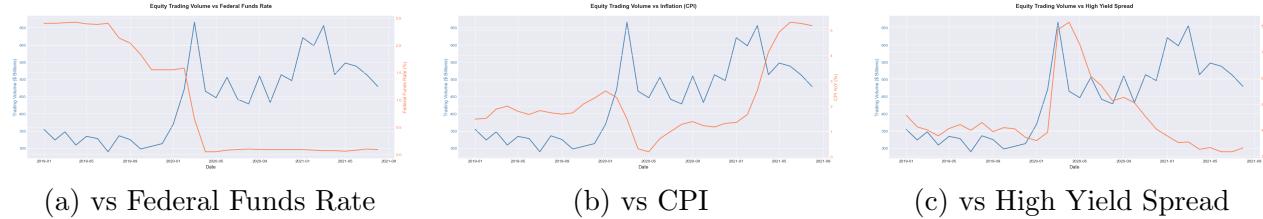


Figure 12: Equity Trading Volume - Relationships with Macroeconomic Indicators

A.1.4 Fixed Income Markets

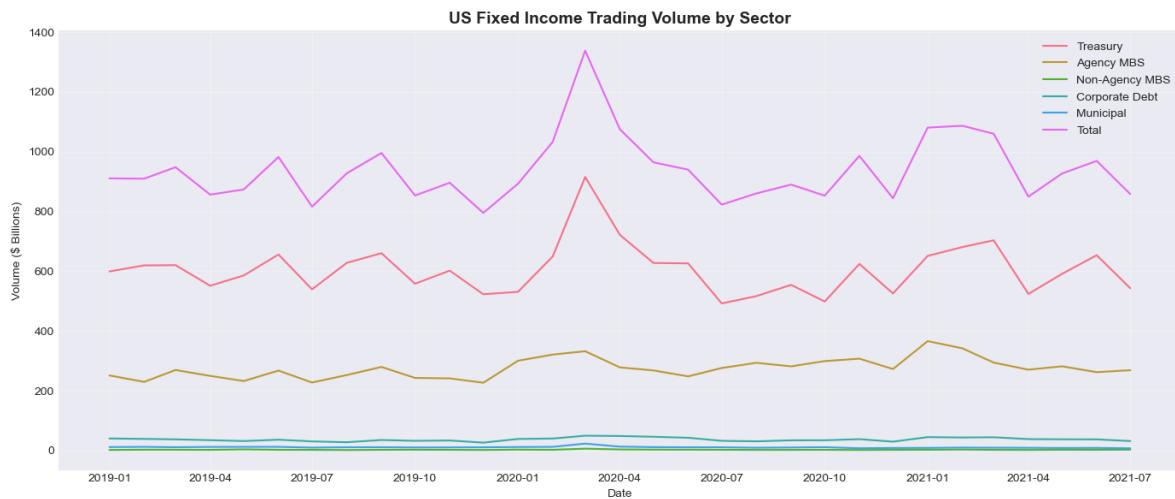


Figure 13: US Fixed Income Trading Volume by Category

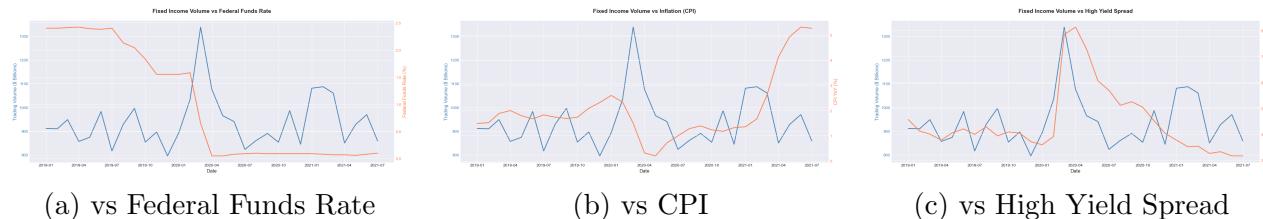


Figure 14: Fixed Income Trading - Relationships with Macroeconomic Indicators

A.1.5 Structured Finance

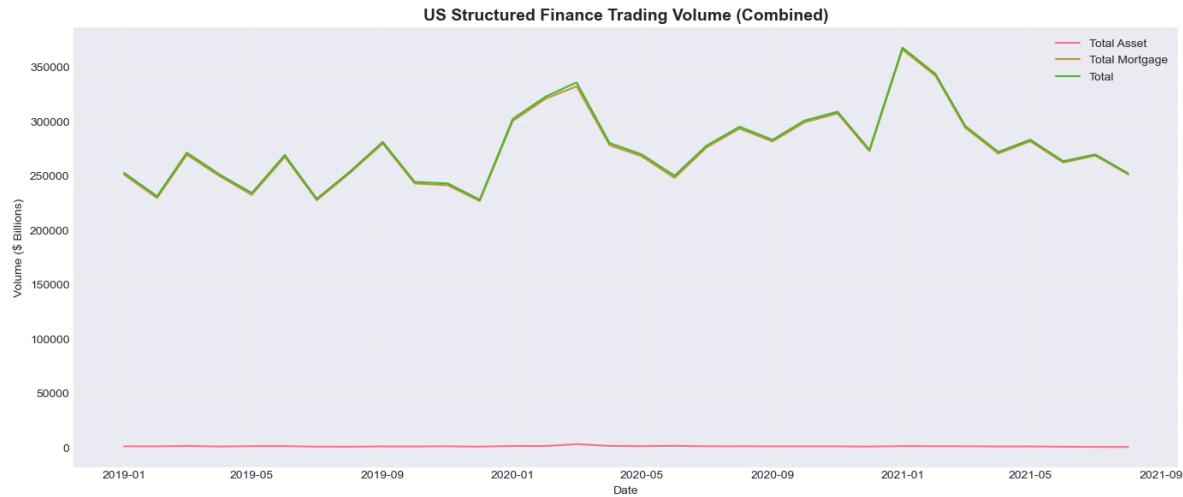


Figure 15: Structured Finance Trading Volume by Type (MBS and ABS)

