

U.S. SECURITIES AND EXCHANGE COMMISSION

Division of Economic and Risk Analysis



# DERA Economic and Financial Outlook

APRIL 25,  
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## Key Highlights as of April 25, 2021

Following the historic and unprecedented COVID-19 economic shock in March 2020, financial markets have largely recovered as aggregate equity prices have risen and credit spreads have tightened. Forecasters have also revised their 2021 gross domestic product (GDP) growth projections sharply upwards, as a robust COVID-19 vaccine rollout will likely boost economic activity moving forward. At the same time, inflation expectations and interest rates have trended upwards. Rising interest rates translate into a higher cost of capital for potential borrowers and may have improved prospects for value stocks compared to growth stocks. Investor interest in special purpose acquisition companies (SPACs) continued, as SPAC issuance reached \$78 billion in 2021Q1 versus \$70 billion for all of 2020.

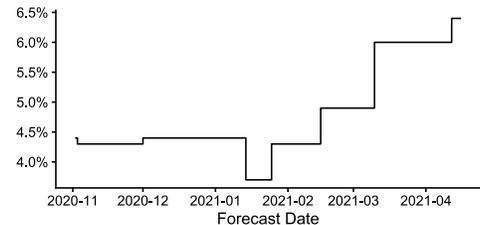
### Forecasters Have Recently Revised U.S. Growth Projections Sharply Upwards

**In the Wake of Recent Fiscal Stimulus, Current Monetary Policy and a Rapid Vaccine Rollout, Forecasters Have Revised 2021 U.S. GDP Growth Projections Sharply Upwards:** In 2021Q1, Congress passed and the President signed the \$1.9 trillion [American Rescue Plan](#), and the number of Americans receiving a COVID-19 vaccination reached [3 million per day](#) (as of April 15, 2021). Together, these factors prompted

economic prognosticators to sharply increase their U.S. GDP growth projections for 2021. Figure 1.1 plots median 2021 real annual GDP growth forecasts from [MarketWatch](#) by forecast date. At the end of 2020, forecasters expected GDP to grow about 4.3% in 2021. Forecasts for 2021 GDP growth then dipped to 3.7% in January 2021 before jumping to 4.9% in mid-February, then to 6% in mid-March, and finally to 6.4% in mid-April. A key factor driving these elevated growth forecasts is the increasing expectation that local economies will reopen from COVID-19-induced partial economic shutdowns.

**Figure 1.1: Forecasters Have Revised 2021 GDP Growth Projections Sharply Upwards**

Notes: 2021 Annual GDP Growth Forecasts from MarketWatch



### Interest Rates and Inflation Expectations Have Increased

**With Strong GDP Growth Projections, Average Inflation Targeting, and Current Monetary Policy, Inflation Expectations and Real Interest Rates Have Risen:** Figure 1.2A plots the nominal 10-year Treasury yield, the headline interest rate often quoted in the financial press. Nominal yields plummeted with COVID-19-induced financial market distress in March 2020, began steadily rising in 2020Q3, accelerated upwards in February 2021, and reached pre-pandemic levels in April 2021.

**Figure 1.2: Real Interest Rates and Inflation Expectations Have Risen, But Real Rates Remain Low Relative to Historical Values**



Broadly, changes in nominal Treasury yields are generally due to changes in (1) inflation expectations, and (2) real economic drivers such as expected GDP growth. Thus, we can decompose nominal yields into the parts attributable to expected inflation and real drivers, where the sum of inflation expectations and real yields equals nominal yields. Figure 1.2B proxies the expected inflation rate over the next 10 years from a given point in time via Treasury nominal and inflation-protected securities (also known as the 10-year breakeven inflation rate), assuming no changes in **risk and liquidity premia**. Figure 1.2C provides an estimate of real yields using Treasury Inflation-Protected Securities (TIPS).

