

WEEKLY MARKET OUTLOOK

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Recession Averted

U.S. GDP rose 2.6% in the third quarter, according to the preliminary estimate from the Bureau of Economic Analysis. The growth follows two consecutive quarterly declines. The increase in third quarter GDP should quash any remaining fears that the U.S. economy is currently in a recession. Trade was a major, if temporary, support to growth with consumer spending and government spending also contributing. Inventories were a major drag with fixed investment also falling.

Despite the improved performance, the U.S. economy is still struggling with painfully high inflation and rising interest rates as the Federal Reserve works aggressively to quell wage and price pressures. As rates surge higher, financial conditions are tightening. The bear market in stocks is intensifying, mortgage rates have more than doubled, corporate credit spreads are widening, and the value of the dollar is soaring against most currencies. However, the economy continues to create an impressive number of jobs, and unemployment is low. Payroll employment gains, despite slowing, exceeded 250,000 in September, more than double what is needed to keep unemployment stable. Given current underlying labor force growth, monthly job gains of no more than 100,000 would be consistent with stable unemployment.

Rapidly rising interest rates are increasingly weighing on the economy. With stresses mounting, the financial system and economy are susceptible to anything that may not go as anticipated. Several potential threats have come into relief in recent weeks, including the meltdown in the British pound and financial markets, quickly falling house prices in more areas of the country, and the renewed slide in stock prices. While none seems serious enough to precipitate a financial crisis or recession—at least not yet—they highlight the economy's increasing vulnerability.

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U.S. trade deficit widens again

The nominal goods deficit declined through the second quarter and through much of the third, despite a strengthening dollar and weakening demand abroad, but that trend ended last month. The U.S. dollar was up 10.8% in September from a year earlier against a trade-weighted basket of currencies, and this is likely to lead to a weakening in net export volumes in the second half of 2022 that will drag on real GDP growth even as it contributes slightly to nominal GDP gains.

Typically, following a currency appreciation like the one seen this year, a country's nominal trade balance displays a so-called "J-curve" response. The balance first improves as valuation effects on existing purchase contracts and supply chains produce stronger export revenues and reduced import costs. However, worsening comes as the increased dollar price of U.S. goods abroad and the reduced domestic price of imports lead to a substitution that reduces export volumes while increasing import volumes. Thus, while the stronger dollar has helped both to temper the cost pressures created by rising global food and energy prices and to narrow the nominal trade deficit, contributing to stronger nominal GDP, it is almost certain to contribute to weaker net exports over the coming year. Slowing economic growth abroad and the rising risk of global recession are likely to further erode real net trade and its contribution to domestic production.

Housing market takes it on the chin

The U.S. housing market is in the midst of the worst correction since the Great Recession. New-home sales have collapsed and have returned to their pre-pandemic level. The number of new-home sales in August and September exceeded expectations, but the trend is clear: New-home sales are rapidly slowing. According to the Census Bureau, 603,000 new homes sold on an annual basis in September. This is a nearly 11% decline from August's revised rate of 677,000 annualized units and a 17.6% decline from a year ago.

Weak housing demand is the key source of softness in the new-home market. Mortgage rates are rising at an astonishingly fast pace, increasing more than 4 percentage points over the last year, which is the largest one-year increase since the early 1980s. The 30-year fixed mortgage

rate averaged 6.1% in September and has since added almost 100 basis points to 7% as of late October, suggesting a greater decline in new-home sales is ahead. With the Federal Reserve laser-focused on taming inflation, the risk of mortgage rates rising even higher through the end of 2022 is tilted toward the upside. The baseline outlook expects new-home sales to decline through the end of 2022 before leveling off next year.

Moral hazard in U.S. high-yield corporate bond market?

U.S. high-yield corporate bond spreads have tightened recently, but what is puzzling is why they're as narrow as they are. Spreads should be noticeably wider with the Federal Reserve aggressively tightening monetary policy, bonds' tightening lending standards, and elevated volatility in the equity market.

There are some possible explanations. First, the quality of the high-yield corporate market is noticeably better than just prior to the pandemic and noticeably different than 10 years ago. Another possible explanation is morale hazard. For the first time, the Fed intervened in the corporate bond market during the pandemic and investors may be assuming that the central bank will do it again if there are financial stability issues or a recession. Other central banks are headed back to the corporate bond market, including the Bank of England. Another factor is high energy prices, which are helping energy companies that are in the high-yield corporate bond index.

Spreads should widen soon as banks continue to tighten lending standards. The correlation coefficient between the net percentage of banks tightening lending standards on commercial and industrial loans and the U.S. high-yield corporate bond spread is 0.73. With banks tightening the screws, odds are high that high-yield corporate bond spreads will resume widening.

The share of banks tightening lending standards on C&I loans breached the threshold that has been consistent with a recession in the past. We doubt recession fears will vanish soon and this should also boost high-yield corporate bond spreads. Another reason why spreads will widen is that corporate profit margins are coming under pressure from high inflation, poor productivity growth, and rising wages.

What to Make of State ‘Technical Recessions’

BY ADAM KAMINS

Contrary to a popular bromide, two consecutive quarters of declining output do not constitute a recession. Still, the prevalence of that metric and its implications for the rest of the economy have exacerbated fears of a downturn since the U.S. reported consecutive contractions in the first half of this year.

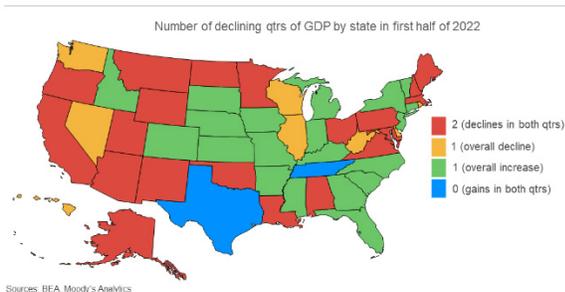
Recent state figures shed more light on what underlies this so-called technical recession. A deeper dive not only shows clear regional patterns but begins to suggest where risks of a true recession—marked by a persistent, broad-based decline in activity—are a more severe near-term threat.

Widespread declines

With U.S. GDP falling in the first half of last year, it comes as little surprise that a majority of states followed suit. But there is clear variation across the country; only 20 states experienced multiple declines in GDP to start 2022, as a plurality was split between one quarter of growth and another of contraction. In most cases among that group, the net result was a small gain in the first half of this year.

Yet regional differences are clear. Most notably, the West is rife with states that are moving in the wrong direction, with only two of the 13 states in the region moving in the right direction overall in the first half of 2022. Elsewhere, portions of New England and the Mid-Atlantic backtracked in both quarters as well.

Output Contracts Widely, but South and Midwest Hold Firm



On the flip side, the Southeast and much of the Midwest gained ground, albeit in fits and starts, over the first half of the year. And while only two states, Texas and Tennessee, managed to add to output in each of the first two quarters of the year, they account for about one in nine Americans, suggesting that a nontrivial share of Americans live in areas that show little sign of slowing down.

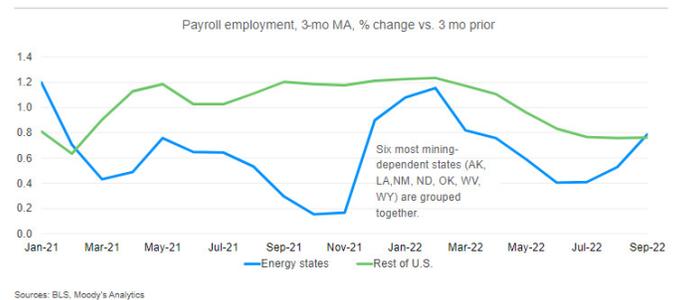
Low energy

Digging a bit more deeply into state GDP figures, one of the clearest patterns is evident at the bottom of the rankings. Energy-dependent states account for six of the eight largest declines to begin the year. Among these are Alaska, Louisiana and Oklahoma, all of which saw real output fall by more than 2% over six months. This largely reflects those states’ struggles since the beginning of the pandemic, when oil prices fell so rapidly that they even briefly went negative. Since then, concerns about demand have led to significant caution on the part of firms, even with prices rising rapidly this year.

After the Russian invasion of Ukraine, the revenue associated with increased prices has been used largely for debt reduction and paying investors, rather than investment. Combine this with the continued negative impact of rising production costs and supply-chain issues on equipment and there has not been the type of surge that would otherwise be expected.

However, this may be starting to shift. Rig count growth accelerated slightly in the first half of the year, which is finally beginning to pay dividends. The resulting pickup in mining jobs bodes well for output in some harder-hit states in the second half of this year.