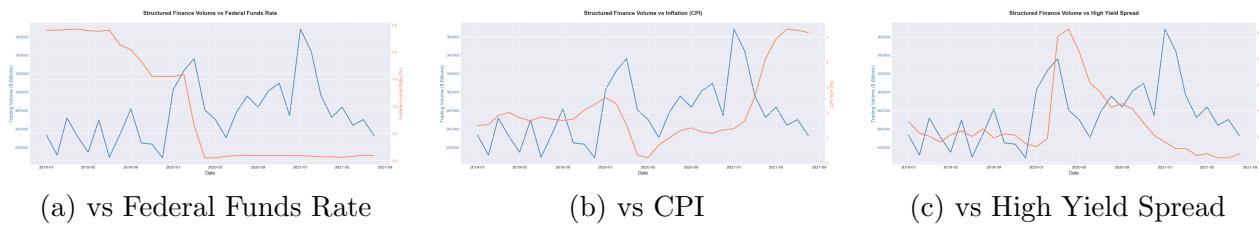


Figure 16: Structured Finance Trading - Relationships with Macroeconomic Indicators

A.1.6 Agency Debt

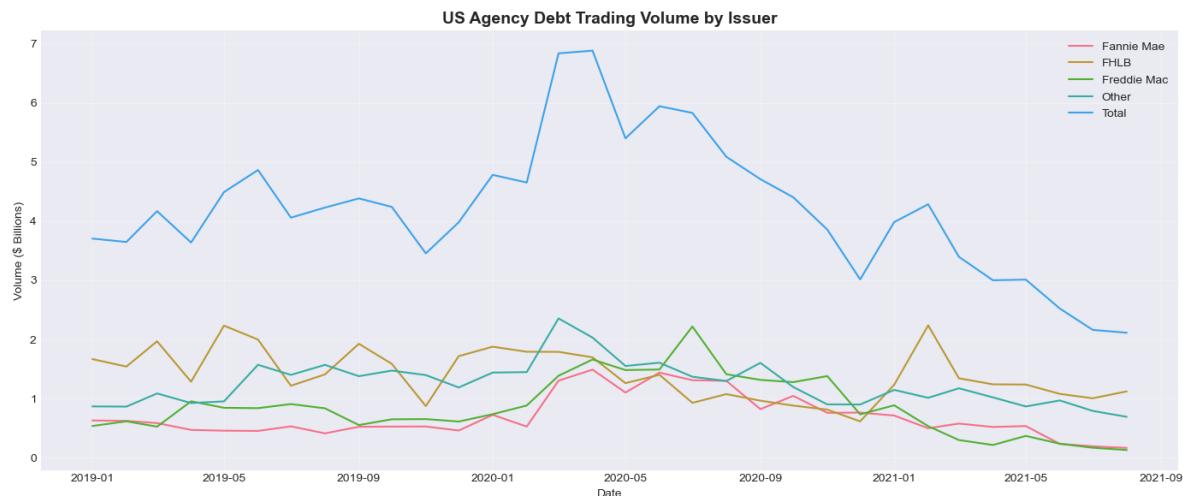


Figure 17: US Agency Debt Trading Volume

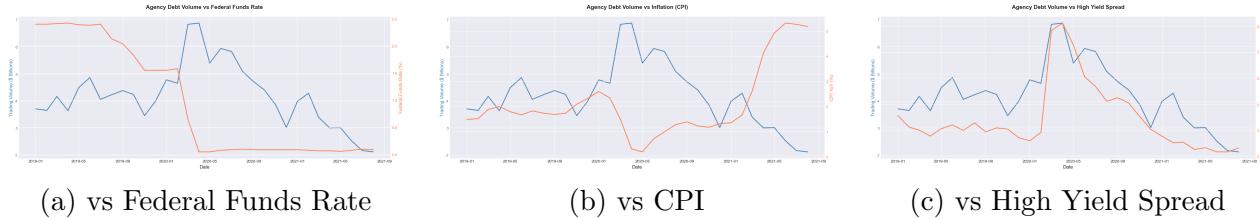


Figure 18: Agency Debt Trading - Relationships with Macroeconomic Indicators

A.1.7 Corporate Bonds

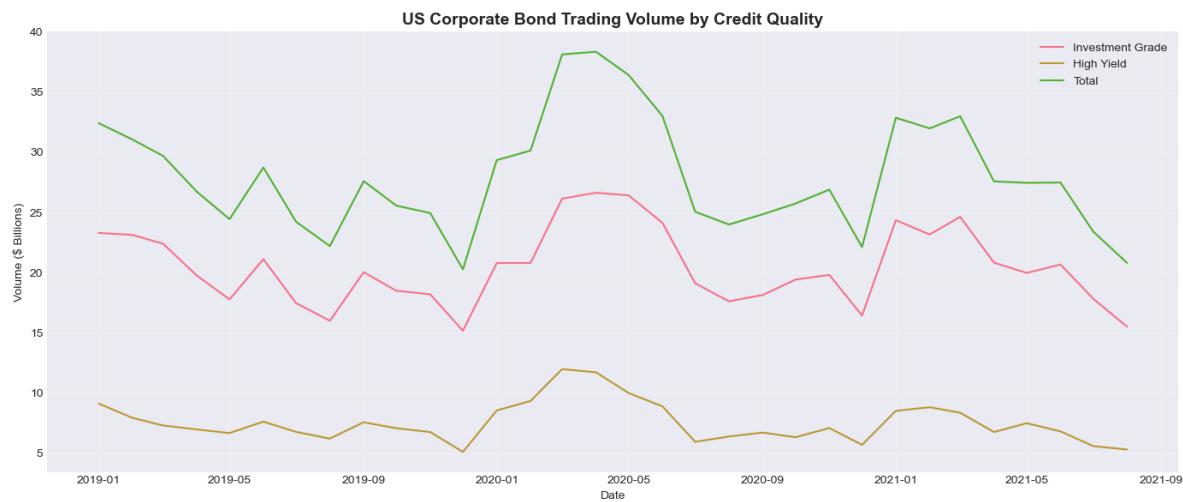


Figure 19: Corporate Bond Trading Volume by Credit Quality (Investment Grade vs High Yield)