Figure 1.2B shows that inflation expectations rose from March to August 2020, as financial markets stabilized and the Federal Reserve (Fed) **pursued** unprecedented monetary stimulus as well as an average inflation targeting strategy. Simultaneously, nominal yields stayed flat, meaning that real yields fell over this period (Figure 1.2C). Falling real yields, **along with narrowing credit spreads**, lowered the cost of capital for firms, households, and governments **during this time of economic weakness**. Then, beginning in September 2020, real yields changed little while inflation expectations moved upwards. The increase in nominal yields therefore mirrored the rise in inflation expectations. In February 2021, real yields then rose sharply. Real economic factors, such as changing growth expectations (Figure 1.1), typically drive real yields. While real yields were rising, inflation expectations also continued to move upwards. Thus, the combination of an increase in real yields with rising inflation expectations led to the acceleration of nominal Treasury yields in February 2021. Rising interest rates have important implications for financial markets. They correspond to a **higher cost of capital** for firms, households, and governments and may impact asset values, as discussed below.

### Aggregate Asset Price Indices Continue To Trend Upwards:

With elevated economic growth expectations (Figure 1.1), aggregate asset price indices have increased. Figure 1.3A documents that the S&P 500 has continued along its previous upward trend, rising over 80% from March 2020 to April 2021. House prices have consistently increased since January 2020 (panel B) because of expectations of increased economic growth (Figure 1.1), low mortgage rates, and **few distressed sellers**. Future changes in economic growth expectations, interest rates, and **asset price valuations** will likely drive asset price growth going forward.

**Figure 1.3: Asset Values Continue to March Upwards**

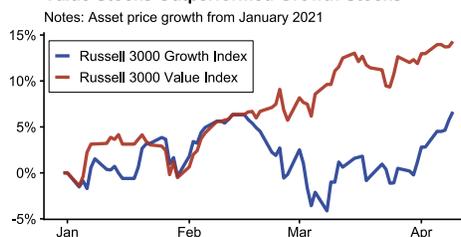


### Rising Real Interest Rates Correlate with Value Stocks

#### Outperforming Growth Stocks: From January to mid-February 2021,

growth and value equity prices followed the same general trend, increasing about 5% (Figure 1.4). Then in mid-February, their paths split, with value stock prices rising as growth stock prices fell. Although other factors, such as **industry-specific news**, may have contributed to this divergence, a difference between growth stocks and value stocks is that a

**Figure 1.4: After Real Interest Began Rising, Value Stocks Outperformed Growth Stocks**



larger share of growth stocks' total earnings is expected to occur in the more distant future. Since company valuations reflect the discounted present value of expected future cash flows, interest rate changes may have heterogeneous effects across value and growth stocks. When interest rates are low, as they were during most of 2020, investors apply relatively little discounting to future profits, as the opportunity cost of waiting for future profits to transpire (e.g., by earning interest in a savings account) is low. But rising interest rates (e.g., Figure 1.2C) lead to larger discounting and decrease the value of cash flows expected to materialize further into the future. This translates into lower valuations for companies such as growth firms, whose share of upcoming profits is typically realized relatively further into the future. In contrast, value firms usually have more steady profit streams and are somewhat less affected by rising interest rates.

**Financial Markets Have Remained Resilient Despite Abnormal Events:** Despite the occurrence of certain abnormal events in 2021, such as the onset of extreme price volatility of specific stocks (SEC Public Statement, January 29, 2021) and the collapse of a private fund reportedly owned and managed by a family office, financial markets have remained resilient. In fact, financial market stress has remained low, with certain financial risk proxies recently falling to pre-pandemic levels, as shown in Figure 2.4 below.

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Data Sources: **Figure 1.1:** MarketWatch, available at <https://www.marketwatch.com/tools/calendars/economic>. **Figure 1.2:** Federal Reserve Board (FRB), retrieved from The Federal Reserve Economic Database (FRED) (IDs: DGS10, T10YIE, DFIII0). **Figure 1.3:** Datastream and Zillow, available at <https://www.zillow.com/research/data/>. **Figure 1.4:** Datastream.