Growth in Energy-Reliant States Catches Up



In fact, employment data already provide ample reason for hope. Overall job growth in the nation’s six most energy-dependent states—Alaska, Louisiana, North Dakota, Oklahoma, West Virginia and Wyoming—in September exceeded that of the rest of the nation on a year-over-year basis for the first time since the pandemic began. This mirrors a mining sector in which employment growth has outstripped the broader national pace with regularity for much of the year. It appears that any downward trend in energy-dependent states’ output will prove fleeting, helping to prevent a full-fledged recession.

Back to the pack

Beyond energy states, the other big takeaway involves a much sharper slowdown in the West than in the rest of the nation. One reason for this is simply mathematical, as high-flying areas begin to give back some of their overperformance from recent years. In fact, after removing energy producers, the average growth rate from late 2019 to the end of 2021 among states that experienced a technical recession this year is well above the national average.

Another way of seeing this involves a scatter plot comparing annualized growth during the first two years of the pandemic to the past two quarters. Among nonenergy producers, there is a clear negative relationship, indicating that stronger gains leading into 2022 are linked to weaker performance this year.

This helps to explain why states such as Arizona, Utah and Montana, which have soared above the rest of the nation since early 2020, have suddenly started to move in the wrong direction. A similar story goes for California, which had enjoyed surprisingly strong output growth until recently, and much of New England including New Hampshire, which experienced the fastest output growth since the pandemic began as of late this year but has given some of that back with the sharpest decline in 2022.

Not only are hot markets beginning to naturally cool, but many that struggled over the past two years are benefiting from a continued rebound effect. This is especially true in the Mid-Atlantic, where states such as New York and New Jersey have gained ground over the first half of the year. In practical terms, that may owe to the continued reopening of offices and amenities, driving consumer spending higher in a way that is not taking place in areas that have been operating at full capacity for a year or more.

A shift at the top?

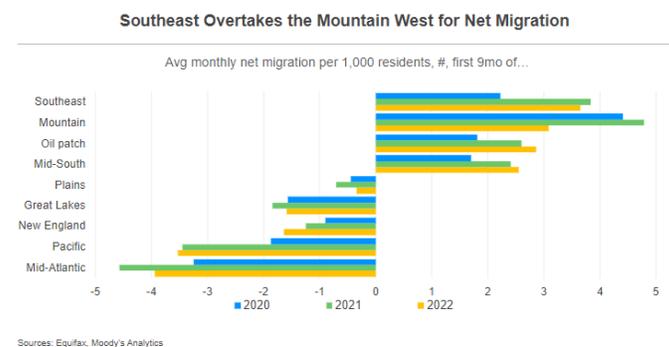
Since late 2020, when Idaho and Utah became the first states to regain their prior employment peaks, the Mountain West has set the pace nationally. The region has been the gold standard going back even further, with lower costs in metro areas such as Denver and Phoenix relative to the Pacific Coast, eventually spawning spillover to places such as Boise and Salt Lake City.

While that dynamic remains intact, numerous statewide declines in GDP suggest that a change may be afoot. Within

the Mountain division, five of the eight states experienced a two-quarter decline to begin 2022, and the overall drop in output was among the nation's steepest. This mirrors a less impressive trajectory for job growth, which has moved below that of the nation on a year-over-year basis for the first time in more than a decade.

One reason for this involves a surge in new residents, which has put a strain on affordability that is exacerbated by new arrivals from expensive coastal areas quickly bidding up house prices. The Moody's Analytics housing affordability index indicates that median incomes are now insufficient to qualify for a typical mortgage given house prices in the Mountain West, the first time this has consistently happened since the early 1980s.

Partially as a result, the inflow of residents to the division has slowed. States such as Arizona, Colorado, Idaho and Utah remain popular, with in-migration far exceeding the loss of residents to other parts of the country. But data from Equifax indicate that after a dominating stretch, the Rockies have fallen behind the Southeast in popularity for movers, with the rest of the South closing in as well.



It is little surprise, then, to find the South looking the best in terms of GDP this year. While affordability has fallen everywhere, a mortgage is still relatively attainable in popular Southeast locales such as Atlanta and Raleigh-Durham NC. This has kept migration into the region growing rapidly, ensuring continued GDP gains. A similar story is playing out in metro areas such as Dallas, Houston and Nashville, where affordable housing and impressive population growth are helping to push their states to continued output gains in defiance of economic gravity.

The Week Ahead in the Global Economy

U.S.

The U.S. economic calendar is jam-packed next week, including the November meeting of the Federal Open Market Committee. The Fed is widely expected to increase the funds rate by another 75 basis points as it continues to battle persistently high inflation. The main focus of the week will be on October's employment report due on Friday, which will show that job gains remain steady despite heightened economic uncertainty. Other key data expected next week include the ISM manufacturing index, CoreLogic home prices, vehicle sales, initial jobless claims, and productivity.

Europe

Preliminary estimates of the euro zone's third-quarter GDP, its inflation rate, and the Bank of England's monetary policy decision will top headlines. For GDP in the euro zone, we are forecasting zero growth in the three months to September, thus marking a rapid slowdown from the 0.8% quarter-over-quarter rise in the second. The preliminary release will not include a detailed breakdown of GDP components. But we expect to see that the support from consumer spending on services counteracted by falling goods spending, sluggish investments, and a real deterioration in the trade balance.

We expect that preliminary estimates will register a 9.9% year-on-year increase in the euro zone's harmonized index of consumer prices, unchanged from September's rate. The HICP will continue to be driven by massive pressures in energy prices. But with the falling natural gas prices over the past two months, energy inflation has some space to slow from the previous month. This will be gradual at first, since there are utilities that still have to pass on previous cost increases to consumers, and much uncertainty remains about future prices. There will be other upward forces on inflation from petrol, food, and core goods and services. An inflation peak in October could allow the European Central Bank to slow its pace of hiking at future meetings, down to 50 basis points at the December meeting, for example, from the 75 basis points at the September and October meetings.

The Bank of England will meet on 3 November, and we forecast that it will increase its bank rate by 75 basis points to 3%: in line with market expectations. The energy price guarantee that will cap energy and gas prices until April 2023 will do much to mitigate inflationary pressures. But there will still be strong pressure from food and core components, meaning the BoE cannot rest just yet. We expect the interest rates to be hiked into next year. But our upcoming November baseline forecast will likely revise the

terminal rate lower, now that the government sacked its tax cut policy.

Euro zone unemployment was likely unchanged in September. Support for employment will have persisted in the month as the services sector ran on in the tail end of the tourism season. We also expect unemployment rates in Germany and Italy to be unchanged. We are more pessimistic about retail sales and industrial production. We estimate that September retail sales fell in Germany (by 0.5% month to month) and Spain (by 0.7%), while industrial production will likely inch lower in France (by 0.2%) and Spain (by 0.1%). Higher inflation and greater preference for services will continue sapping energy out of the retail sector as reflected in dismal confidence levels within the sector. Meanwhile, industrial production will likely recoil after the previous month's growth as demand for products continues to weaken, though temporary easing in supply chains could produce gains in the transport equipment sectors.

Asia Pacific

China's manufacturing PMI likely improved modestly to 50.3 in October from 50.1 in September. Economic momentum has improved as the enduring zero-COVID policy has become less disruptive to manufacturing by shifting to swifter and more localised lockdowns. Headwinds include more challenging export conditions outside of Asia; this is especially true of Europe, where high inflation and rising borrowing costs will see demand cool into 2023.

South Korea's export data for October will also be in focus. We expect export growth in annual terms to remain downbeat, led by the tech sector. South Korea's export picture is a bellwether for the region, indicating how Asia's important export engine will be increasingly challenged next year by softer conditions in the important European market and, to a lesser extent, the U.S.

The Reserve Bank of Australia will continue hiking the cash rate. We look for a 25-basis point hike, bringing the cash rate to 2.85%. Odds of a 50-basis point hike have increased since the upside surprise to inflation in the September quarter. Headline CPI was up 7.3% y/y, the fastest pace since 1990. Meanwhile, underlying inflation clocked the fastest increase since the series began in 2003, rising 6.1% y/y. Demand-side pressures are running hot, keeping pressure on the RBA to forge ahead with a higher cash rate. Cumulative rate hikes since May total 250 basis points, more than double the 65 basis points that were cut through 2020 in response to the COVID-19 crisis.