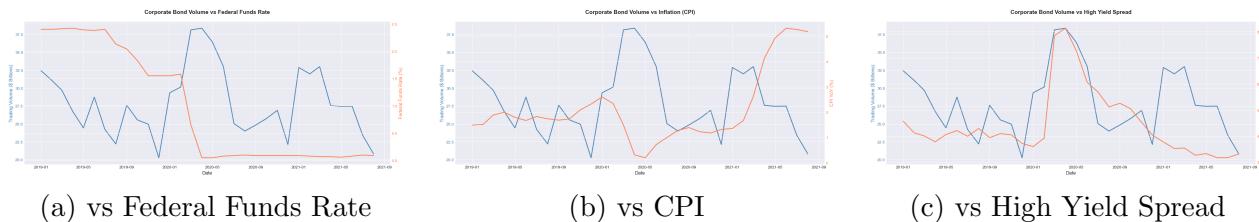


Figure 20: Corporate Bond Trading - Relationships with Macroeconomic Indicators

A.2 Cross-Market Analysis

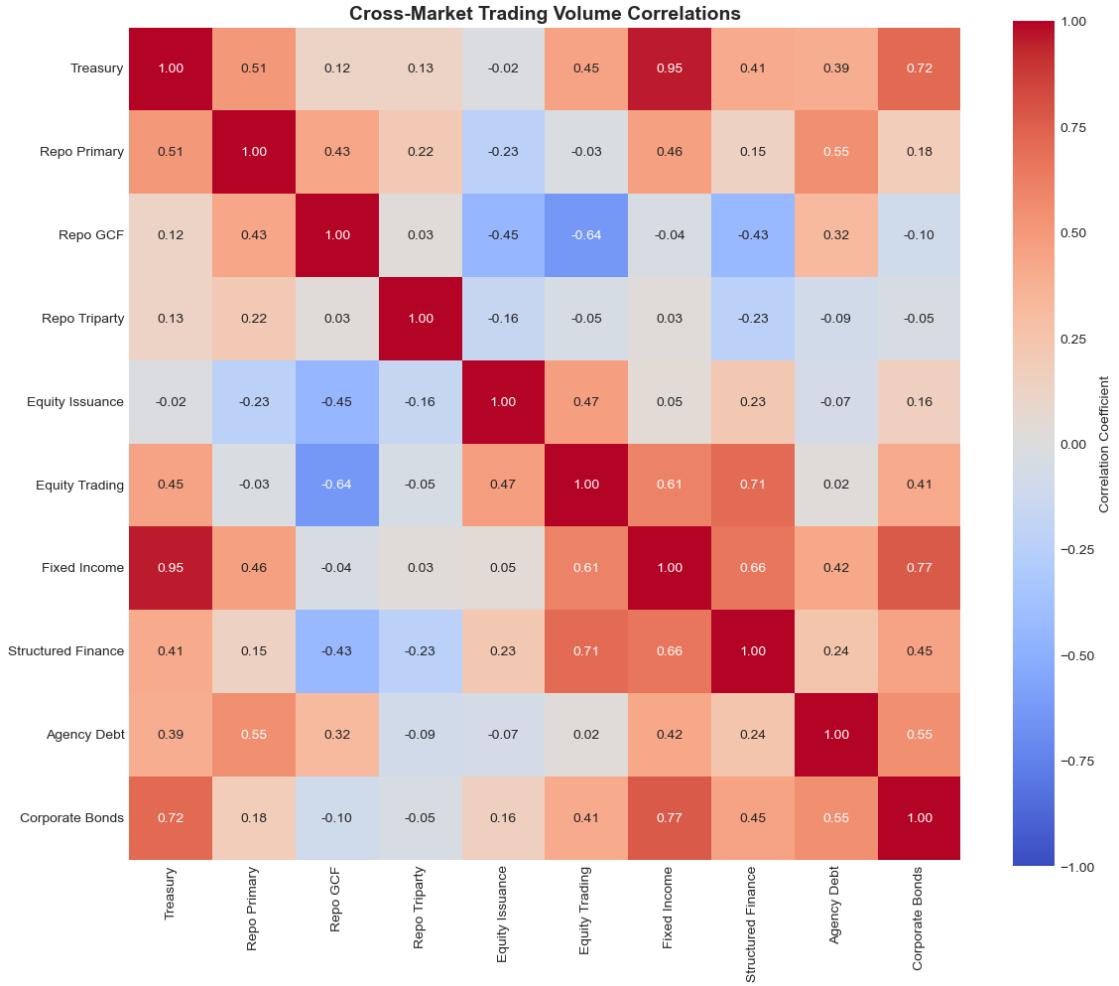


Figure 21: Cross-Market Trading Volume Correlations. This heatmap shows correlations between total monthly trading volumes across all major US securities markets. Strong positive correlations (dark red) indicate markets that move together, while negative correlations (blue) suggest markets that move in opposite directions.

A.3 Issuance and Outstanding Analysis

A.3.1 Treasury Issuance and Outstanding

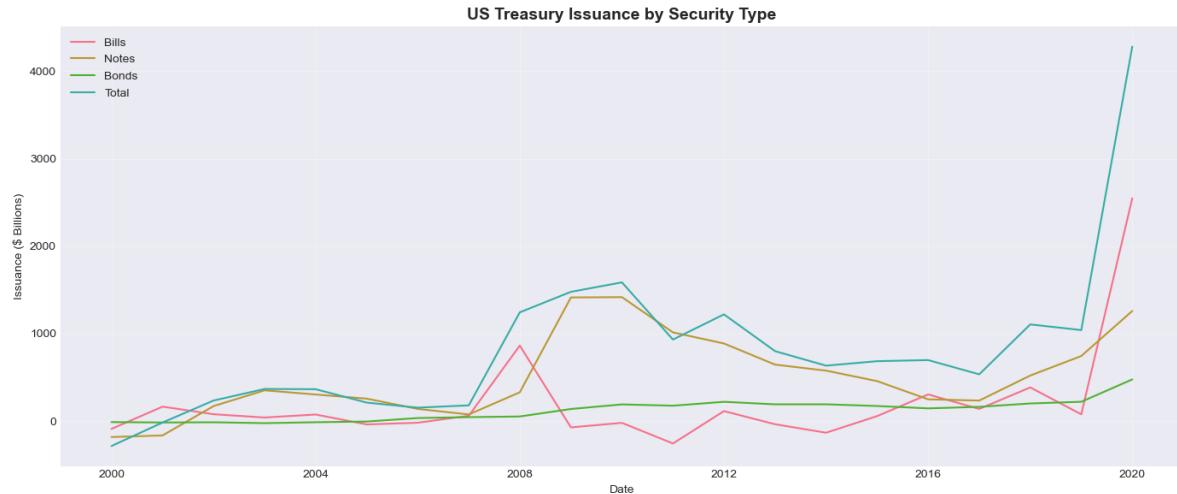


Figure 22: US Treasury Issuance by Type (Annual Data)