# Macro-Financial Overview

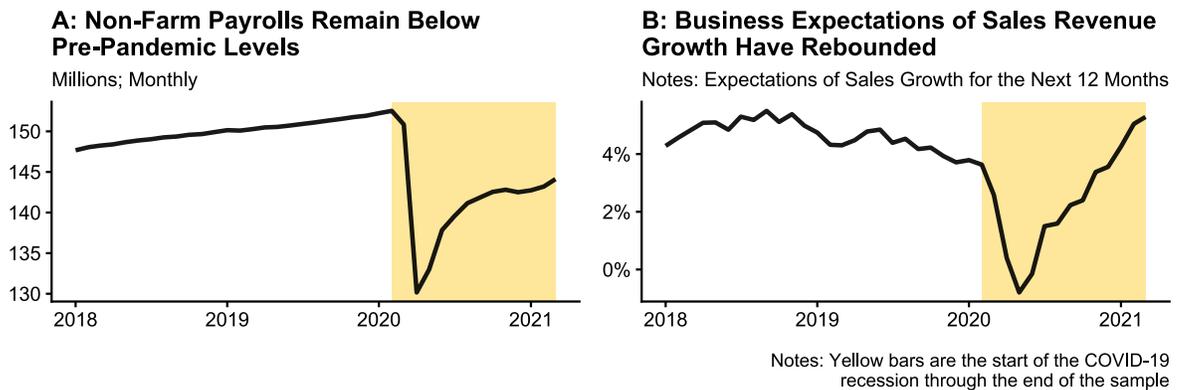
The macro-financial environment is encapsulated in three key aggregate drivers of financial decisions: (1) economic fundamentals and growth; (2) monetary policy and the interest rate trajectory; and (3) financial market signals and credit conditions.

## Economic Fundamentals and Growth

**Key Takeaway:** Although GDP is expected to expand swiftly during 2021, other economic indicators are mixed. This implies that certain sectors of the economy are recovering faster than others.

Despite the high expected GDP growth for 2021 (Figure 1.1), other economic signals remain mixed. Indeed, Figure 2.1A shows that total non-farm payrolls, a proxy for total U.S. employment, remain over 8 million below their pre-pandemic peak as a large number of potential workers **remain out of the workforce**. In marked contrast, Figure 2.1B documents that business expectations of sales revenue growth have fully recovered, reaching their previous highs seen at the height of the economic expansion in 2018 and 2019.

**Figure 2.1: Economic Indicators are Mixed**



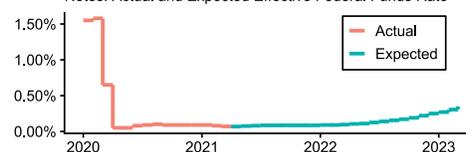
## Monetary Policy and Interest Rates

**Key Takeaway:** Market participants expect the federal funds rate to remain low through 2023. Longer term interest rates have risen but they remain below historical averages.

Figure 2.2 plots the recent path of the federal funds rate, along with the expected federal funds rate as implied in futures market prices. Futures traders expect the federal funds rate to stay low through 2023, as the economy recovers from the COVID-19 recession and the Fed maintains its current monetary stance. Yet by 2023, futures traders also expect the Fed to raise the federal funds rate at least once by 25 basis points. They are also pricing in a little less than a 50% chance of a second 25 basis point hike by early 2023.

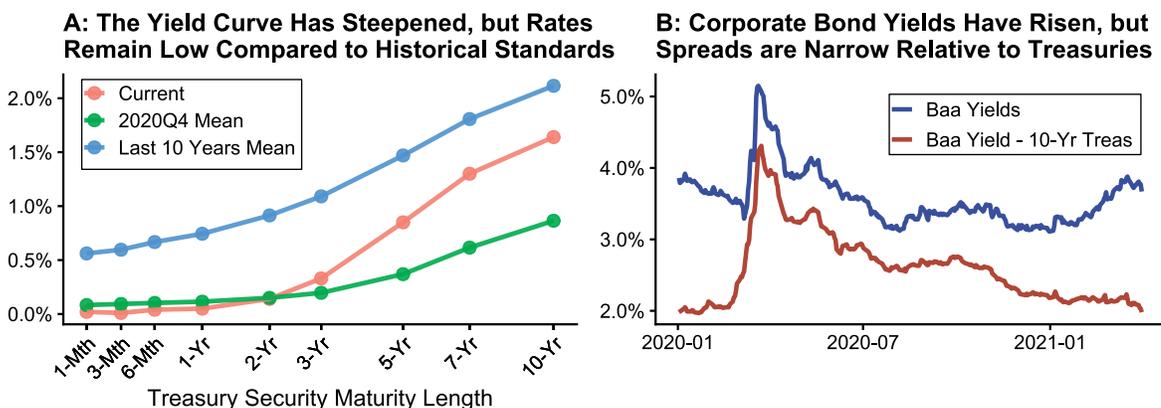
**Figure 2.2: Futures Markets Signal a Sustained Low Federal Funds Rate**

