Global Corporate & Investment Banking Capital Markets Strategy Team

Tom Joyce
Managing Director
Capital Markets Strategist
New York, NY
Tom.Joyce@mufgsecurities.com
(212) 405-7472

Hailey Orr
Director
Capital Markets Strategist
New York, NY
Hailey.Orr@mufgsecurities.com
(212) 405-7429

Stephanie Kendal
Associate
Capital Markets Strategist
New York, NY
Stephanie.Kendal@mufgsecurities.com
(212) 405-7443

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For much of the last two years, “COVID” inflation was centered largely around increased demand for “durable goods”, which by definition, was more “discretionary”, more “transitory,” and therefore “less” detrimental to growth. Demand surges, in turn, exacerbated COVID-related supply chain dislocations. Following Russia-Ukraine and China’s Omicron lockdowns, COVID inflation has now combined with “conflict inflation”, which by comparison is more driven by services and commodities, and unfortunately, likely to be more “enduring” and “more” detrimental to US growth.

**“COVID” Inflation**

- COVID related demand & supply shocks
- More durable goods & discretionary in source
- More transitory in nature
- Less detrimental to growth

**“Conflict” Inflation**

- More supply side and commodity driven
- More services & less discretionary in source
- More “enduring” in nature (de-globalization, ESG, supply side)
- More detrimental to growth
As the economy has recovered closer to full employment during the two year COVID crisis, successive demand and supply shocks (COVID, Ukraine, China lockdown) have driven inflation sharply higher.

Source: (1-2) Bloomberg. Data as of May 12, 2022.
US Inflation Near 40 Year Highs

US Headline inflation slowed to 8.3% in April, down from a 40 year high of 8.5% in March, though persistently high and above consensus expectations of 8.1%. While the composition of inflation has shifted in recent months from goods to commodities and services, the modest moderation in April’s inflation numbers benefitted from a 6.1% retreat in gasoline prices, following an 18.3% surge in March.

Source: (1-2) Bloomberg. Data as of May 13, 2022. John Authers. Sticky inflation is US CPI all items less food, shelter, energy & used cars & trucks is NSA.
Services Inflation at 30 Year High

While goods inflation continues to surge, services inflation has recently risen to 30 year highs. As the price of durable goods moderated within a high range in April, the cost of services accelerated rapidly as consumers emerged from a third COVID winter, with high vaccination rates and strong pent-up demand for travel, leisure and “experiences.”

The CPI basket is comprised of approximately 60% services, 20% goods and 20% food and energy

Source: (1) Bloomberg. Data as of May 13, 2022. Services inflation is CPI services ex energy. Goods inflation is CPI durables.
Inflation Pressures Vary by Sector

Inflation pressures, which centered around durable goods during the early phase of COVID, have since shifted to services and commodity prices, which by definition, are likely to be more “enduring” and “detrimental” to growth.

<table>
<thead>
<tr>
<th>US inflation by sector (y/y)</th>
<th>Energy</th>
<th>Food</th>
<th>Core goods</th>
<th>Core services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy commodities</td>
<td>45%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor fuel</td>
<td>44%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airline fares</td>
<td>33%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy</td>
<td>30%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Used cars and trucks</td>
<td>23%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility gas service</td>
<td>23%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td>23%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public transportation</td>
<td>22%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lodging away from home</td>
<td>20%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tires</td>
<td>16%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Furniture &amp; bedding</td>
<td>15%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk</td>
<td>15%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor vehicle parts and equipment</td>
<td>15%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meats</td>
<td>14%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inflation Pressures Vary by Sector (Cont.)

Inflation pressures, which centered around durable goods during the early phase of COVID, have since shifted to services and commodity prices, which by definition, are likely to be more “enduring” and “detrimental” to growth.

