Resilience & Deceleration
Key Themes for Global Markets in 2H 2023
JUL 2023
Waiting for Godot

“Why are we here, that is the question?
And we are blessed in this, that we happen to know the answer.
Yes, in this immense confusion one thing alone is clear.
We are waiting for Godot to come...
We are not saints, but we have kept our appointment.”

Samuel Beckett, Irish novelist and winner of the Nobel Prize for Literature (1969) in his play “Waiting for Godot”
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Contents

2H 2023 Economic Outlook

1. Resilient Post COVID Economy
2. Less Rate Sensitive US Economy
3. Hiking into a Slowdown
4. Disinflation Firmly in Place
5. Waiting for Godot

2H 2023 Market Outlook

6. Markets After Fed Tightening Cycles
7. Range-Bound & Lower US Rates
8. Tailwinds Still Favorable for Bond Issuance
9. Late Cycle Dynamics for Credit Markets
10. Structurally Bearish, Tactically Neutral, the US Dollar

Appendix: MUFG Global Markets Forecast
2H 2023 Economic Outlook

Resilient Post COVID Economy
Global Economy Resilient to Multiple Shocks

- **2024**
  - Hard Landing & Economic Shock?

- **2023**
  - Global & US Bank Sector Stress

- **2022-23**
  - Global Inflation & Policy Tightening Shock

- **2022**
  - Russia-Ukraine & Commodities Shock

- **2020**
  - Global COVID Health Shock
Resilient US Economy Extending Cycle

COVID related structural imbalances extending the cycle

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10 trillion of fiscal and monetary stimulus</td>
<td>(Still working way through the economy)</td>
</tr>
<tr>
<td>$2 trillion of “excess” US consumer COVID savings</td>
<td>(Approximately $500 - 900 billion remaining)</td>
</tr>
<tr>
<td>Balance sheets strengthened during COVID</td>
<td>(Over $4 trillion USD IG &amp; HY issuance in 2020 and 2021 combined)</td>
</tr>
<tr>
<td>Structurally tight labor markets</td>
<td>(Numerous pre and post COVID multi-year drivers)</td>
</tr>
<tr>
<td>Post COVID pent up consumer demand</td>
<td>(Demand for services remains high as consumer normalizes behavior)</td>
</tr>
<tr>
<td>Less rate sensitive US economy</td>
<td>(Fixed rate home mortgages, robust capital markets, low deposit rates)</td>
</tr>
</tbody>
</table>
Resilient US Consumer

Following more than a year of spending less on services during COVID (travel, leisure, restaurants, hospitality, etc.), the US consumer accumulated an incremental $2 trillion of “excess savings”. With more than half of the excess spent during the elevated inflation of the past 18 months, estimates vary on the timing of complete rundown, the most has been depleted for the lower 50% of the income distribution.

Excess savings, USD trn

Source: (1) Fidelity. Excess savings are relative to 2019. Estimates assume savings rate continues at the average rate over last 6 months. Bureau of Economic Analysis. Bloomberg.
Strong Corporate Balance Sheets

With record profits and robust capital markets issuance since the COVID crisis began 3 years ago, IG corporates have increased cash balances, reduced leverage and extended maturities.

**IG Corporate Cash Balances**

<table>
<thead>
<tr>
<th>Year</th>
<th>Median IG corporate cash balances, USD bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>$0.0</td>
</tr>
<tr>
<td>2005</td>
<td>$0.3 bn</td>
</tr>
<tr>
<td>2014</td>
<td>$1.3 bn</td>
</tr>
</tbody>
</table>

**IG Corporate Leverage**

<table>
<thead>
<tr>
<th>Year</th>
<th>USD IG median net leverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>1.5x</td>
</tr>
<tr>
<td>2017</td>
<td>2.0x</td>
</tr>
<tr>
<td>2020</td>
<td>2.6x (2020 peak)</td>
</tr>
<tr>
<td>2023</td>
<td>2.0x</td>
</tr>
</tbody>
</table>

Source: (1-2) CreditSights. BAML Index. Data through Q1 2023.

Resilience & Deceleration / JUL 2023 / page 9
Structurally Tight Labor Markets

At the peak of COVID in April 2020, there were 23 million Americans unemployed and 4.7 million job openings. In May, US job openings were nearly 10 mm, down from a peak of 12 mm in March 2022, but well above the pre-COVID peak of 7.2 mm. The gap between job openings and number of people unemployed remains close to record levels at nearly 4 million, while wage inflation remains persistently high > 4%.