Notes: Actual and Expected Effective Federal Funds Rate



Although market participants expect short-term interest rates to remain low, longer term interest rates have risen. Figure 2.3A plots the U.S. Treasury current yield curve (red line), its average values by maturity length during 2020Q4 (green line), and its average values over the last 10 years by maturity length (blue line). Comparing the current yield curve (red line) to its 2020Q4 mean (green line) shows that yields on Treasury securities with a maturity of 2 years or less have changed little since 2020Q4. However, longer term yields have risen so that the current yield curve is much steeper than that of 2020Q4. These rising Treasury yields have reverberated across markets. For example, Figure 2.3B shows that Baa corporate bond yields have increased in 2021, corresponding to a higher cost of capital for these firms. Yet placing the recent rise in interest rates in historical context indicates that interest rates remain low. Indeed, spreads relative to Treasury securities are narrow (Figure 2.3B, red line), and longer term Treasury yields are lower than their historical mean values over the last 10 years (Figure 2.3A, red line versus blue line). Thus, while the cost of capital in bond markets has risen, it remains low relative to historical norms.

**Figure 2.3: Longer Term Interest Rates Have Risen**

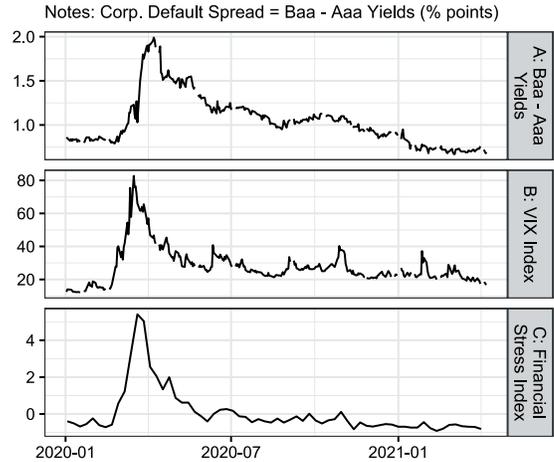


## Financial Market Signals and Credit Conditions

**Key Takeaway:** Financial market risk proxies spiked in March 2020 with COVID-19-induced financial market distress but have recently fallen to near pre-pandemic levels.

With the onset of the COVID-19 recession, financial risk proxies spiked. Figure 2.4 plots the corporate default spread (Baa - Aaa corporate bond yields; panel A), the VIX equity market volatility index (panel B), and the St. Louis Fed Financial Stress Index that aggregates several financial market stress proxies into a single index (panel C). All of these indices spiked at the height of the COVID-19-induced financial market distress in March 2020. Then, as financial conditions eased and the Federal Government implemented unprecedented monetary and fiscal stimulus, all three risk proxies fell. Currently, the proxies plotted in Figure 2.4 are near or below their pre-pandemic levels, in line with moderate credit conditions.

**Figure 2.4: Financial Market Stress Has Subsided**



Data Sources: **Figure 2.1A:** Bureau of Labor Statistics (BLS), retrieved from FRED (ID: PAYEMS). **Figure 2.1B:** Federal Reserve Bank of Atlanta, retrieved from FRED (ID: ATLSBUSRGEP). **Figure 2.2:** FRB, retrieved from FRED (ID: FEDFUNDS), and Datastream. **Figure 2.3A:** U.S. Treasury and FRB, retrieved from FRED (IDs: DGS1MO, DGS3MO, DGS6MO, DGS1, DGS2, DGS3, DGS5, DGS7, DGS10). **Figure 2.3B:** Moody's, retrieved from Wharton Research Data Services (WRDS) and FRB, retrieved from FRED (ID: DGS10). **Figure 2.4A:** Moody's, retrieved from WRDS. **Figure 2.4B:** Chicago Board Options Exchange, retrieved from FRED (ID: VIXCLS). **Figure 2.4C:** Federal Reserve Bank of St. Louis, retrieved from FRED (ID: STLF12).