Geopolitical Calendar

| Date | Country | Event | Economic Importance | Financial Market Risk |
|-----------|-----------------|--|---------------------|-----------------------|
| 27-Oct | Euro zone | European Central Bank monetary policy announcement | Medium | Medium |
| 28-Oct | Japan | Bank of Japan monetary policy announcement | Medium | Low |
| 30-Oct | Brazil | Presidential election runoff | High | Medium |
| 1-Nov | Australia | Reserve Bank of Australia monetary policy announcement | Medium | Low |
| 1-2-Nov | U.S. | Federal Open Market Committee meeting | High | High |
| 3-Nov | United Kingdom | Bank of England monetary policy announcement | Medium | Medium |
| 3-Nov | Norway | Norges Bank monetary policy announcement | Medium | Low |
| 6-18-Nov | U.N. | U.N. Climate Change Conference 2022 (COP 27), hosted by Egypt | Medium | Low |
| 8-Nov | U.S. | Midterm elections | High | Medium |
| 15-16-Nov | G-20 | G-20 Heads of State and Government Summit, hosted by Indonesia | Medium | Low |
| 18-19-Nov | APAC | Economic Leaders' Meeting, hosted by Thailand | Low | Low |
| 19-Nov | Malaysia | General election | Low | Low |
| 24-Nov | Sweden | Riksbank monetary policy announcement | Medium | Low |
| 7-Dec | Australia | Reserve Bank of Australia monetary policy announcement | Medium | Low |
| 7-Dec | India | Reserve Bank of India monetary policy announcement | Medium | Low |
| 13-14-Dec | U.S. | Federal Open Market Committee meeting | High | High |
| 15-Dec | United Kingdom | Bank of England monetary policy announcement | Medium | Medium |
| 15-Dec | Euro zone | European Central Bank monetary policy announcement | Medium | Medium |
| 15-Dec | Switzerland | Swiss National Bank monetary policy announcement | Medium | Low |
| 15-Dec | Norway | Norges Bank monetary policy announcement | Medium | Low |
| 15-16-Dec | European Union | European Council summit | Low | Low |
| 20-Dec | Japan | Bank of Japan monetary policy announcement | Medium | Low |
| 18-Jan | Japan | Bank of Japan monetary policy announcement | Medium | Low |
| 7-Feb | Australia | Reserve Bank of Australia monetary policy announcement | Medium | Low |
| 8-Feb | India | Reserve Bank of India monetary policy announcement | Medium | Low |
| 7-Mar | Australia | Reserve Bank of Australia monetary policy announcement | Medium | Low |
| 10-Mar | Japan | Bank of Japan monetary policy announcement | Medium | Low |
| 2-Apr | Finland | General election | Medium | Low |
| 4-Apr | Australia | Reserve Bank of Australia monetary policy announcement | Medium | Low |
| 28-Apr | Japan | Bank of Japan monetary policy announcement | Medium | Low |
| April | Solomon Islands | General election | Low | Low |

Next Week's Fed Hike Won't Be the Last

BY STEVEN SHIELDS

CREDIT SPREADS

Credit spreads continued to widen last week. Moody's long-term average corporate bond spread to the 10-year Treasury widened by 7 basis points to 185 basis points and firmly above the 166-basis point average in September. Similarly, the long-term average industrial corporate bond spread widened from 159 to 164 basis points. It averaged 150 basis points in September.

The ICE BofA BBB U.S. corporate option adjusted bond spread narrowed 2 basis points to 205 basis points in the past week. Despite the slight decrease, the spread remains close to its highest level since the second quarter of 2020. Meanwhile, the ICE BofA U.S. high-yield option adjusted bond spread was largely unchanged at 594 basis points.

The Bloomberg Barclays high-yield option adjusted spread narrowed this past week from 500 to 483 basis points. This compares with an average high-yield spread of 1,000 basis points during recent recessions and an average of 350 outside of recessions. The high-yield option adjusted bond spreads approximate what is suggested by the accompanying long-term Baa industrial company bond yield spread but are wider than implied by a VIX of 27. The VIX has come off its recent high of 33.6 over the past two weeks coinciding with the modest equity market recovery.

DEFAULTS

The year-to-date default tally climbed to 59 through August, which surpasses the count of 55 for all of 2021. The construction sector remains the largest contributor to defaults, with 16. Banking followed with eight. By region, North America had 23 defaults (22 in the U.S. and one in Canada). The rest were from Europe (17), the Asia-Pacific region (16), and Latin America (three).

Under our baseline forecast, Moody's Credit Transition Model predicts that the default rate will rise to 2.9% at the end of 2022 and will climb to 4.3% in September 2023. The 4.3% rate, if realized, would exceed the historical average of 4.1%.

U.S. CORPORATE BOND ISSUANCE

First-quarter 2020's worldwide offerings of corporate bonds revealed annual advances of 14% for IG and 19% for high-yield, wherein US\$-denominated offerings increased 45% for IG and grew 12% for high yield.

Second-quarter 2020's worldwide offerings of corporate bonds revealed annual surges of 69% for IG and 32% for high-yield, wherein US\$-denominated offerings increased 142% for IG and grew 45% for high yield.

Third-quarter 2020's worldwide offerings of corporate bonds revealed an annual decline of 6% for IG and an annual advance of 44% for high-yield, wherein US\$-denominated offerings increased 12% for IG and soared upward 56% for high yield.

Fourth-quarter 2020's worldwide offerings of corporate bonds revealed an annual decline of 3% for IG and an annual advance of 8% for high-yield, wherein US\$-denominated offerings increased 16% for IG and 11% for high yield.

First-quarter 2021's worldwide offerings of corporate bonds revealed an annual decline of 4% for IG and an annual advance of 57% for high-yield, wherein US\$-denominated offerings sank 9% for IG and advanced 64% for high yield.

Issuance weakened in the second quarter of 2021 as worldwide offerings of corporate bonds revealed a year-over-year decline of 35% for investment grade. High-yield issuance fared noticeably better in the second quarter.

Issuance softened in the third quarter of 2021 as worldwide offerings of corporate bonds revealed a year-over-year decline of 5% for investment grade. U.S. denominated corporate bond issuance also fell, dropping 16% on a year-ago basis. High-yield issuance fared noticeably better in the third quarter.

Fourth-quarter 2021's worldwide offerings of corporate bonds fell 9.4% for investment grade. High-yield US\$ denominated high-yield corporate bond issuance fell from \$133 billion in the third quarter to \$92 billion in the final three months of 2021. December was a disappointment for high-yield corporate bond issuance, since it was 33% below its prior five-year average for the month.

In the first quarter of 2022, worldwide offerings of investment grade corporate bonds totaled \$901 billion, up 12% on a year-ago basis.

In the second quarter, corporate bond issuance weakened. Worldwide offerings of investment grade corporate bonds totaled \$548 billion, down 21% on a year-ago basis. US\$ denominated high-yield corporate bond issuance was \$38 billion in the second quarter, down from \$63 billion in the first three months of the year. High-yield issuance is down 79% on a year-ago basis.

In the week ended October 20, US\$-denominated high-yield issuance totaled \$2.13 billion. This brings the year-to-date total to \$129.3 billion. Meanwhile investment-grade bond issuance totaled \$21.85 billion in the same period. Investment-grade issuance year-to-date increased to \$1.15 trillion. Total U.S. bond issuance has deteriorated throughout the year and is now tracking below the levels experienced in 2018 and 2019.

U.S. ECONOMIC OUTLOOK

We made some noticeable adjustments to the U.S. baseline forecast in October, as the economy is more vulnerable to falling into a recession next year than previously thought. Among the notable changes is monetary policy, since the Federal Reserve has signaled that it is going to keep hiking rates until it breaks inflation. Therefore, the new baseline forecast is for a 75-basis point rate hike in November, a 50-basis point increase in December, and a final 25-basis point hike in the first quarter of next year.

The terminal fed funds rate is a full percentage point higher than in the September baseline forecast, just north of 4.5%. In other words, the target range for the fed funds rate will peak this cycle at 4.5% to 4.75%. The effective fed funds rate, which is what is in the baseline forecast, has been trading at the low end of the target range.

Our baseline forecast is still for the Fed to engineer a soft landing and the economy to skirt a recession with inflation returning over time to the central bank's target. However, our new forecast is for real GDP to grow less than 1% next year. The economy is very vulnerable and may need some luck to avoid a recession.

Fiscal assumptions

The Treasury budget deficit will increase from 3.5% in fiscal 2022 to 5.1% in fiscal 2023. This increase in the budget shortfall is in large part due to President Biden's announcement on student debt cancellation in late summer. The Congressional Budget Office estimates that student loan forgiveness of up to \$20,000 per eligible borrower will cost \$400 billion. The cost of forgiveness will be recorded by the Office of Management and Budget as an increase in the deficit during the fiscal year that the terms of the loans are adjusted, which we expect to largely occur in fiscal 2023.