2H 2023 Economic Outlook

Less Rate Sensitive US Economy
US Services-Driven Economy Less Rate Sensitive

According to a recent Fed study, the US economy has become far less rate sensitive over the past 30–40 years as service-providing industries (which are less sensitive to rate movement) have contributed a larger and larger proportion of GDP. The rising insensitivity to rate policy impacts both the speed of reducing inflation as well as the strength of recovery following recessions.

Share of value added to US GDP in 2022, by industry

<table>
<thead>
<tr>
<th>Industry</th>
<th>Contribution (2022)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance, insurance, real estate</td>
<td>20%</td>
</tr>
<tr>
<td>Business services</td>
<td>13%</td>
</tr>
<tr>
<td>Government</td>
<td>12%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>11%</td>
</tr>
<tr>
<td>Education &amp; healthcare</td>
<td>8%</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>6%</td>
</tr>
<tr>
<td>Retail trade</td>
<td>6%</td>
</tr>
<tr>
<td>Information</td>
<td>6%</td>
</tr>
<tr>
<td>Arts &amp; entertainment</td>
<td>4%</td>
</tr>
<tr>
<td>Construction</td>
<td>4%</td>
</tr>
<tr>
<td>Transportation</td>
<td>3%</td>
</tr>
<tr>
<td>Other services</td>
<td>2%</td>
</tr>
<tr>
<td>Mining</td>
<td>2%</td>
</tr>
<tr>
<td>Utilities</td>
<td>2%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>1%</td>
</tr>
</tbody>
</table>

Source: (1) Statista “Share of value added to the gross domestic product of the United States in 2022”. Federal Reserve.

Resilience & Deceleration / JUL 2023 / page 12
US Labor Markets Less Rate Sensitive

Four-out-of-five private sector employees in the US workforce are employed in the less rate sensitive service economy. The goods-producing labor forced peaked in 1979 and declined through the 2010s, despite a larger overall population and workforce.

Employment in US Services-Providing and Goods-Producing Industries

US Household Debt Heavily Fixed Rate

US households have de-levered significantly since the financial crisis, with household debt to GDP falling to 73% from nearly 100% in 2008. Further, nearly three quarters of household debt is mortgage debt and 96% of mortgage debt is long-term fixed rate debt.

US Household Debt Observations

- 71% of US household debt is home mortgages (largely fixed)
- >95% of US mortgage loans are long term fixed rate
- 40% of US mortgages originated in low rate 2020-21
- Federal student loans are largely fixed rate
- Most auto loans fixed rate
- Credit card mix of fix and floating

USD Credit Markets Heavily Fixed Rate

The USD bond markets, which are > 90% fixed rate, have experienced explosive growth over the last 30 years and have become a more prominent part of the capital markets based US economy. Further, corporates took advantage of Fed liquidity and historically low rates during COVID (2020-2021) to fortify their balance sheets and extend maturities with longer-term, fixed-rate debt.

Outstanding market value of USD credit markets

- Fixed rate IG market 7x larger than HY and lev loans
- > 95% of $8.5 tn IG market is fixed rate
- > 99% of $1.4 tn HY market is fixed rate
- By contrast, > 95% of $1.4 tn lev loan market is floating-rate

Hiking into 2H 2023 Economic Outlook a Slowdown
The Case for a “Soft Landing”

As evidenced by the risk-on sentiment in markets, many economists and investors point to structurally tight labor markets, a resilient US consumer, and the rapid stabilization of US bank sector stress as reasons that the US may not only avoid recession, but that a new expansionary period will soon begin. In our view, looking at a plethora of economic and market signals, we think that recession has more likely been delayed by post-COVID structural imbalances, and not avoided.

The case for a “soft landing” (i.e., no recession)

<table>
<thead>
<tr>
<th>Structurally &amp; historically tight labor markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength of corporate &amp; consumer balance sheets</td>
</tr>
<tr>
<td>Housing markets structurally undersupplied and recovering</td>
</tr>
<tr>
<td>Easing of financial conditions with Fed pausing soon and equity rally</td>
</tr>
<tr>
<td>Rapid progress in reducing headline inflation (9% to 3% in 12 months)</td>
</tr>
<tr>
<td>Resurgent corporate capex cycle (tech, productivity enhancing, supply chains, clean energy)</td>
</tr>
<tr>
<td>Stabilization of US bank sector</td>
</tr>
</tbody>
</table>
The Case for a “Hard Landing”

In our view, a “hard landing” (recession) over the next 6-9 months appears more likely than not, though timing is less certain. Historically, it has been very difficult to forecast the start date of US recessions as the US consumer and labor markets are often quite strong right up to the late stages of the cycle.