# Market Segments

The U.S. Securities and Exchange Commission's mission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation. Below we examine the underpinnings of financial markets through the lens of these three mission areas and study (1) markets; (2) investors; and (3) borrowers, securities issuers, and other entities that raise capital. The chart below illustrates the interlinkages between these three segments.



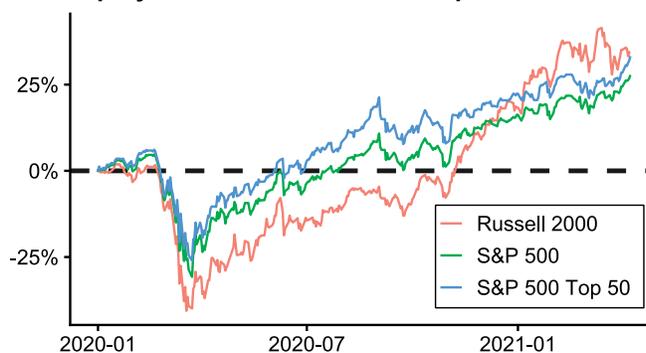
## Markets and Intermediaries

**Key Takeaway:** Aggregate equity and bond markets have nearly fully recovered from the initial COVID-19-induced financial market distress in March 2020.

Figure 3.1 graphs the price change from January 1, 2020, for the Russell 2000 (an equity index of small-cap stocks), the S&P 500, and the S&P 500 Top 50 (the 50 largest companies in the S&P 500). The plot shows that equity indices plunged following the initial COVID-19 financial market shock, with the Russell 2000 falling nearly 40%. Conversely, the S&P 500 Top 50 outperformed. This outperformance may have been related to the strong financial position of large firms in the lead-up to

the pandemic, as well as the sectoral makeup of firms in the S&P 500 Top 50. As economic and financial stress eased starting in April, all three indices moved upwards in parallel, highlighting the broad-based recovery in financial markets. Returns on the Russell 2000 then accelerated in October 2020, and the index surpassed the S&P 500 and the S&P 500 Top 50 in January 2021. The upward trend in these equity indices coincided with elevated traditional valuation metrics such as price-to-earnings ratios. Yet after accounting for historically low interest rates, aggregate equity prices may be in line with longer term norms. Recently, the Russell 2000 has retreated somewhat as rising interest rates may have adversely impacted the growth firms that constitute a large share of the Russell 2000 (Figures 1.2 and 1.4).

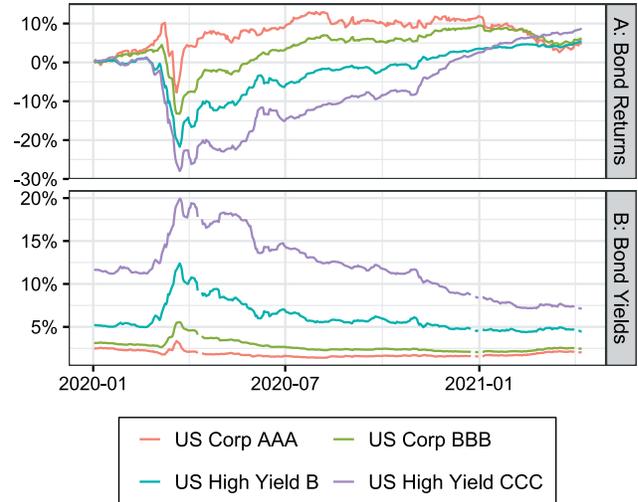
**Figure 3.1: After Large Declines in March 2020, Equity Indices Have Trended Upwards**



For fixed income markets, Figure 3.2 displays total bond market returns and yields by credit rating. Panel A shows total bond returns since 2020, while panel B plots bond yields. Because of COVID-19-induced financial market distress in March 2020 and increasing credit risk concerns, total returns on the lower rated B and CCC bonds fell (Figure 3.2A) as their yields spiked (Figure 3.2B). From there, bond market conditions have eased considerably. Hence, yields across rating categories fell to near their pre-pandemic levels (Figure 3.2B), as bond return indices have marched upwards (Figure 3.2A). Recently, as interest rates on longer term Treasuries ticked upwards (Figure 2.3A), total returns on higher rated AAA- and BBB-bonds fell from the start of 2021 through March 2021. In contrast, lower rated bonds outperformed during this period (Figure 3.2A) as credit conditions remained moderate (Figure 2.4) and their yields fell (Figure 3.2B).