The 2022 midterms are just around the corner, and they will quietly determine the path that fiscal policy takes over the next two years. Our baseline assumption is that Republicans will win at least the House of Representatives, leading to divided government and political gridlock that makes the Inflation Reduction Act the last major fiscal package in Biden's current term in office.

Not only are the winds of history blowing against the president's party, but also key economic indicators. Year-over-year growth in real disposable income boasts the most statistically significant relationship with past midterm results for the House of Representatives and currently points to significant losses for House Democrats on Election Day. A divided government raises the risk of increased brinkmanship over government funding and the debt ceiling, but our assumption is that lawmakers will resolve these flashpoints in a reasonably graceful manner.

Energy price forecast and assumptions

OPEC+ announced a significant cut to its collective output limit, just as the U.S. economy is vulnerable and financial market conditions have tightened. The reduction of 2 million barrels per day is the largest since 2020 and will remain in place until the end of 2023, unless there are material changes in markets. A number of OPEC+ countries are already operating below their quota, therefore the hit to output should be less. However, OPEC would like to see oil trading around \$90 per barrel.

The baseline forecast assumes West Texas Intermediate crude oil prices peaked in the second quarter, unchanged from the assumption in the September baseline. We expect WTI crude oil prices between \$90 and \$95 per barrel through mid-2023 before they steadily decline into 2025, when prices will bottom around \$65 per barrel.

Prices could drop below our baseline forecast in 2023 if the global economy tilts into a recession, an increasingly palpable scenario. Yet, lingering supply disruptions and OPEC's apparent resolve to keep prices high limit the fall in prices under this scenario. Alternatively, prices could soar past our baseline projection if Russia's supply disruption is larger and lasts longer. In this risk scenario, Russia's oil supply disruption reaches 3 million to 4 million barrels per day as Russia's military aggression spreads beyond Ukraine.

Cutting the forecast for 2023

There were some noticeable revisions to the baseline forecast for GDP growth next year. First, the October baseline incorporates the annual revisions, and data between 2017 and 2022 were revised. The revisions show that the level of GDP was 1% higher than previously thought, with growth in 2021 stronger than initially reported, implying that the Fed will need the economy to grow below its potential either more significantly or for longer to close the output gap. The new data are in our October baseline.

One thing that stood out in the revisions is that GDP still fell in the first half of this year. Real gross domestic income, which totals income earned by households and businesses—and in theory should add up to real GDP—had been growing

more quickly than GDP, but the revisions closed that gap. GDI was revised lower, particularly in the second quarter, because initial estimates overestimated gains in corporate profits and wages.

Prior to the revisions, we warned that compensation of employees, which includes wages and salaries, has historically tracked the labor income proxy, or the product of earnings and hours worked. But a noticeable gap between compensation of employees and the labor income proxy had developed. Therefore, the Bureau of Economic Analysis might overstate compensation of employees, which it appears that it did, considering the revisions.

We nudged our forecast higher for GDP growth in the third quarter of this year to 1.7% at an annualized rate, compared with 1.3% in the September baseline. Risks are tilted toward a larger increase. Through August, the nominal trade deficit averaged \$68.95 billion in the third quarter compared with the \$84.5 billion in the second quarter. Our high-frequency GDP model now has net exports adding 1.8 percentage points to third-quarter GDP growth. All told, third-quarter GDP growth is now on track to rise 2.2% at an annualized rate. Therefore, the risk bias, or the difference between our tracking estimate and the official forecast, is 0.5 percentage point.

The forecast is for little GDP growth in the final three months of this year, with it up 0.2% at an annualized rate compared with the 0.6% forecast previously. There were more noticeable revisions to GDP growth next year. We now forecast a rise of 0.7%, half the forecast in the September baseline. GDP is forecast to grow 2.3% in 2024, less than the 2.6% in the September baseline.

Our baseline forecast for real GDP growth for next year is identical to the Bloomberg consensus. The forecast for 2024 is 0.7 percentage point higher than the Bloomberg consensus of 1.6%.

Hurricane Ian

We anticipate about \$45 billion to \$55 billion in damage and \$7 billion to \$10 billion in lost output in Florida alone due to Hurricane Ian. These estimates are preliminary and will be revised as new information is available. Damage in the Carolinas will be less but will amount to at least a few billion, and additional costs could easily reach the 10s of billions.

The primary damage from natural disasters is done to productive capacity through the destruction of existing assets. This destruction is accounted for in the National Income and Product Accounts under the Changes in Net Stock of Produced Assets table but is not included directly in the GDP calculation. Therefore, the hurricane will likely

shave 0.1 percentage point off third-quarter GDP growth rather than whole percentage points.

Business investment and housing

We didn't make changes to the forecast for real business equipment spending this year. It is expected to increase 3.8% compared with the 4.5% gain in the prior baseline. We changed the forecast for real business equipment spending in 2023; fundamentals have turned less supportive as financial market conditions have tightened and business confidence remains depressed. Also, expectations point to moderation in the coming quarters. Forward-looking measures of capex—which ask about capital spending plans either three or six months ahead—have declined sharply over the past couple of quarters but remain around their historical averages.

We now look for real business equipment spending to rise 1% next year, noticeably weaker than the 4.3% in the prior baseline. Equipment spending is forecast to rise 2.2% in 2024, less than the 3.9% growth in the September baseline.

The interest rate-sensitive segments of the economy have weakened, which is not surprising, since the Federal Reserve is front-loading rate hikes. Housing starts are expected to be 1.573 million compared with 1.577 million in the prior baseline. In 2023, we expect housing starts to total 1.491 million, down from 1.545 million in the September baseline. Housing starts are forecast to increase in 2024, totaling 1.648 million.

There are likely only so many homes that can be built each year because of labor-supply constraints and a lack of buildable lots. Some of the labor-supply issues will ease as the pandemic winds down, but the reduction in immigration is particularly problematic for homebuilders' ability to find workers. There is some good news for homebuilders as supply-chain stress has eased and some construction costs have dropped noticeably, including lumber prices.

A decline in affordability has cut into our forecast for home sales, which are expected to total 5.89 million this year, identical to the forecast in September. However, sales continue to decline next year, totaling 5.77 million, compared with the 5.809 million in the September baseline. Home sales will come under pressure from higher mortgage rates, which are contributing to the deterioration in housing affordability. New-home sales account for about 10% of total sales and existing-home sales make up the remainder.

There were revisions to the forecast for the FHFA All-Transactions House Price Index this year and the subsequent

two years. The September baseline has it rising 15.8% this year compared with 15.9% in the prior baseline. The revision is mostly attributable to the incoming historical data. The forecasts for 2023 and 2024 are for house prices to decrease 1.3% and 2.3%, respectively.

Labor market

The U.S. labor market remains very strong, but job growth has moderated. Nonfarm payrolls increased by 263,000 jobs, about as many as we had expected, down from an unrevised 315,000 in August. However, private industries performed better, while the deceleration came entirely from the public sector. Among interest rate-sensitive industries, only financial services receded.

Goods-producing employment increased 44,000 in September following a 35,000 gain in August. Within goods, construction employment continues to hold up even though it is interest rate-sensitive and residential investment has weakened recently. Construction payrolls rose by 19,000 in September after rising 11,000 in August. Manufacturing continues to make progress, adding 22,000 jobs in September.

The unemployment rate fell back to 3.5%, its post-pandemic low. However, the decline was due in part to a contraction of the labor force as the participation rate slipped by 0.1 percentage point to 62.3%. The household survey was not all bad news as employment increased 204,000, while the number of unemployed fell 261,000. Duration of unemployment rose, as did the labor force.

The new data were incorporated into the October baseline forecast. We have job growth averaging 374,000 per month this year before dropping to 96,000 in 2023 and then accelerating to 120,000 in 2024. Job growth next year is weaker than that needed to keep the unemployment rate stable.

Our forecast is for the unemployment rate to average 3.6% in the fourth quarter of this year, lower than the 3.7% in the September baseline. The unemployment rate rises next year, averaging 4.1% in the final three months of the year, identical to the September baseline and just below the 50-basis point increase that has coincided with every recession. The unemployment rate falls in 2024, averaging 3.8% in the fourth quarter, identical to that in the September baseline.

We assume a full-employment economy is one with approximately a 3.5% unemployment rate, around a 62.5% labor force participation rate, and a prime-age employment-to-population ratio a little north of 80%. The labor force participation rate is close but still 0.2 percentage point below this threshold. With nominal wage growth running

north of 5%, it is pretty safe to say the economy is at full employment.