<table>
<thead>
<tr>
<th><strong>The case for a “hard landing” (i.e., recession)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>![Bank Icon]</td>
</tr>
<tr>
<td>![Money Icon]</td>
</tr>
<tr>
<td>![Inverted Yield Curve]</td>
</tr>
<tr>
<td>![Trend Icon]</td>
</tr>
<tr>
<td>![COVID Icon]</td>
</tr>
<tr>
<td>![Manufacturing Icon]</td>
</tr>
<tr>
<td>![Credit Default Cycle Icon]</td>
</tr>
</tbody>
</table>

Hiking Into a Slowdown

The current Fed tightening cycle has been an unusual one by virtue of the speed and magnitude of its “double tightening” (525 bps of rate increases, $95 bn of QT per month). With core inflation still well above target at 4.8%, the Fed once again raised rates by 25bps on July 26 (perhaps the last of the cycle), even as dozens of economic and market metrics signal that an economic slowdown is well underway.

Central Bank policy rates

Source: (1) Bloomberg. Data as of July 25, 2023. BoE is the bank rate. ECB is deposit rate. China is the 7-day reverse repo rate.
The contraction in US M2 money supply has been the most rapid in nearly a century (1930s).

Monetary Policy Operates with a 12-18 Month Lag

LATER IMPACT (real economy)
- Labor markets
- CapEx spending
- M&A activity
- Rate sensitive sectors (i.e., housing, auto)

IMMEDIATE IMPACT (markets)
- Money supply (contraction)
- US rates
- US dollar
- Equity markets
- HY markets (issuance, pricing)

WE ARE HERE
- Manufacturing output (PMI)
- Consumer spending

Resilience & Deceleration / JUL 2023 / page 21
Banks Tightening Lending Standards

Bank loan volumes peaked in Q2 2022 as the Federal Reserve began its most rapid tightening cycle since the 1980s and depositors began shifting deposits away from banks. While the US banking system has stabilized in aggregate, thousands of smaller banks across the US have tightened lending standards as the cost of funding has risen (credit spreads wider, deposit outflows) and as recession timing comes closer into view.

Disinflation Firmly in Place
Divergent Progress in Reducing Inflation

Last year, more than 90% of global central banks raised policy rates to combat post-COVID inflation. However, not all central banks are in the same place in their tightening cycle, with the Fed notably ahead of the ECB, BOE and BOJ. This, in turn, has implications for currencies, capital flows and markets.

**Difference between policy rate and inflation**

<table>
<thead>
<tr>
<th>Country</th>
<th>Policy Rate</th>
<th>Inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>10.6%</td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>6.2%</td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>5.3%</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>3.6%</td>
<td></td>
</tr>
<tr>
<td>US</td>
<td>2.5%</td>
<td>12%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>2.2%</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>2.2%</td>
<td></td>
</tr>
<tr>
<td>South Korea</td>
<td>0.8%</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>-1.5%</td>
<td></td>
</tr>
<tr>
<td>Eurozone</td>
<td>-1.5%</td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>-2.9%</td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>-2.9%</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>-3.4%</td>
<td></td>
</tr>
</tbody>
</table>

*Source: (1) Bloomberg. Data as of July 26, 2023. China is 1 year LPR Rate. India is reverse repo rate.*
US Inflation Drops to 27 Month Low of 3%

The headline US Consumer Price Index (CPI) fell to 3.0% in June, down sharply from the 9.1% peak one year ago, and its lowest level in 27 months. With core CPI of 4.8% still well above the Fed’s 2% target, the Fed once again raised rates by 25bps at the July 26th meeting.

While headline US inflation has declined from 9.1% to 3% over the last year, much of the recent progress has been due to lower energy prices and “base effects” (i.e., y/y comparisons). While Fed policy is close to sufficiently restrictive, core CPI and services inflation are still well above target.

Source: (1-2) Bloomberg. Data as of July 25, 2023. Goods is commodities less food and energy commodities. Services is less energy.
Wages Outpacing Inflation, Once Again

Alongside overall inflation, US wage pressures have eased over the past 15 months, with private-sector hourly wage growth dropping y/y from over 8% in early 2020 to just over 4% today. Nonetheless, US wage inflation remains in the 85th highest percentile compared to wage data going back to 1980. Given structural shortages in US labor markets, elevated wage pressures are likely to complicate the Fed’s policy path.

Average hourly earnings and headline CPI, y/y

2H 2023 Economic Outlook

Waiting for Godot
Consensus Forecasting Mild Q4 Recession

While the US economy and consumer have been far more resilient than anticipated, dozens of economic and market metrics are pointing to a slowdown. Given the pace of Fed tightening, collapse in M2 money supply, yield curve inversion, impact of depleting savings and inflation on the consumer, and tighter bank lending standards, we believe near-term recession risk remains high. Less clear is whether the recession begins in the 2H 2023 or early 2024.