**US inflation by sector (y/y)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Energy</th>
<th>Food</th>
<th>Core goods</th>
<th>Core services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal services</td>
<td>7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land-line phone services</td>
<td>6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apparel</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor vehicle maint. &amp; Repair</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rent of shelter</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shelter</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services less energy services</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owners’ equivalent rent</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Footwear</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garbage &amp; trash collection</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreation services</td>
<td>4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor vehicle insurance</td>
<td>4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water &amp; sewerage maint.</td>
<td>4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcoholic beverages</td>
<td>4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day care and preschool</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing homes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical care services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funeral expenses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photo equipment &amp; supplies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School tuition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational books</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicinal drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreational reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal care products</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College tuition and fees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intracity mass transit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Commodity Prices Surging Higher

2022 YTD performance

**Energy**
- Brent
  - Jan: $111
  - May: $111
  - +43%
- US Natural Gas
  - Jan: $96
  - May: $96
  - +111%
- European Natural Gas (TTF)
  - Jan: $7.86
  - May: $7.86
  - +36%

**Industrial metals**
- Nickel
  - Jan: +30%
  - May: +30%
- Palladium
  - Jan: +1%
  - May: +1%
- Steel
  - Jan: 5%
  - May: 5%

**Agriculture**
- Agriculture Index
  - Jan: +30%
  - May: +30%
- Wheat
  - Jan: +60%
  - May: +60%
- Grains
  - Jan: +40%
  - May: +40%

Source: (1-9) Bloomberg. Data as of May 16, 2022.
Energy as % of Total Inflation Basket

By comparison to other large economies (US, UK, Japan, China), Europe’s economy is much more vulnerable to rising energy prices.
Near Term Inflation Expectations Rising More Rapidly

While the Fed has abandoned use of the term “transitory,” inflation breakevens are still trading with more optimism of a “soft landing.”

**US 1 year breakeven**

- 2020: -3%
- 2021: 0%
- 2022: 4.84%

**US 2 year breakeven**

- 2020: -3%
- 2021: 0%
- 2022: 3.97%

**US 5 year breakeven**

- 2020: -3%
- 2021: 0%
- 2022: 3.07%

**US 10 year breakeven**

- 2020: -3%
- 2021: 0%
- 2022: 2.72%

Source: (1-4) Bloomberg. Data as of May 16, 2022.
Real Wage Inflation Still Negative

As wages continue to rise at the fastest pace in two decades, they are having the two-fold adverse effect of dragging corporate earnings lower, while not keeping pace with inflation.

US average hourly earnings, y/y

Wage inflation: +5.5%

Real wage inflation: (-2.6%)

Source: (1) Bloomberg. Data as of May 12, 2022.
Wage Inflation Varies by Sector

In April, wages rose 5.5% y/y, the fastest pace in two decades. Tight labor markets have pushed wages higher in the post-crisis period, particularly for those in the lower quartile of earners.

Source: (1-10) Bloomberg. Data as of May 16, 2022.
Wage Inflation Varies by Income Level

Hourly wage growth by quartile

The Fed’s Dilemma

According to the Atlanta Fed, “sticky prices” (prices which are difficult to change quickly) are rising at the fastest rate in three decades. To this end, we believe it will be much easier for the Fed to reduce inflation from 8-9% down to the 4-5% area, than from 4-5% to 2-3%, without precipitating a hard landing. The Fed’s demand side tools are well equipped to address inflation in interest rate sensitive sectors (durable goods, auto, housing), though less able to impact supply side sources of inflation which are likely to get worse in the months ahead (i.e., food, energy).

Source: (1) Bloomberg. Data as of May 13, 2022.
History Suggests “Hard Landing” Risk High

In a study of 12 Fed tightening cycles dating back to the 1950s, an Oxford Economics analysis shows that the Fed only avoided recession on three occasions (mid-1960s, 1983-94, and 1994). The study found that recessions were more likely to follow tightening cycles when the total rate increases were larger and when initial and peak inflation were higher.