Risks to our employment forecast are balanced. On the downside, per Okun's law, a 1-percentage point deceleration in GDP growth over the course of a year would amount to around 800,000 fewer new jobs per year. This would also increase the unemployment rate by about 0.5 percentage point. However, the Fed's latest Beige Book noted that employers keep hiring even as growth slows because they have a ton of open positions and need to make up for lost work. Labor demand has cooled but remains very strong. The key for the Fed is that labor demand would weaken without translating into an increase in the unemployment rate.

Monetary policy

If there was any doubt that the Federal Reserve was serious about taming inflation, it should be gone after the September meeting of the Federal Open Market Committee, where policy makers hiked the target range for the fed funds rate by 75 basis points and signaled a noticeably higher terminal rate than previously thought. If the Fed follows through with its plan, it will raise the odds of a recession.

The FOMC unanimously raised the target range for the fed funds rate to 3% to 3.25%. This was in line with our and consensus expectations. The Fed held on to its forward guidance that further rate hikes will be appropriate and mentioned that spending and production have softened while job gains have been robust. Overall, the changes to the post-meeting statement were fairly minor. Of note, there hasn't been a dissent since June when Kansas City Fed President Esther George wanted a smaller rate hike.

The same can't be said for the so-called dot plot. There were major shifts in that gauge of policy makers' expectations. The dot plot now has the median projection for the fed funds rate at 4.4% at the end of this year with only two meetings remaining, implying a 75-basis point hike in November and a 50-basis point increase in December. The current baseline included 50- and 25-basis point increase in November and December, respectively. The Fed has rates peaking next year at 4.6%. The most hawkish dots, now six of them, showed policy makers' willing to raise rates to a target range of 4.75% to 5% in 2023. These dots are higher than the range implied by fed funds futures. The Fed expects to cut rates in 2024, ending the year at 3.9% and 2.9% in 2025. There were no changes to the central bank's estimate of the neutral fed funds rate, which remained at 2.5%. Therefore, monetary policy will be restrictive through the end of 2025.

The new baseline forecast is for a 75-basis point rate hike in November, 50-basis point increase in December, and a final 25-basis point hike in the first quarter of next year. The terminal fed funds rate is a full percentage point higher than in the September baseline forecast, now just north of 4.5%. In other words, the target range for the fed funds rate will peak this cycle at 4.5% to 4.75%. The effective fed funds rate, which is what is in the baseline forecast, has been trading at the low end of the target range. The Fed is expected to start cutting interest rates in late 2023 and throughout 2024. The fed funds rate ends 2024 at 3.5%, keeping it 100 basis points above its neutral rate of 2.5%. The fed funds rate returns to its neutral rate at the end of 2025.

We continue to use the approach for forecasting the fed funds rate on a monthly basis to better align changes with the fed funds rate and updates from the Federal Open Market Committee meetings. The monthly forecast is then rolled up into our quarterly forecast.

Inflation is the key for the forecast for monetary policy. Our October baseline has the CPI rising 8% this year and 3.9% in 2023 (3.8% in the prior baseline). The CPI is expected to rise 2.2% in 2024, identical to the September baseline. The assumptions around moderating inflation haven't changed and include a reduction in U.S. supply-chain stress, below-

potential GDP growth, declines in global energy prices, and moderating nominal wage growth.

The 10-year Treasury yield has resumed rising, and this was incorporated into the new baseline. We have the 10-year Treasury yield averaging 3.94% in the final three months of this year, compared with 3.13% in the September baseline. The 10-year Treasury yield averages 4.42% in the fourth quarter of next year, nearly a full percentage point higher than in the prior baseline. The equilibrium 10-year Treasury yield is 3.75%, which is equal to nominal potential GDP growth. Therefore, the 10-year Treasury yield will decline in the second half of 2023 and into 2024.

With the new forecast for the fed funds rate, the difference between the 10-year and the fed funds rate doesn't invert until the fourth quarter of 2023, but it's a baby inversion and doesn't last long.

On a real broad trade-weighted basis, the U.S. dollar is more than half a standard deviation above its long-run average since it began to freely float in the early 1970s. The dollar's value will remain strong as long as the pandemic and Russian invasion persist as global economic threats. Even when these threats recede, the dollar should remain strong given other geopolitical uncertainties including the tensions between the U.S. and China. The dollar's reserve currency status will remain intact for the foreseeable future.

ECB Hikes Interest Rates

BY ROSS CIOFFI

As widely expected, the European Central Bank increased its three policy rates by 75 basis points during its October meeting. The widely expected move was the second hike in a row, taking the cumulative policy rate increase to 200 basis points over the course of just three meetings. As such, the main refinancing rate target is at 2%, the highest it has been since 2009. We expect that inflation will peak in October, which will allow the ECB to slow its pace at the next December meeting.

U.K. retailers may be lucky this October

The [U.K.'s](#) CBI distributives trade survey rebounded to 18 in October from -20 in September; the survey is typically volatile. Although surveyed retailers were optimistic about their performance in October, they remained downbeat about prospects for November. This could translate into unexpected growth in retail sales volume in October but weakness later in the year. Firms reflected on the difficulties of rising costs, higher interest rates, and ongoing labour shortages. Retailers are set to lose out this year and will struggle heading into 2023.

U.K. car output weakens

Car production in the U.K. fell by 6% year over year to 63,125 units this September, following the previous month's 34% surge in output. The September reading speaks to the ongoing supply shortages afflicting the sector. Though temporary respite has enabled factory lines to get to work, supply lines are still uncertain and not as able to respond to the significant demand that piled up for cars in the wake of the pandemic. Indeed, output levels are still a fraction of what they were prior to the pandemic.

Spanish unemployment ticks up

[Spain's](#) unemployment rate slightly rose to 12.7% in the third quarter from 12.5% in the previous quarter. On the positive side, unemployment rose because labour force participation increased by more than employment increased. On the negative side, the average number of effective weekly hours fell by 9% on a quarterly basis. Although hours worked were higher by 0.1% on an annual basis when compared with the same quarter of 2019, this metric is still down by 3.9%. The reopening of the economy and recovery in the tourism sector played a key role in creating employment. But weakness in the economy this winter threatens to halt the recovery of Spain's labour market.

German consumers less pessimistic in October

[German](#) consumers were slightly less pessimistic in October, as the GfK's consumer confidence indicator inched higher to -41.9 in October from -42.8 in September. Consumers were slightly less pessimistic about their income expectations and were slightly less dissuaded from buying. September's announcement of extra government supports and a price cap that will come into effect sometime in March or April 2023 likely lifted spirits. However, the improvement in the indicator does not change much about the outlook. This was a marginal increase, and the reading is still at significant depths; moreover, it may fall again this winter. We still expect consumers to pull back on spending in the remainder of the year and heading into 2023.

Aussie Budget: Better Bottom Line, Big Problems

BY HARRY MURPHY CRUISE

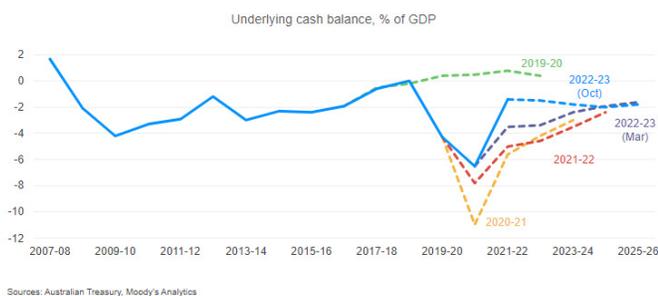
[Australia's](#) federal budget was the first handed down by Treasurer Jim Chalmers and newly elected federal Labor government. It contained few surprises: We knew the economic outlook had deteriorated; we knew commodity prices had given the budget a temporary boost; we knew there wouldn't be any cost-of-living support; and we knew there would be little in terms of fiscal consolidation.

The good news

Out to June 2026, Australia's budget deficit is expected to improve by A\$42.7 billion. Much of the legwork is expected to come in 2022-23 (the year ending 30 June 2023), with the forecast deficit being revised down to A\$36.9 billion—less than half the A\$77.9 billion estimated in Treasury projections from March. But that's where chunky gains stop. There's a modest A\$12.5 billion improvement in 2023-24 before a backwards slide in 2024-25 and 2025-26.

Australia's much improved budget position is thanks to commodity prices. Higher prices for what Australia sells to the world shaved A\$47.9 billion off the 2021-22 budget deficit; over the four years to 30 June 2026, they will help tip an additional A\$144.7 billion into government coffers. As a bonus, Australia's strong labour market is increasing the pool of workers paying income tax.

Short-Term Windfalls, Long-Term Challenges



With a budget position that looks A\$42.7 billion healthier than previously expected, net debt is projected to reach 28.5% of GDP by 2025-26, down from 33.1% in Treasury's March update.