**US GDP, Q/Q**

- **Q1 2023**: 0.3%
- **Q2 2023**: 0.6%
- **Q3 2023**: 0.3%
- **Q4 2023**: -0.4%
- **Q1 2024**: 0.2%
- **Q2 2024**: 0.3%
- **Q3 2024**: 0.3%
- **Q4 2024**: 0.4%


Resilience & Deceleration / JUL 2023 / page 29
Global Manufacturing Contracts 10 Straight Months

Global manufacturing PMI dipped to a six-month low of 48.8 at the end of Q2, its 10th consecutive month in contraction territory. New orders fell at the fastest rate in five months, with business optimism now at a seven month low. In response to demand weakness, manufacturers have cut back purchases, reduced inventory and kept employment broadly flat. Only 10 of the 29 economies in S&P’s global PMI survey had expansion in the manufacturing sector in June (7 of the 10 were in Asia).


Resilience & Deceleration / JUL 2023 / page 30
US industrial production declined 0.5% m/m in June, more than analysts expected and the second consecutive such contraction. The decline was led by a sharp contraction in output for consumer durables like automotive, home furnishing and appliance products.

The US Services PMI has shown a persistent (if non-linear) decline since it’s peak in November 2021, briefly breaching the key “50” level in December 2022. July flash PMIs suggest that activity in the services sector continues to expand, but at a noticeably slower pace than prior periods.

The Conference Board’s Leading Economic Index (LEI) recently declined for its 15th consecutive month to reach 106.1, 10% below its December 2021 peak and its lowest level since July 2020. The LEI tracks 10 economic indicators including consumer expectations for business conditions, interest rates, manufacturer’s orders, and employment statistics. In the latest report, 6 of the 10 subcomponents contracted, indicating broad based weakness and elevated recession risk.

US Consumer Up & Down, but Resilient

High post COVID consumer savings, tight labor markets and softer energy prices have allowed the US consumer to absorb the highest inflation period in 40 years. Since the Fed tightening cycle began one year ago, US consumer spending has been up and down, but impressively resilient.

US retail sales, m/m

Resilience & Deceleration / JUL 2023 / page 34
Rising US Credit Card Defaults

Total debt balances grew by $394 billion in Q4 2022, the largest nominal quarterly increase in twenty years. Credit card balances increased $61 billion, the largest observed in the history of the data, going back to 1999, with younger borrowers surpassing their pre-pandemic delinquency rates.

Delinquency rate for credit card borrowers, by age

Yield Curve Signaling Recession

2s-10s government yield curves

- Inversion

- Germany: (-62 bps)
- UK: (-68 bps)
- US: (-99 bps)

NY Fed probability of US recession in the next 12 months

- Probability of US recession over next 12 months (Fed YC model): 67%


Resilience & Deceleration / JUL 2023 / page 36
Markets After Fed Tightening Cycles
Are Equity Markets Too Optimistic on the Economy?

The US equity rebound in the 1H 2023 was led primarily by big tech. By June and July, however, a sharp divergence between equity valuations and earnings began to broaden, as 140 stocks in the S&P 500 have now hit 52 week highs, even as the earnings recession deepens. Nearly 90% of S&P 500 stocks are now trading above their 50 day moving average.

2023 YTD equity market performance

Earnings Recession Well Underway

S&P 500 corporate earnings recessions in the absence of economic recessions are reasonably rare events, with a strong US dollar and/or low oil prices the culprit on each such occasion. The two quarter contraction in corporate earnings from Q4 ’22 to Q1 ’23, in the absence of a US economic recession, was only the 5th such occasion over the last 50 years, going back to 1974. Looking ahead to Q2 2023, higher funding costs, slowing consumer demand and margin pressure are expected to drive a third and deeper quarterly contraction in US corporate earnings.

Source: (1) FactSet, Earnings Insight Report (July 21, 2023).
Global Markets Do Well After Tightening Cycles

While US equities typically have a 20% correction after recession begins, and credit spreads hit new wides, debt and equity markets nonetheless recover and do well in the 12 months following the end of a Fed tightening cycle.

Average returns in the 12 months following the end of the 6 fed tightening cycles since 1983

- EM equities: 21%
- US equities: 16%
- Global equities: 13%
- USD IG: 12%
- USD HY: 10%
- Commodities: 3%
- US Dollar: (-1%)

Source: (1) Bloomberg. Data as of July 25, 2023. USD IG and HY total return indices and EM equities start in 1987 recession due to data availability.
2H 2023 Market Outlook

Range-Bound & Lower US Rates
Foreign Purchases of USTs Rose During Fed Tightening

Foreign purchases of US Treasuries have risen significantly as US rates increased during the Fed tightening cycle.