**Figure 3.2: An Easing of Financial Stress Has Bolstered Lower Rated Bonds**

Notes: Bond Total Returns and Yields Since January 1, 2020



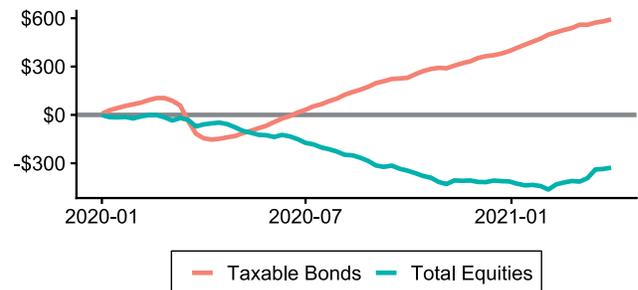
## Mutual Fund and ETF Investors

**Key Takeaway:** With COVID-19-induced financial market volatility in March 2020, mutual fund and exchange-traded fund (ETF) investors increasingly moved assets away from bond and equity market investments. Then, as credit conditions eased, investments returned. Flows into bond funds increased in 2020Q2 and then increased into equity funds in 2021Q1.

Figure 3.3 presents cumulative net fund flows into select classes of mutual funds and ETFs from January 1, 2020, to March 31, 2021. Before the COVID-19 pandemic, there were fund inflows into taxable bond funds and outflows from domestic equity funds. Then, as the COVID-19 pandemic unfolded, investors, in net, redeemed assets from both bond and domestic equity markets. Indeed, investors withdrew nearly \$300 billion from taxable bond funds beginning in March 2020, as default probabilities increased for lower rated bonds and as investors may have sought to increase their cash positions. Investors' preference to move assets away from this market may have resulted in their selling bonds held directly. Outflows may have also indirectly prompted funds to sell assets in response to redemption requests. The outflows then reversed in April 2020, and net

**Figure 3.3: Flows Have Increased Into Bond and Equity Funds**

Notes: Cumulative U.S. ETF and Mutual Fund Flows; \$ Billions



flows into bond funds have since consistently increased. In contrast, net withdrawals from equity funds began in January 2020 and continued following the onset of the COVID-19 pandemic. In 2021Q1, inflows returned to equity funds, as economic growth projections jumped (Figure 1.1) and interest rates remained historically low (Figures 1.2, 2.2, and 2.3).

## Borrowers, Securities Issuers, and Capital Formation

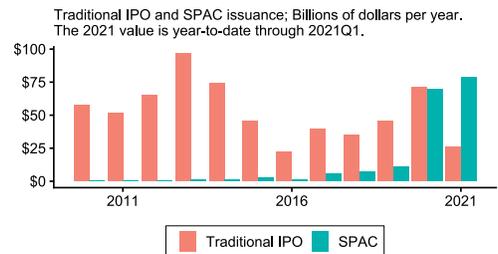
**Key Takeaway:** Investor interest in SPACs continued in 2021Q1. Aggregate firm debt-service ratios have also risen but are in line with historical levels.

Investor interest in SPACs increased further in 2021Q1 (Figure 3.4). Through SPACs, firms raised \$78 billion in 269 deals during 2021Q1, an annual rate of \$312 billion. In comparison, firms raised \$70 billion via SPACs in 2020. The conventional Initial Public Offering (IPO) market also remained active in 2021Q1, with 80 deals worth \$26 billion, an annual rate of \$104 billion, versus \$71 billion in 2020.

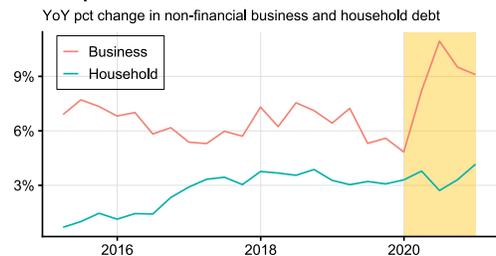
In debt markets, non-financial businesses increased borrowing in 2020 with the onset of the COVID-19 recession (Figure 3.5). Firms *may have increased borrowing* to capitalize on low interest rates (Figure 2.3), accumulate cash in the face of COVID-19-induced economic uncertainty (Figure 2.4), or prepare for future investments. More specifically, Figure 3.5 shows that year-over-year (YoY) debt growth for non-financial businesses increased to about 10% in 2020Q2, up from a range of 5–7.5% from 2015 to 2019, and remained elevated through the remainder of 2020. In marked contrast, household debt growth changed little with the onset of the COVID-19 recession.