The bad news

Serious spending challenges are emerging. Payments over 2022-23 and the next three fiscal years have been revised up by a combined A\$115 billion. Some of this is coming as

inflation and nominal wage growth add to the cost of delivering government services and supports. And with global interest rates rising faster than the temperature at Bondi Beach, repayments on Australian debt are becoming more burdensome. By 2025-26, interest repayments on Aussie debt will reach 1% of GDP.

But the big worry comes from Australia's recurrent spending. Defence, health, aged care, and the National Disability Insurance Scheme are vital aspects of the government's social compact with Australians. But costs have risen sharply and are likely to track north. Without a plan for how to sustainably fund these programs, Australia's budget faces significant challenges.

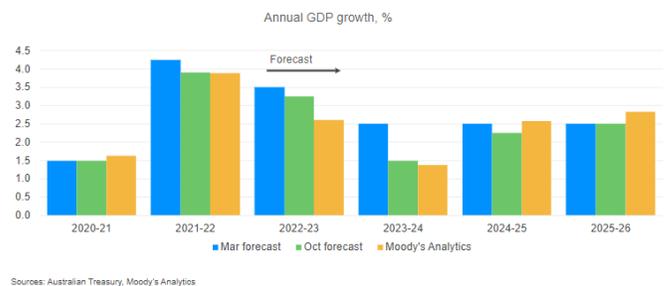
Economy

Treasury markedly lowered its expectations for global and Australian growth. The budget papers note:

"The Australian economy is facing serious challenges – a sharp global economic slowdown, high inflation, rising interest rates and falling real wages. The global outlook has deteriorated more sharply than expected and inflation has proved more persistent."

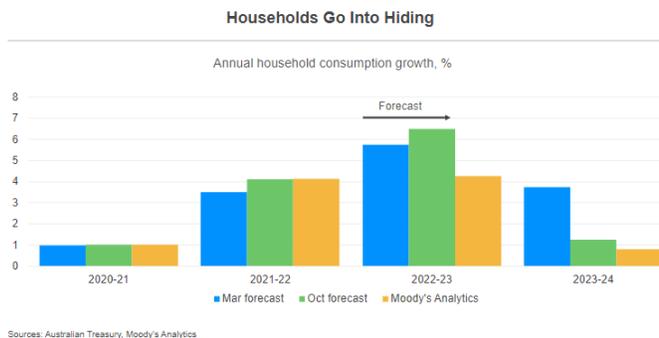
Given these headwinds, Treasury expects the Australian economy to expand just 1.5% in 2023-24—a full percentage point below its March update forecast.

GDP Growth Revised Lower



Treasury similarly trimmed its expectations for jobs. In 2023-24, net job creation is set to crawl, growing less than 1%. That will see unemployment rise from its near-record low of 3.5% to 4.5% across 2023-24 and 2024-25.

An expected pullback in household spending is behind the less rosy economic outlook. With cost-of-living pressures elevated and interest rates rising, Treasury expects household spending to grow just 1.25% in 2023-24, down from the 3.75% it estimated in March.



The key issue for the Aussie economy remains inflation. Treasury's upwardly revised inflation outlook doesn't have price growth returning to the Reserve Bank of Australia's target band of 2% to 3% until 2024-25. We anticipate inflation pressures to ease slightly earlier, but that relies on government policy mitigating domestic electricity and gas costs through 2023—this support is far from guaranteed.

What was missing

For too long, Australia has underestimated the cost of health, social services and defence spending—pushing the budget into a lingering structural deficit. These programs are vitally important to Australia and Australians. But without cutting spending elsewhere or increasing taxes, Australia's budget will be perpetually in the red. That outcome isn't just academic; without appropriate fiscal buffers, Australia risks being ill-prepared for future crises.

Stage-three tax cuts, scheduled for 2024, are a potential area of savings. Despite growing calls to the contrary, Labor remains steadfast about its intention to implement that final stage of the tax plan, which is expected to cost the budget A\$250 billion in lost tax receipts over 10 years. When announced in 2018 by the Liberal-National Coalition government, the third stage of the tax plan aimed to simplify Australia's complex income tax system by removing and lowering marginal tax thresholds.

In 2022, changed priorities warrant a rethink. As John Maynard Keynes famously said, "When the facts change, I change my mind." A pandemic, military conflict in Ukraine, energy crisis and acceleration of global inflation constitute a significant changing of facts.

Upgrades Dominate Latest U.S. Corporate Credit Changes

BY STEVEN SHIELDS

U.S.

U.S. credit upgrades issued by Moody's Investors Service in the latest week outnumbered downgrades 5 to 4 with positives changes accounting for 84% of the affected debt. Two of the upgrades were issued to energy exploration and productions firms while downgrades spanned a diverse set of industries.

Of the upgrades, Devon Energy Corp. saw its senior secured rating raised to Baa2 from Baa3 and its commercial paper rating lifted to P-2 from P-3, impacting approximately \$6.24 billion in outstanding debt. According to the ratings action, the upgrade reflects the company's improved credit metrics through its focus on developing higher-return U.S. shale assets as well as its enhanced scale through recent acquisitions without increasing debt.

Similarly, Diamondback Energy Inc.'s senior unsecured ratings were upgraded to Baa3 from Baa2 thanks to significant debt reduction this year, improved maturity profile through various refinancing efforts, enhanced scale from the recent Midland Basin acquisition, and simplified capital structure following the expected full retirement of Rattler Midstream's debt. While financial performance of energy exploration and productions firms will continue to be influenced by industry cycles, Moody's Investors Service expects future profitability and cash flow in this sector to be less robust at the cycle peak and worse at the cycle trough, because global initiatives to limit adverse impacts of climate change will constrain the use of hydrocarbons and accelerate the shift to less environmentally damaging energy sources.

The most notable U.S. downgrade in the week was to Madison IAQ LLC. The firm's corporate family rating was lowered to B3, reflecting the company's inability to reduce its high financial leverage relative to Moody's expectations following the acquisitions of Nortek Air and Big Ass Fans LLC in 2021.

Europe

Corporate credit quality modestly improved across Western Europe in the period. Three of the five ratings changes issued were upgrades that accounted for nearly 70% of the total affected debt.

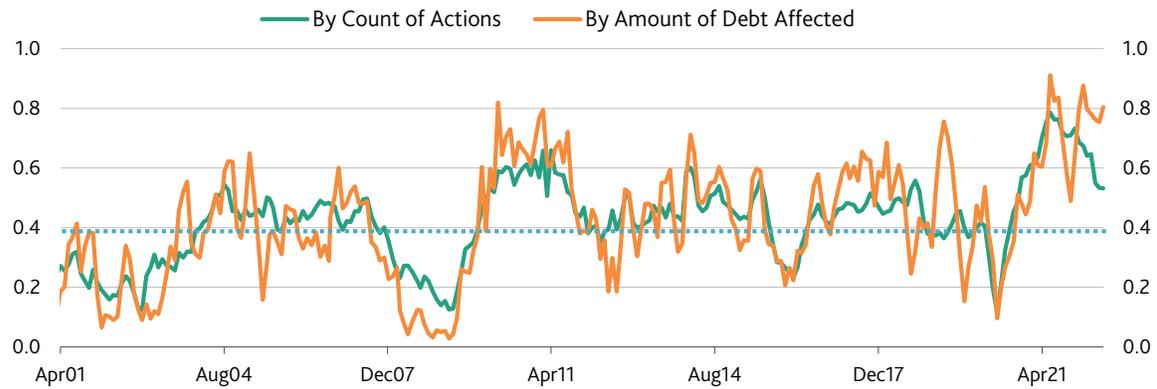
Of the changes, U.K.-based Nationwide Building Society saw its subordinated debt ratings raised to Baa1 from Baa2 following the upgrade of its Baseline Credit Assessment to A3 from Baa1.

Moody's Investors Service also took action on several other U.K. bank ratings in the period by affirming the A1 long-term deposit ratings of Barclays Bank PLC, HSBC UK Bank plc, Lloyds Bank plc, National Westminster Bank Plc, and Santander UK PLC. However, the outlook on these ratings were shifted to negative from stable.

CPI Property Group served as the largest downgrade in the period, affecting approximately \$5.7 billion in debt. The reduction to its senior unsecured ratings to Baa3 from Baa2 reflects the company's weaker capital structure following the takeovers of Immofinanz and S-Immo.