US Treasuries Rally After Fed Tightening Cycles

Historically, UST yields have moved significantly lower in the 12 months following the end of a Fed tightening cycle.

Average change in yields in the 12 months following the end of the 6 fed tightening cycles since 1983

- 30 year UST: (-85 bps)
- 10 year UST: (-118 bps)
- 5 year UST: (-149 bps)
- 2 year UST: (-182 bps)

The unexpected resilience of the US economy in 1H 2023 has prolonged the Fed’s hiking cycle beyond market expectations. In early Q3 2023, 10 year yields broke out of their 1H trading range, rising above 4% on July 6, before trending lower again following the soft June CPI report. MUFG’s Head of Macro Strategy, George Goncalves, expects rates to peak in Q3 and move progressively lower over the next year.

Source: (1) Bloomberg. Data as of July 25, 2023. MUFG Rate Strategy (George Goncalves).
Real Rates Elevated Even After The Pause

Even after the Fed pause, US real rates may remain elevated. Since the Fed began its accelerated “double tightening” (raising rates, reducing balance sheet) in March 2022, and as the economy has shown resilience with inflation declining, US “real” rates have moved more firmly positive. With “real” rates likely to remain elevated during a “higher for longer” Fed pause, assessing the impact of “sufficiently restrictive” becomes more challenging.

Who is Buying $1 Trillion of US Treasuries?

Between the June 1 US debt ceiling resolution and late September, the US Treasury will be replenishing its coffers by issuing nearly $1 trillion of US Treasuries at a time when the Fed is reducing its balance sheet by $95 bn per month. Money markets, with nearly $2 trillion of their $5 trillion in funds parked in the Fed’s reverse repo facility, are likely to absorb the bulk of the issuance. To lure investors, Treasury will face higher interest costs while markets will be concerned about liquidity and unintended consequences.

Tailwinds Still Favorable for Bond Issuance
Corporate balance sheets in the multi-trillion USD bond markets have remained strong by historic standards, with variance by ratings category. Since Q2 2021, leverage has risen above LT averages for most ratings categories, though only modestly. At the low end, CCC leverage has diverged most sharply above LT averages, while in the strong AA rating category, leverage has sharply declined as cash balances increased by 67%.

**USD net leverage by rating**

<table>
<thead>
<tr>
<th>Rating</th>
<th>1997</th>
<th>2005</th>
<th>2014</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT avg</td>
<td>6.3x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LT avg</td>
<td></td>
<td>3.8x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LT avg</td>
<td></td>
<td>2.7x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LT avg</td>
<td></td>
<td>2.1x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LT avg</td>
<td></td>
<td>1.5x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LT avg</td>
<td></td>
<td>1.0x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCC</td>
<td></td>
<td></td>
<td></td>
<td>7.7x</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td>4.2x</td>
</tr>
<tr>
<td>BB</td>
<td></td>
<td></td>
<td></td>
<td>2.8x</td>
</tr>
<tr>
<td>BBB</td>
<td></td>
<td></td>
<td></td>
<td>2.2x</td>
</tr>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td>1.8x</td>
</tr>
<tr>
<td>AA</td>
<td></td>
<td></td>
<td></td>
<td>0.6x</td>
</tr>
</tbody>
</table>

**Source:** (1) CreditSights, “US Strategy: IG leverage Report 1Q23.”
Interest Coverage Ratios Above Historic Levels

Following a multi-year period of elevated earnings and margins, high cash balances and less leverage with extended maturities, corporates in the USD bond markets, in aggregate, have stronger interest coverage ratios than historic levels, as often occurs late in an economic expansion.

USD IG interest coverage ratio, by rating

- LT avg: 18.8x
- LT avg: 11.8x
- LT avg: 7.7x

USD HY interest coverage ratio, by rating

- LT avg: 5.3x
- LT avg: 3.3x
- LT avg: 1.8x

Source: (1-2) CreditSights. Data through Q1 2023.
Attractive Yields Creating Favorable Technical Tailwinds

With yields consistently above 5% for the first time since the GFC, high quality corporate bonds offer investors significant cushion to weather volatility and recession risk.