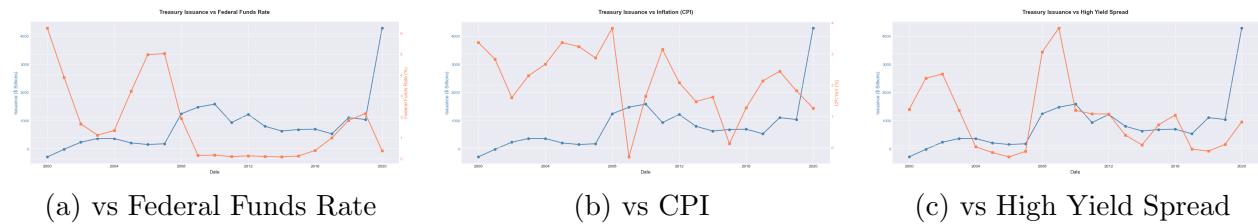


Figure 23: Treasury Issuance - Relationships with Macroeconomic Indicators

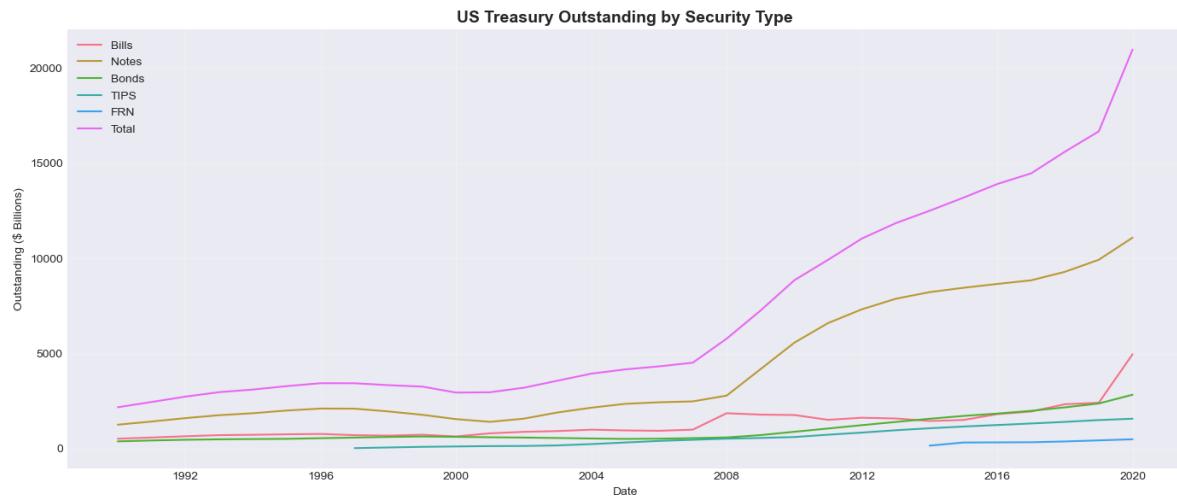


Figure 24: US Treasury Securities Outstanding by Type

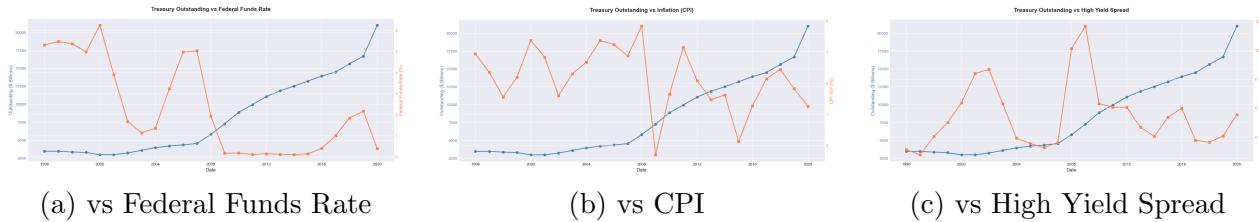


Figure 25: Treasury Outstanding - Relationships with Macroeconomic Indicators

A.3.2 Mortgage-Backed Securities

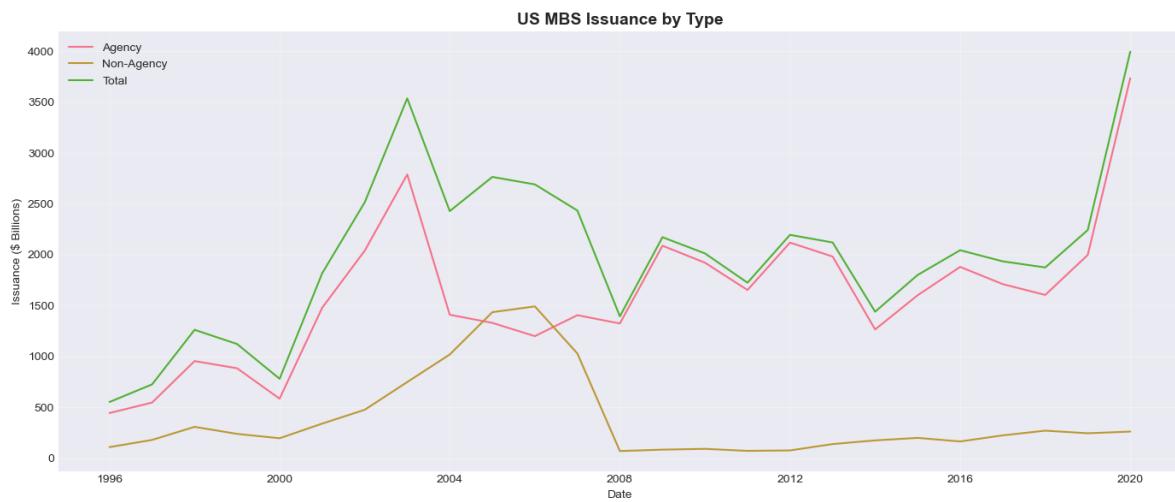


Figure 26: MBS Issuance by Type (Agency vs Non-Agency)