To gauge the burden of debt payments across sectors, Figure 3.6 plots debt-service ratio proxies for the Federal Government (panel A), public firms (panel B), and households (panel C). Federal Government interest payments relative to GDP (Figure 3.6A) *remain in line with recent historical values*, despite the passage of substantial fiscal stimulus to combat the COVID-19 recession. These low Federal Government debt-service payments are a result of low Treasury rates (Figure 2.3A).

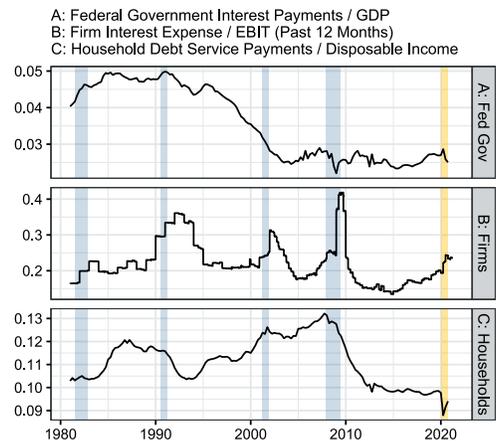
**Figure 3.4: SPAC and IPO Markets Remained Active in 2021Q1**



**Figure 3.5: Business Debt Growth Jumped in 2020 Compared to Household Debt Growth**



**Figure 3.6: Debt-Service Ratios Remain in Line With Historical Values**



Next, Figure 3.6B plots the debt-service burden for public firms in aggregate, proxied by interest expense relative to *earnings before interest and taxes* (EBIT) over the last 12 months. While this debt-service ratio has increased as business debt issuance has accelerated (Figure 3.5), it remains in line with historical values as corporate interest rates remain relatively low (Figure 2.3B). Yet there is **heterogeneity in debt burdens across sectors**, meaning that debt payments are more onerous for some firms than others.

Figure 3.6C plots the aggregate household debt-service ratio, measured as debt-service payments relative to disposable income. With mortgage and other interest rates **falling to historical lows**, many households have **refinanced their mortgages** and perhaps other debt. Thus, debt-service payments have plummeted. Indeed, data as of 2020Q4 indicate that household debt-service payments account for just 9% of household disposable income.

Finally, note that rising rates (Figure 2.3) typically increase refinance costs, which may make debt-service burdens more onerous. Yet many households and firms **refinanced their debt or raised cash** at historically low interest rates. Moreover, economic growth and firms' revenues are expected to accelerate (Figures 1.1 and 2.1B), potentially yielding more resources to cover debt payments. Thus, in total, the opposing factors of interest rate **increases and refinance or debt demand** relative to income and revenue growth will determine the riskiness of aggregate debt-service burdens going forward.

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Data Sources: **Figure 3.1:** Datastream. **Figure 3.2:** Ice Data Indices, LLC, retrieved from FRED (IDs: BAMLCC0A1AAATRIV, BAMLCC0A3ATRIV, BAMLCC0A4BBBTRIV, BAMLHYH0A1BBTRIV, BAMLHYH0A2BTRIV, BAMLHYH0A3CMTRIV, BAMLCOA1CAAAEY, BAMLCOA3CAEY, BAMLCOA4CBBBEY, BAMLH0A1HYBBEY, BAMLH0A2HYBEY, BAMLH0A3HYCEY). **Figure 3.3:** Datastream. **Figure 3.4:** Capital IQ. **Figure 3.5:** Federal Reserve Flow of Funds, retrieved from FRED (IDs: NCBDBIQ027S, NCBLL, NNBL, HMLBSHNO). **Figure 3.6A:** Bureau of Economic Analysis (BEA), retrieved from FRED (IDs: A091RC1Q027SBEA, GDP). **Figure 3.6B:** Datastream. **Figure 3.6C:** FRB, retrieved from FRED (ID: TDSP).



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