RATINGS ROUND-UP

FIGURE 1
Rating Changes - US Corporate & Financial Institutions: Favorable as a % of Total Actions



* Trailing 3-month average

Source: Moody's

FIGURE 2
Rating Key

| | | | |
|--------------|-------------------------------------|----------------|-------------------------------------|
| BCF | Bank Credit Facility Rating | MM | Money-Market |
| CFR | Corporate Family Rating | MTN | MTN Program Rating |
| CP | Commercial Paper Rating | Notes | Notes |
| FSR | Bank Financial Strength Rating | PDR | Probability of Default Rating |
| IFS | Insurance Financial Strength Rating | PS | Preferred Stock Rating |
| IR | Issuer Rating | SGLR | Speculative-Grade Liquidity Rating |
| JrSub | Junior Subordinated Rating | SLTD | Short- and Long-Term Deposit Rating |
| LGD | Loss Given Default Rating | SrSec | Senior Secured Rating |
| LTCF | Long-Term Corporate Family Rating | SrUnsec | Senior Unsecured Rating |
| LTD | Long-Term Deposit Rating | SrSub | Senior Subordinated |
| LTIR | Long-Term Issuer Rating | STD | Short-Term Deposit Rating |

FIGURE 3
Rating Changes: Corporate & Financial Institutions - US

| Date | Company | Sector | Rating | Amount (\$ Million) | Up/Down | Old LTD Rating | New LTD Rating | IG/S G |
|------------|---|------------|-----------------------------|---------------------|---------|----------------|----------------|--------|
| 10/19/2022 | BERKSHIRE HATHAWAY INC.-ALLEGHANY CORPORATION | Financial | SrUnsec/LTIR/IFSR | | U | Baa1 | A1 | IG |
| 10/19/2022 | K&N PARENT, INC. | Industrial | SrSec/BCF/LTCFR/PDR | | D | Caa1 | Caa3 | SG |
| 10/20/2022 | BEAZER HOMES USA, INC. | Industrial | SrUnsec | 1000 | U | B3 | B2 | SG |
| 10/20/2022 | MADISON IAQ LLC | Industrial | SrSec/SrUnsec/BCF/LTCFR/PDR | 1735 | D | B1 | B2 | SG |
| 10/24/2022 | DEVON ENERGY CORPORATION | Industrial | SrUnsec/CP | 6242.609 | U | Baa3 | Baa2 | IG |
| 10/24/2022 | DIAMONDBACK ENERGY, INC. | Industrial | SrUnsec | 4300 | U | Baa3 | Baa2 | IG |
| 10/24/2022 | SITEONE LANDSCAPE SUPPLY HOLDING, LLC | Industrial | SrSec/BCF/LTCFR/PDR | | U | Ba3 | Ba2 | SG |
| 10/24/2022 | INSTANT BRANDS HOLDINGS INC. | Industrial | SrSec/BCF/LTCFR/PDR | | D | B1 | B3 | SG |
| 10/25/2022 | LIKEWIZE CORP. | Industrial | SrSec/LTCFR/PDR | 420 | D | B2 | B3 | SG |

Source: Moody's

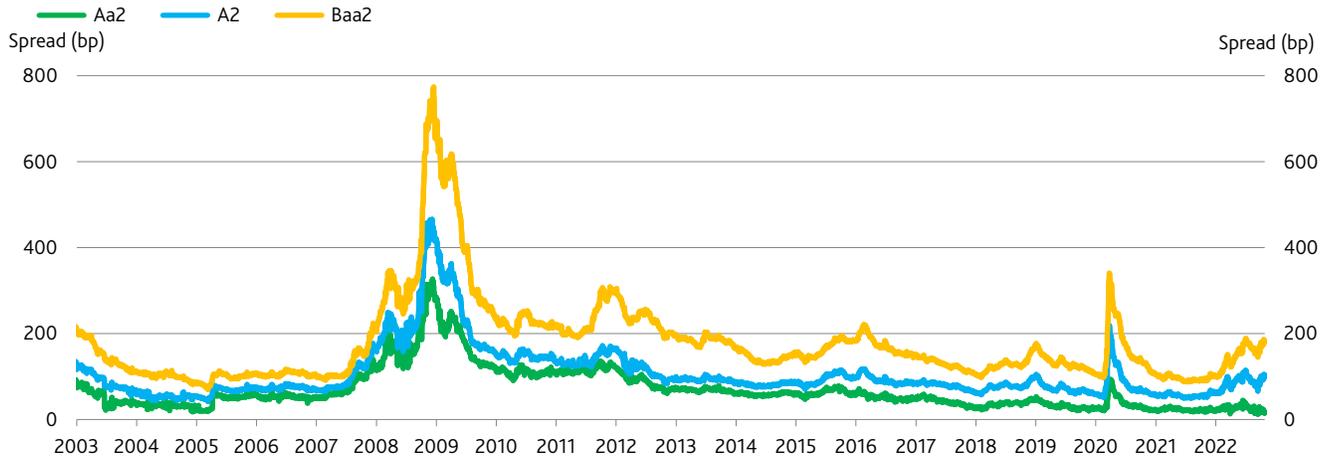
FIGURE 4
Rating Changes: Corporate & Financial Institutions - Europe

| Date | Company | Sector | Rating | Amount (\$ Million) | Up/Down | Old LTD Rating | New LTD Rating | IG/SG | Country |
|------------|--|------------|------------------------|---------------------|---------|----------------|----------------|-------|----------------|
| 10/19/2022 | CPI PROPERTY GROUP | Industrial | SrUnsec/LTIR/JrSub/MTN | 5671.174 | D | Baa2 | Baa3 | IG | LUXEMBOURG |
| 10/21/2022 | ENQUEST PLC | Industrial | LTCFR/PDR | | U | B3 | B2 | SG | UNITED KINGDOM |
| 10/21/2022 | COVIS HOLDCO S.A R.L.-COVIS FINCO S.A R.L. | Industrial | SrSec/BCF/LTCFR/PDR | | D | B1 | B2 | SG | LUXEMBOURG |
| 10/25/2022 | NATIONWIDE BUILDING SOCIETY | Financial | Sub/MTN | 11335.16 | U | Baa2 | Baa1 | IG | UNITED KINGDOM |
| 10/25/2022 | ATLANTIA S.P.A.-AEROPORTI DI ROMA S.P.A. | Industrial | SrSec/SrUnsec/MTN | 1513.616 | U | Baa3 | Baa2 | IG | ITALY |

Source: Moody's

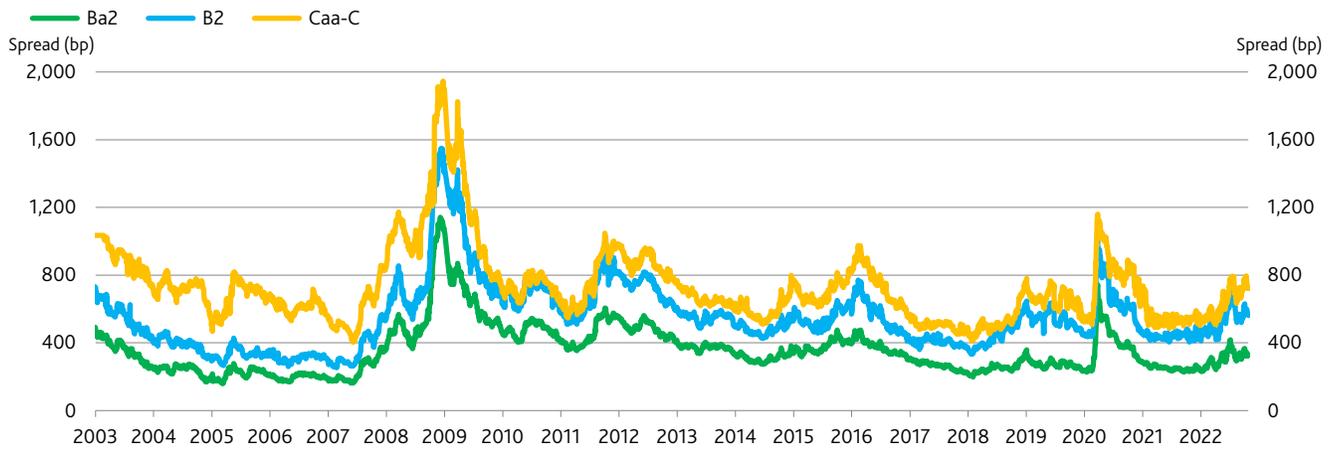
MARKET DATA

Figure 1: 5-Year Median Spreads-Global Data (High Grade)



Source: Moody's

Figure 2: 5-Year Median Spreads-Global Data (High Yield)