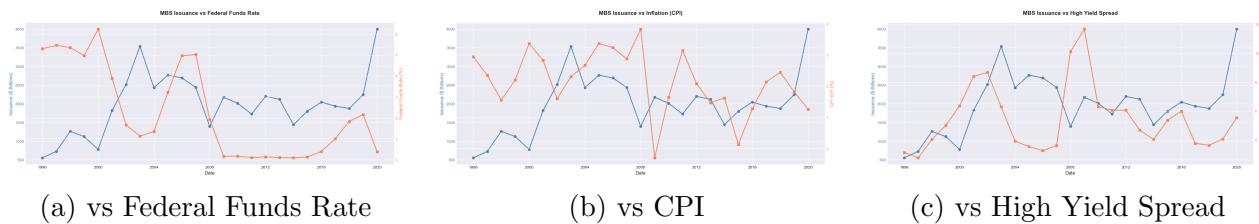


Figure 27: MBS Issuance - Relationships with Macroeconomic Indicators

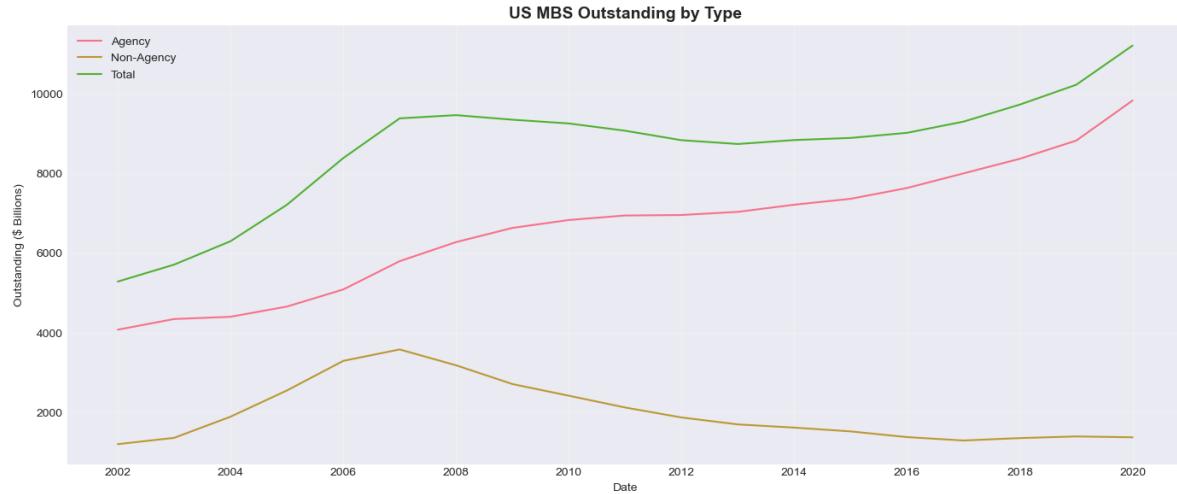


Figure 28: MBS Outstanding by Type

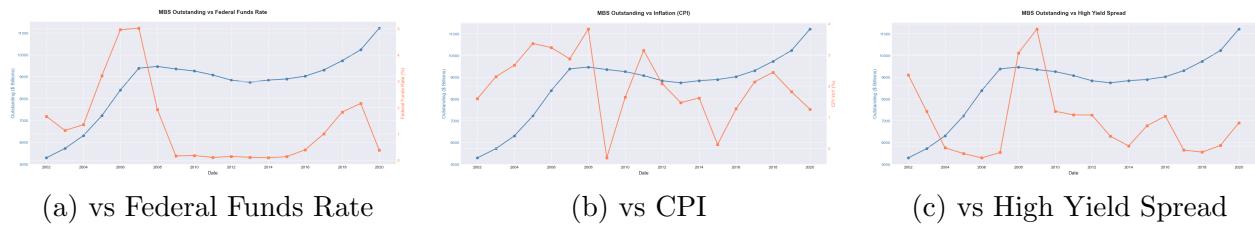


Figure 29: MBS Outstanding - Relationships with Macroeconomic Indicators

A.3.3 Asset-Backed Securities

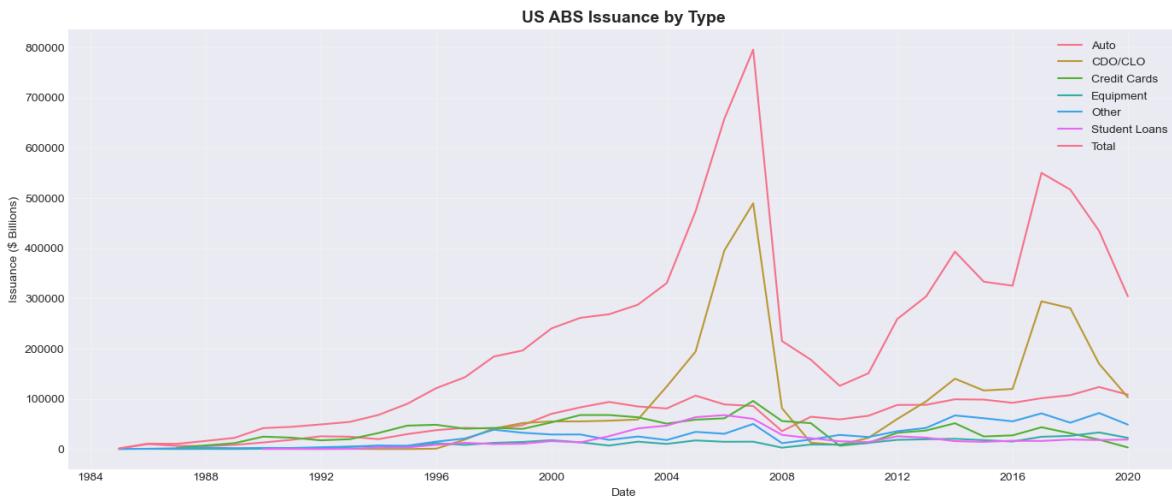


Figure 30: ABS Issuance by Type (Auto, Credit Card, Student Loans, Other)