USD IG & HY index yield to worst

USD New Issue Market in 1H 2023

After a strong start in Jan-Feb, IG new issue volumes declined sharply with bank sector stress in March-April, down as much as 20% Y/Y after the first 4 months of the year. However, stronger performance in May and June has brought the gap to just 2% below last year’s 1H levels. High Yield issuance, on the other hand, was much stronger in 1H 2023 vs. 1H 2022. USD HY issuance volumes are up 37% year-on-year and are just 9% short of 2022’s full year volume.

Source: (1-2) CFR. Data as of June 30, 2023.
Robust USD IG Issuance in 1H 2023

USD IG issuance volumes of $721 bn in the 1H 2023 are nearly 60% toward full year forecasts, and on track for one of the strongest issuance years on record. M&A accounted for ~15% of 1H issuance, above the 5 year average of 11%.

USD IG issuance and forecasts

Source: (1) CFR. 2023 issuance data as of June 30, 2023 close.
USD HY Issuance Rebounds from 2022 Lows

Up 37% Y/Y, USD HY issuance volumes of $93bn in the 1H 2023 are on track to meet full year projections and nearly as high as the entire year of HY issuance in 2022. HY Investors have become more selective, with nearly all of 1H 2023 HY issuance from the BB rating category (virtually no B or CCC).

USD HY issuance and forecasts

Run rate

Nearly half way to 2023 forecast

Wall Street 2023 forecasts in January

Source: (1) CFR. 2023 issuance data as of June 30, 2023 close.
Resilience & Deceleration / JUL 2023 / page 53
Late Cycle Dynamics for Credit Markets
USD Credit Spreads Not Pricing Recession

IG and HY spreads are not pricing in near term recession or an imminent spike in credit default risk. Despite higher volatility since mid-2022, credit spreads tightened across the rating spectrum in 2023. The tightening in the lower rated CCC market has been particularly pronounced.

Change in spreads (YTD 2023)

Based on data going back more than three decades, IG & HY credit spreads are trading below their long-term averages and well below recession threshold levels. While IG spreads historically widen above 250 bps during US recessions, the strength of corporate balance sheets and a potentially “mild” recession suggest that 200 bps may be the more likely threshold for the next US recession.

Historic recession threshold: 250 bps
Current cycle recession threshold: 200 bps
LT average: 150 bps
GFC peak: 618 bps

The spread threshold for US recession may be lower this time

HY Credit Spreads Also Below LT Average

HY spreads traded remarkably tight in the 1H 2023 despite bank sector stress and Fed tightening. While HY spreads historically widen above 800 bps during US recessions, the strength of corporate balance sheets and a potentially “mild” recession suggest that 600 bps may be the more likely threshold for the next US recession.

US Bankruptcies Rising

Currently tighter than historical averages, corporate credit spreads are not reflective of pressures in the real economy (weakening demand, higher inflation, higher borrowing costs), as evidenced by a surge in US bankruptcies in 1H 2023 to the highest levels since 2010. Consumer companies have accounted for 25% of filings, followed by healthcare (15%) and financials (11%).

US bankruptcy filings by year

1H 2023 bankruptcy filings at highest pace since 2010

The Credit Default Cycle Has Begun to Turn

After reaching historically low levels in early 2022, default rates have begun to move higher. Over the last 12 months, 20 USD HY Issuers defaulted on $34bn of bonds. As default rates typically "lag" the economic cycle, default rates may not peak until late 2024 or early 2025. Consumer facing businesses, many of which are rated CCC, are notably vulnerable with close to 30% of the sector on negative outlook or Credit Watch negative.

Source: (1) Moody's, "Default Trends – Global June 2023 Default Report." Default rate is trailing 12 months US speculative grade default rate.
Peak Defaults May Be Lower This Cycle

For the market in aggregate, we expect lower peak defaults in the current cycle given the strength of post COVID balance sheets following several years of high profits, significant pre-funding and prevalence of covenant-lite bonds. Vulnerable sectors will include those with unsustainable capital structures, high leverage, exposure to floating rate debt, less recession proof sectors and capital intensive businesses with greater competition and margin pressure. Private debt markets with stricter covenant regimes are likely to experience higher default rates.

Moody’s speculative grade peak default rate forecast scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Default Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimistic</td>
<td>4.34%</td>
</tr>
<tr>
<td>Baseline</td>
<td>5.06%</td>
</tr>
<tr>
<td>Moderately Pessimistic</td>
<td>8.88%</td>
</tr>
<tr>
<td>Severely Pessimistic</td>
<td>13.70%</td>
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</tbody>
</table>

Drivers of Lower Peak Defaults in Current Cycle

- Potentially mild recession
- Prevalence of covenant-light (fewer triggers)
- Low 2023-24 maturity walls
- Significant pre-funding
- High cash balances, strong interest coverage ratios
- Strong, well capitalized banking system

Source: (1) Moody, “Default Trends Global Report – June 2023.” Peak default rate for Baseline is March 2024, optimistic scenario is January 2024, Pessimistic scenarios is June 2024.
Structurally Bearish, Tactically Neutral, the US Dollar
US Dollar Poised for Multi-Year Depreciation

Following the longest and 2nd largest USD strengthening cycle in the post Bretton Woods era, and with the Fed approaching the end of its tightening cycle, the US Dollar is poised to embark on a multi-year depreciation cycle.