US rate cycles and recession periods

<table>
<thead>
<tr>
<th>Tightening Cycle</th>
<th>Total bps hiked</th>
<th>Peak inflation rate</th>
<th>Hard or soft landing?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1954 - 1957</td>
<td>227 bps</td>
<td>3.7%</td>
<td>Hard</td>
</tr>
<tr>
<td>1958 – 1960</td>
<td>305 bps</td>
<td>3.6%</td>
<td>Hard</td>
</tr>
<tr>
<td>1964 – 1966</td>
<td>210 bps</td>
<td>3.8%</td>
<td>Soft</td>
</tr>
<tr>
<td>1968 – 1969</td>
<td>500 bps</td>
<td>6.2%</td>
<td>Hard</td>
</tr>
<tr>
<td>1972 – 1974</td>
<td>850 bps</td>
<td>12.3%</td>
<td>Hard</td>
</tr>
<tr>
<td>1977 – 1980</td>
<td>1,040 bps</td>
<td>14.8%</td>
<td>Hard</td>
</tr>
<tr>
<td>1980 – 1981</td>
<td>790 bps</td>
<td>11.0%</td>
<td>Hard</td>
</tr>
<tr>
<td>1983 – 1984</td>
<td>250 bp</td>
<td>4.8%</td>
<td>Soft</td>
</tr>
<tr>
<td>1988 – 1989</td>
<td>300 bps</td>
<td>5.2%</td>
<td>Hard</td>
</tr>
<tr>
<td>1994 – 1995</td>
<td>300 bps</td>
<td>3.0%</td>
<td>Soft</td>
</tr>
<tr>
<td>1999 – 2000</td>
<td>175 bps</td>
<td>3.8%</td>
<td>Hard</td>
</tr>
<tr>
<td>2004 – 2006</td>
<td>425 bps</td>
<td>4.7%</td>
<td>Hard</td>
</tr>
</tbody>
</table>

Global Growth Revised Downward

Growth will likely decelerate in almost every major global economy in 2022, but still remain “above long term trend” in most advanced economies. Visibility remains low, and variability on current forecasts high, with elevated recession risk for Europe in particular, depending on the forward path of the Ukraine crisis and related rise in energy prices.

2022 GDP growth forecasts, y/y


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About the Authors

Tom Joyce
Managing Director
Capital Markets Strategist
New York, NY

Tom.Joyce@mufgsecurities.com
(212) 405-7472

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.

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.

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.

Tom resides in New Canaan, CT with his wife and four sons, where he coaches youth basketball and serves on the Board of Trustees of the New Canaan Library, the Board of the New Canaan Football (Soccer) Club and the Holy Cross College President’s Council.
About the Authors

Hailey Orr
Director
Capital Markets Strategist
New York, NY
Hailey.Orr@mufgsecurities.com
(212) 405-7429

Hailey Orr is a Director in MUFG’s Capital Markets Strategy group within the global capital markets and investment banking business. The team provides market based content for corporate clients to assist in strategic decision making. Focus areas include the impact of economic, political, public policy and regulatory dynamics on the US credit, foreign exchange, rates and commodities markets.

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.

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

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

Stephanie Kendal
Associate
Capital Markets Strategist
New York, NY
Stephanie.Kendal@mufgsecurities.com
(212) 405-7443

Stephanie Kendal is an associate in MUFG’s Capital Markets Strategy group within the global capital markets and investment banking business. The team provides market based content for corporate clients to assist in strategic decision making. Focus areas include the impact of economic, political, public policy and regulatory dynamics on the US credit, foreign exchange, rates and commodities markets.

Stephanie has spent over three years as a Capital Markets Strategist. At her prior firm, Stephanie was a part of the Americas Women’s Network Junior Council and was an active member of the University of Michigan recruiting team.

Stephanie graduated with honors from the University of Michigan’s Ross School of Business with a BBA.
MUFG’s Capital Markets Strategy Team

The MUFG Capital Markets Strategy team provides monthly publications and weekly policy notes, presenting to Boards and C-Suite executives, on a broad range of transformative themes driving the FX, rates and credit markets including: the COVID-19 recovery, ESG’s acceleration, tax code policy changes, US-China decoupling, corporate strategy, geopolitical risk and central bank monetary policy.
MUFG’s Capital Markets Strategy Team
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