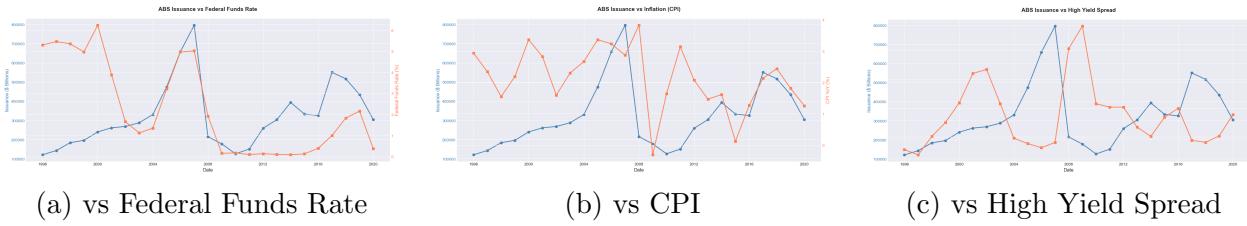


Figure 31: ABS Issuance - Relationships with Macroeconomic Indicators

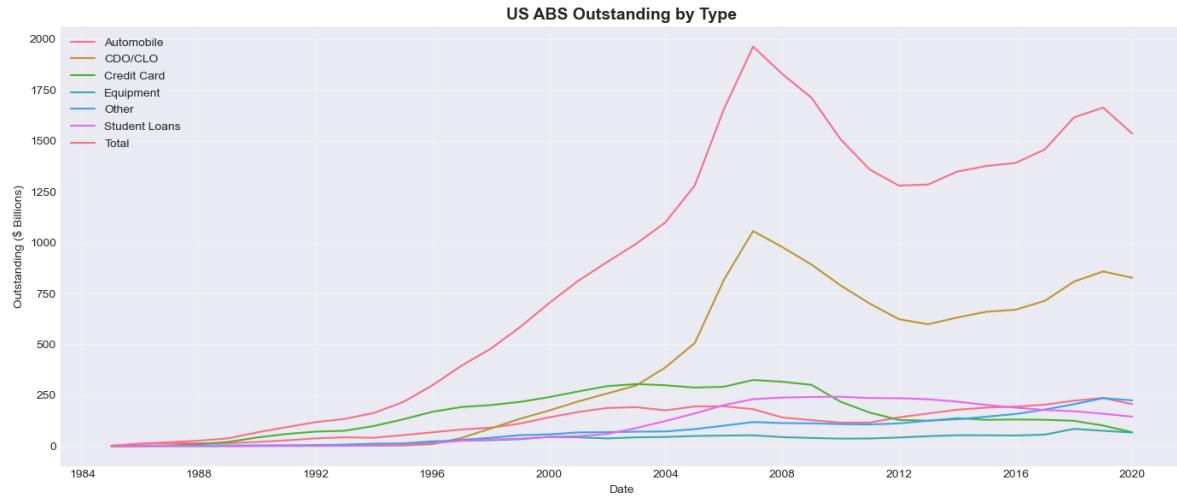


Figure 32: ABS Outstanding by Type

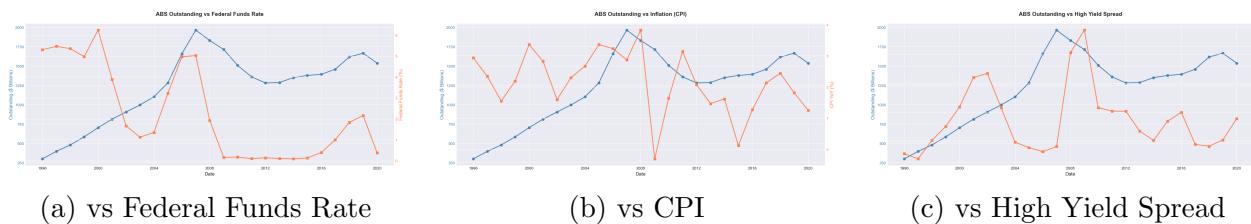


Figure 33: ABS Outstanding - Relationships with Macroeconomic Indicators

A.3.4 Fixed Income Issuance and Outstanding

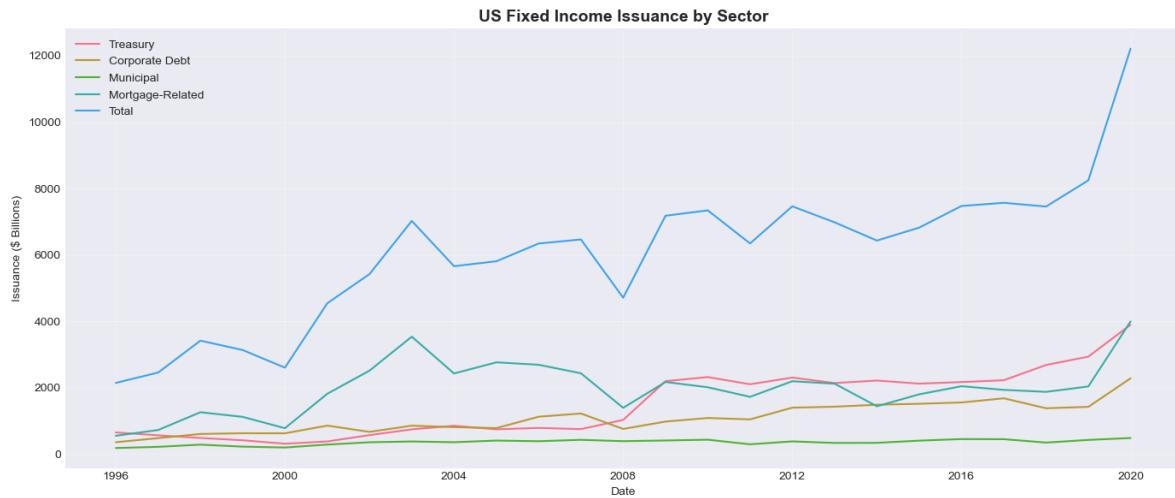