DXY index

USD index back at 52 week low


Resilience & Deceleration / JUL 2023 / page 62
Structurally Bearish US Dollar, Tactically Neutral

Following the 2nd longest US dollar strengthening cycle over the last 50 years, the US dollar is poised for a structural shift lower. However, a Fed pause may not be enough for a sustained dollar downcycle. For one, at least some portion of dollar weakness in recent months has been a function of the unwind in its safe haven risk premium and tailwinds in Europe from lower energy prices. Secondly, peak inversion of the US yield curve has historically been accompanied by a range-bound dollar more so than sustained dollar weakness. Derek Halpenny, MUFG’s Global Head of Research, highlights numerous compelling reasons for dollar depreciation at this stage of the cycle.

8 Reasons for USD Depreciation

<table>
<thead>
<tr>
<th>Reason</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate differentials</td>
<td>Fed closer to end of hiking cycle</td>
</tr>
<tr>
<td>Relative macro</td>
<td>US closer to recession</td>
</tr>
<tr>
<td>Unwind of energy shock</td>
<td>Energy deficit currencies poised to recover</td>
</tr>
<tr>
<td>BOJ policy pivot</td>
<td>YCC policy unwind, rise in Japanese inflation expectations</td>
</tr>
<tr>
<td>De-dollarization forces</td>
<td>Slow &amp; gradual pivot toward multi-currency settlement</td>
</tr>
<tr>
<td>Relative equity market outperformance</td>
<td>US equities more fully-valued; EM equities more undervalued</td>
</tr>
<tr>
<td>Cyclical nature of US dollar</td>
<td>Consolidation after 2nd longest and largest US dollar appreciation</td>
</tr>
<tr>
<td>Relative value of the US dollar</td>
<td>USD most overvalued among G10 FX</td>
</tr>
</tbody>
</table>
Dollar Dominance, More Multi-currency Settlement

More than 50 years after President Nixon closed the door on Bretton Woods, the US dollar continues to play a dominant role in the global financial system. In the absence of sufficient alternatives, we expect the primary tenets of this system to continue. However, due to unsustainable imbalances and accelerating geopolitical shifts (US-Russia-China-Saudi), we expect a continued increase in multicurrency settlement across numerous global trading and financial markets in the years ahead. Wholesale replacement of dollar dominance by another currency? Highly unlikely. Increased financial fragmentation in the years ahead? Yes.

USD share of global markets

- **FX transaction volume**: 84%
- **Global oil markets**: 75% - 80%
- **FX reserves**: 58%
- **Trade invoicing**: 52%
- **Cross-border loans**: 51%
- **International debt securities**: 48%
- **SWIFT payments**: 42%

MUFG Global Rates Forecasts

<table>
<thead>
<tr>
<th></th>
<th>Spot (Jul 26)</th>
<th>Q3 2023</th>
<th>Q4 2023</th>
<th>Q1 2024</th>
<th>Q2 2024</th>
<th>Q3 2024</th>
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<td>MUFG Consensus</td>
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<td>Fed Funds</td>
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<td>5.50%</td>
<td>5.50%</td>
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<td>2 yr UST</td>
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<td>4.65%</td>
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<td></td>
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<td>4.25%</td>
<td>4.41%</td>
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<td>5 yr UST</td>
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<td>3.86%</td>
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<td>3.71%</td>
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<td>10 yr UST</td>
<td>3.90</td>
<td>4.13%</td>
<td>3.75%</td>
<td>3.75%</td>
<td>3.64%</td>
<td>3.54%</td>
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<td>30 yr UST</td>
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<td>3.63%</td>
<td>3.84%</td>
<td>3.50%</td>
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<tr>
<td></td>
<td></td>
<td>3.63%</td>
<td>3.84%</td>
<td>3.50%</td>
<td>3.78%</td>
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## MUFG Global FX Forecasts