Figure 34: Aggregate Fixed Income Issuance by Category

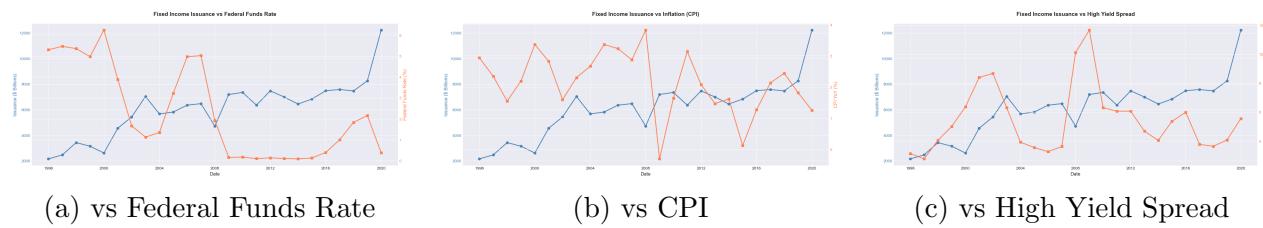


Figure 35: Fixed Income Issuance - Relationships with Macroeconomic Indicators

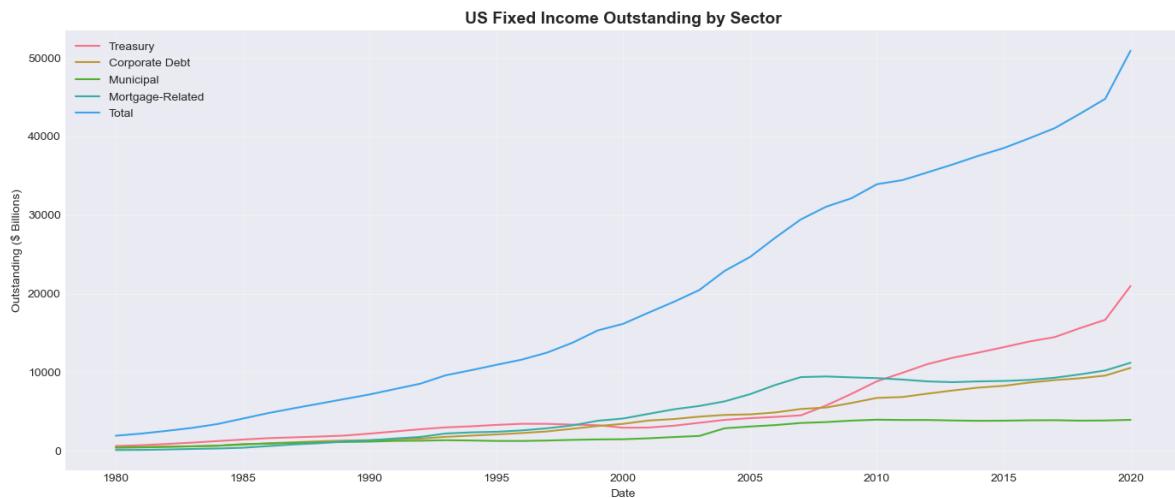


Figure 36: Fixed Income Securities Outstanding by Category

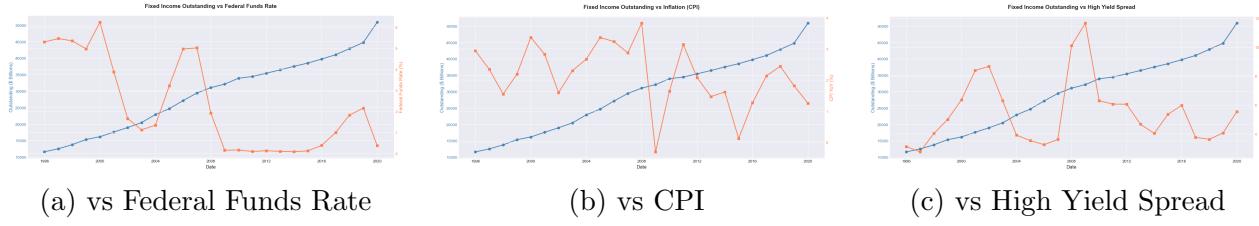


Figure 37: Fixed Income Outstanding - Relationships with Macroeconomic Indicators