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<th>Currency pair</th>
<th>Spot (Jul 25)</th>
<th>Q3 2023</th>
<th>Q4 2023</th>
<th>Q1 2024</th>
<th>Q2 2024</th>
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<tbody>
<tr>
<td>EUR / USD</td>
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<td>1.10</td>
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<td>GBP / USD</td>
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<td>1.27</td>
<td>1.27</td>
<td>1.23</td>
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<td>USD / JPY</td>
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<td>USD / CNY</td>
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<td>AUD / USD</td>
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<td>0.66</td>
<td>0.68</td>
<td>0.67</td>
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<td>NZD / USD</td>
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<td>0.61</td>
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<tr>
<td>USD / CAD</td>
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<td>1.31</td>
<td>1.32</td>
<td>1.34</td>
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<tr>
<td>USD / NOK</td>
<td>10.10</td>
<td>10.82</td>
<td>10.45</td>
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<td>USD / SEK</td>
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<td>USD / CHF</td>
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<td>USD / MXN</td>
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<td>USD / BRL</td>
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<td>5.20</td>
<td>5.22</td>
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Resilience & Deceleration / JUL 2023 / page 67
## MUFG Commodities Forecasts

<table>
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<tr>
<th></th>
<th>Spot (Jul 25)</th>
<th>Q3 2023</th>
<th>Q4 2023</th>
<th>Q1 2024</th>
<th>Q2 2024</th>
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<td>ME</td>
<td>Consensus</td>
<td>MUFG</td>
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<td>MUFG</td>
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<tr>
<td>WTI</td>
<td>$80</td>
<td>$76</td>
<td>$75</td>
<td>$79</td>
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<tr>
<td>Brent</td>
<td>$83</td>
<td>$80</td>
<td>$80</td>
<td>$84</td>
<td>$83</td>
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<tr>
<td>US Nat Gas</td>
<td>$2.73</td>
<td>$2.90</td>
<td>$2.83</td>
<td>$3.10</td>
<td>$3.33</td>
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<tr>
<td>Euro Nat Gas</td>
<td>€33</td>
<td>€88</td>
<td>N/A</td>
<td>€74</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Source: (1) MUFG Commodities Research (Ehsan Khoman). Bloomberg. Data as of July 25, 2023.*
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Tom Joyce
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Role

Tom Joyce is a Managing Director and Capital Markets Strategist within MUFG’s global capital markets and investment banking business. Based in New York, Tom heads a team that creates customized analytical content for multi-national S&P 500 companies. His team provides in-depth analysis on the impact of economic, political, public policy and regulatory dynamics on the US credit, foreign exchange, rates and commodities markets.

Experience

Tom has over 25 years of Investment Banking experience in New York, London, Hong Kong, and San Francisco. Over the last 15 years, Tom created and built the Capital Markets Strategy role, advising corporate C-Suite executives (Boards, CEOs, CFOs, and Treasurers) on the pervasive macro forces driving markets. Tom also presents at dozens of corporate events each year including Board meetings, CEO ExCo sessions, CFO and Treasury off-sites, corporate leadership events and conferences.

Education

Tom’s educational background includes a year of study at Oxford University from 1991 - 1992, a Bachelor of Arts in Political Science from Holy Cross College in 1993, and a MBA from Kellogg Business School, Northwestern University in 2000.

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Experience
Hailey has a decade of Wall Street experience, including three years as a Consumer Sector Specialist in Equity Sales and seven years as a Capital Markets Strategist. Hailey is also a member of MUFG’s Inclusion & Diversity Council and has devoted years to participating in and developing Wall Street recruiting programs.

Education
Hailey graduated with honors from the University of Michigan’s Ross School of Business with a BBA and a minor in International Studies.

Personal
In March 2020, Crain’s New York Business Magazine named Hailey one of the “Rising Stars in Banking and Finance”.

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Experience
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Stephanie is actively involved in NYC’s iMentor program, mentoring high school students with their journey to college graduation.
MUFG’s Capital Markets Strategy Team

- Late Cycle Dynamics: The Outlook for USD Credits in 2023
- Resilience: Navigating Through Stress in the 2023
- Getting Comfortable with Discomfort EU Growth: Navigating the New Normal
- The $31.381 Trillion Debt Ceiling Fiscal Policy: Instruments, Experiences & Markets
- What to Watch in the Bank Sector? EU Banking: What to Watch in the Next 90 Days
- Transition Period: The Impact of Higher Inflation: Opportunities on the Economy & Markets
- March Disappointment, April Optimism: The Fed's Policy: Inflation, Rates & Dollar Market
- The Fed's Policy Conundrum: Balancing Financial Stability, Inflation & Other Markets
- Crisis of Confidence: The Impact of Debt on Financial Stability, Fed Policy & Markets

Resilience & Deceleration / JUL 2023 / page 72
MUFG’s Capital Markets Strategy Team
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