A.3.5 Asset-Backed Commercial Paper

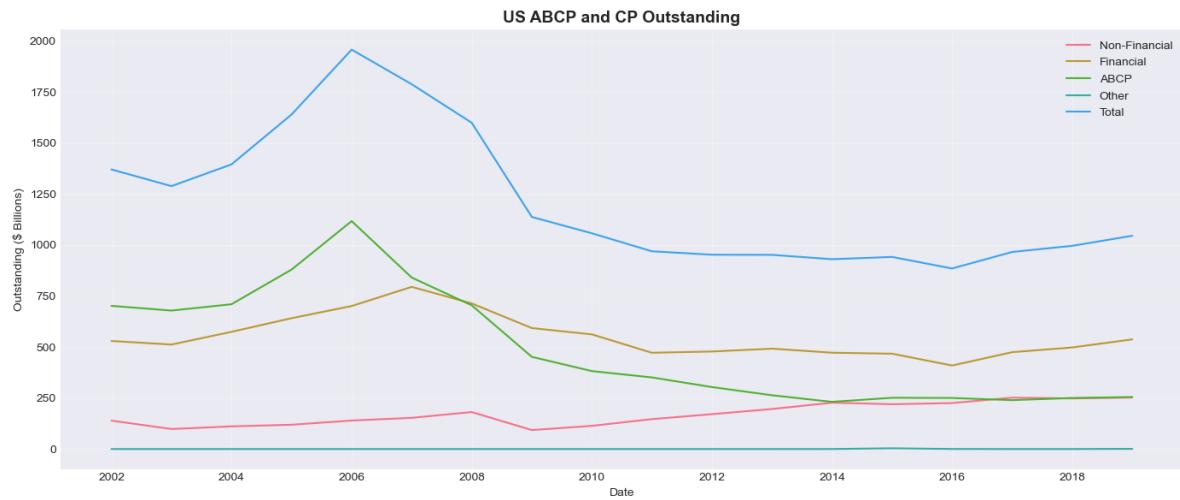


Figure 38: ABCP Outstanding

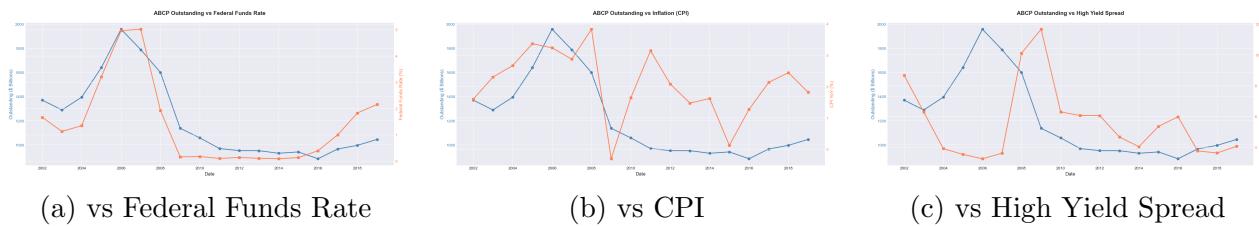


Figure 39: ABCP Outstanding - Relationships with Macroeconomic Indicators

A.3.6 Municipal Bonds

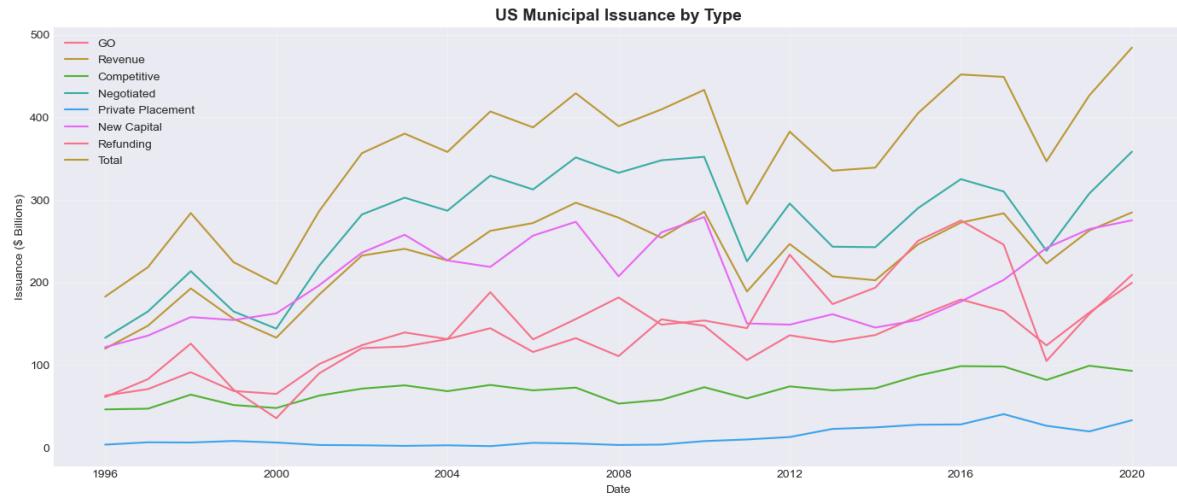


Figure 40: Municipal Bond Issuance (GO vs Revenue, New Capital vs Refunding)

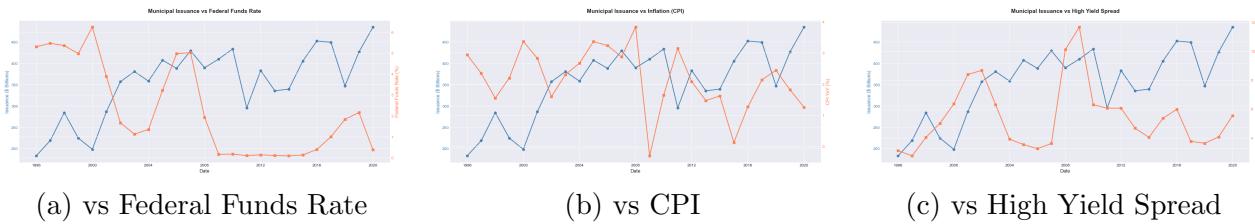


Figure 41: Municipal Issuance - Relationships with Macroeconomic Indicators

A.3.7 Corporate Bond Issuance

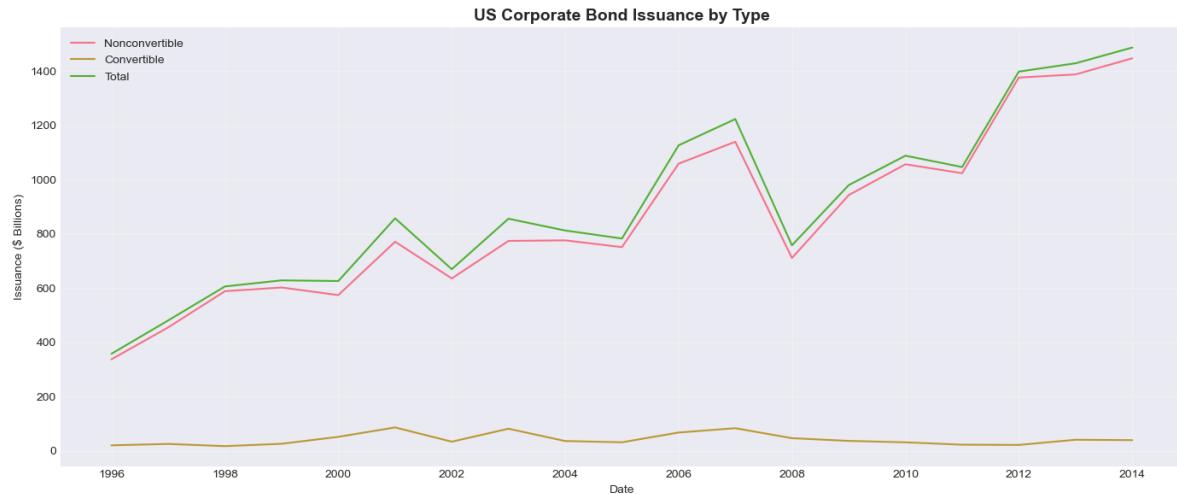


Figure 42: Corporate Bond Issuance (Convertible vs Non-Convertible)

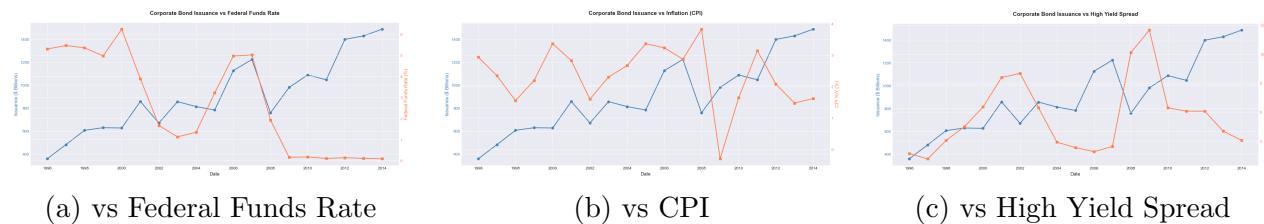


Figure 43: Corporate Bond Issuance - Relationships with Macroeconomic Indicators