Source: Moody's

CDS MOVERS

Figure 3. CDS Movers - US (October 19, 2022 – October 26, 2022)

| CDS Implied Rating Rises | CDS Implied Ratings | | |
|---------------------------------|---------------------|---------|----------------|
| | Oct. 26 | Oct. 19 | Senior Ratings |
| Issuer | | | |
| Applied Materials Inc. | A1 | A3 | A2 |
| Bank of America Corporation | Baa1 | Baa2 | A2 |
| Goldman Sachs Group, Inc. (The) | Baa2 | Baa3 | A2 |
| JPMorgan Chase Bank, N.A. | A3 | Baa1 | Aa2 |
| Ally Financial Inc. | Ba2 | Ba3 | Baa3 |
| Comcast Corporation | A2 | A3 | A3 |
| T-Mobile USA, Inc. | Baa2 | Baa3 | Baa3 |
| Boeing Company (The) | Baa3 | Ba1 | Baa2 |
| Exxon Mobil Corporation | Aa1 | Aa2 | Aa2 |
| McDonald's Corporation | Aa1 | Aa2 | Baa1 |

| CDS Implied Rating Declines | CDS Implied Ratings | | |
|-------------------------------------|---------------------|---------|----------------|
| | Oct. 26 | Oct. 19 | Senior Ratings |
| Issuer | | | |
| Tenet Healthcare Corporation | B3 | B1 | B3 |
| Prologis, L.P. | Baa1 | A2 | A3 |
| Toyota Motor Credit Corporation | Aa3 | Aa2 | A1 |
| PepsiCo, Inc. | Aa2 | Aa1 | A1 |
| Merck & Co., Inc. | A2 | A1 | A1 |
| Charles Schwab Corporation (The) | Baa1 | A3 | A2 |
| Roche Holdings Inc. | Aa2 | Aa1 | Aa2 |
| Nissan Motor Acceptance Company LLC | B1 | Ba3 | Baa3 |
| Cargill, Incorporated | A3 | A2 | A2 |
| Abbott Laboratories | Aa2 | Aa1 | A1 |

| CDS Spread Increases | Senior Ratings | CDS Spreads | | |
|--------------------------------|----------------|-------------|---------|-------------|
| | | Oct. 26 | Oct. 19 | Spread Diff |
| Issuer | | | | |
| Tenet Healthcare Corporation | B3 | 567 | 440 | 126 |
| K. Hovnanian Enterprises, Inc. | Caa2 | 1,623 | 1,499 | 124 |
| Gap, Inc. (The) | Ba3 | 583 | 546 | 37 |
| AutoNation, Inc. | Baa3 | 214 | 187 | 27 |
| Xerox Corporation | Ba2 | 496 | 471 | 25 |
| Las Vegas Sands Corp. | Baa3 | 293 | 272 | 22 |
| Prologis, L.P. | A3 | 93 | 77 | 15 |
| Standard Industries Inc. | B1 | 412 | 397 | 14 |
| Prologis, Inc. | A2 | 84 | 70 | 14 |
| Archer-Daniels-Midland Company | A2 | 96 | 83 | 13 |

| CDS Spread Decreases | Senior Ratings | CDS Spreads | | |
|-------------------------------------|----------------|-------------|---------|-------------|
| | | Oct. 26 | Oct. 19 | Spread Diff |
| Issuer | | | | |
| Rite Aid Corporation | Caa2 | 3,302 | 3,715 | -413 |
| Glatfelter Corporation | B2 | 772 | 962 | -190 |
| Carnival Corporation | B3 | 1,810 | 1,971 | -160 |
| Nabors Industries, Inc. | Caa2 | 470 | 601 | -132 |
| Pitney Bowes Inc. | B3 | 1,506 | 1,636 | -130 |
| PG&E Corporation | Caa1 | 460 | 577 | -117 |
| Royal Caribbean Cruises Ltd. | B3 | 932 | 1,032 | -100 |
| Liberty Interactive LLC | B2 | 1,373 | 1,455 | -81 |
| American Axle & Manufacturing, Inc. | B2 | 634 | 714 | -80 |
| PennyMac Financial Services, Inc. | Ba3 | 485 | 563 | -78 |

Source: Moody's, CMA

CDS Movers

Figure 4. CDS Movers - Europe (October 19, 2022 – October 26, 2022)

| CDS Implied Rating Rises | CDS Implied Ratings | | |
|---|---------------------|---------|----------------|
| | Oct. 26 | Oct. 19 | Senior Ratings |
| United Kingdom, Government of | Aaa | Aa1 | Aa3 |
| Societe Generale | A3 | Baa1 | A1 |
| BNP Paribas | A2 | A3 | Aa3 |
| ING Groep N.V. | A3 | Baa1 | Baa1 |
| Credit Agricole Corporate and Investment Bank | A2 | A3 | Aa3 |
| Landesbank Baden-Wuerttemberg | Aa2 | Aa3 | Aa3 |
| Lloyds Banking Group plc | Baa1 | Baa2 | A3 |
| Natixis | A2 | A3 | A1 |
| Erste Group Bank AG | A2 | A3 | A2 |
| Dexia Credit Local | Aa1 | Aa2 | Baa3 |

| CDS Implied Rating Declines | CDS Implied Ratings | | |
|---------------------------------|---------------------|---------|----------------|
| | Oct. 26 | Oct. 19 | Senior Ratings |
| Landesbank Hessen-Thuringen GZ | A3 | A1 | Aa3 |
| London Stock Exchange Group plc | A3 | A1 | A3 |
| BPCE | Baa1 | A3 | A1 |
| ABN AMRO Bank N.V. | A3 | A2 | A1 |
| CaixaBank, S.A. | Baa1 | A3 | Baa1 |
| DZ BANK AG | Aa3 | Aa2 | Aa2 |
| Credit Suisse Group AG | Ba2 | Ba1 | Baa2 |
| Standard Chartered Bank | A3 | A2 | A1 |
| Piraeus Financial Holdings S.A. | B3 | B2 | Caa1 |
| Telecom Italia S.p.A. | B2 | B1 | B1 |

| CDS Spread Increases | CDS Spreads | | | |
|--------------------------------------|----------------|---------|---------|-------------|
| | Senior Ratings | Oct. 26 | Oct. 19 | Spread Diff |
| CPI Property Group | Baa3 | 540 | 404 | 136 |
| Telefonaktiebolaget LM Ericsson | Ba1 | 246 | 198 | 48 |
| Grifols S.A. | B3 | 723 | 683 | 40 |
| Schaeffler AG | Ba1 | 336 | 310 | 27 |
| Yara International ASA | Baa2 | 241 | 214 | 27 |
| Suedzucker AG | Baa3 | 153 | 126 | 27 |
| Piraeus Financial Holdings S.A. | Caa1 | 558 | 535 | 23 |
| Bellis Acquisition Company PLC | Caa1 | 806 | 786 | 20 |
| Fresenius Medical Care AG & Co. KGaA | Baa3 | 169 | 150 | 19 |
| London Stock Exchange Group plc | A3 | 87 | 68 | 18 |

| CDS Spread Decreases | CDS Spreads | | | |
|------------------------------|----------------|---------|---------|-------------|
| | Senior Ratings | Oct. 26 | Oct. 19 | Spread Diff |
| Boparan Finance plc | Caa3 | 2,408 | 2,754 | -346 |
| CECONOMY AG | Ba3 | 1,396 | 1,723 | -327 |
| Novafives S.A.S. | Caa2 | 2,375 | 2,636 | -261 |
| Iceland Bondco plc | Caa2 | 1,410 | 1,584 | -174 |
| Carnival plc | B3 | 1,717 | 1,868 | -151 |
| United Group B.V. | Caa1 | 996 | 1,141 | -145 |
| Ardagh Packaging Finance plc | Caa1 | 1,040 | 1,132 | -92 |
| Casino Guichard-Perrachon SA | Caa1 | 4,226 | 4,306 | -79 |
| thyssenkrupp AG | B1 | 564 | 623 | -59 |
| Stena AB | B2 | 618 | 675 | -57 |

Source: Moody's, CMA

CDS Movers

Figure 5. CDS Movers - APAC (October 19, 2022 – October 26, 2022)

| CDS Implied Rating Rises | CDS Implied Ratings | | |
|--------------------------------|---------------------|---------|----------------|
| | Oct. 26 | Oct. 19 | Senior Ratings |
| Malaysia, Government of | Baa1 | Baa2 | A3 |
| Suncorp-Metway Limited | A2 | A3 | A1 |
| Mitsubishi Corporation | Aa1 | Aa2 | A2 |
| Development Bank of Kazakhstan | Baa3 | Ba1 | Baa2 |
| RHB Bank Berhad | A3 | Baa1 | A3 |
| Flex Ltd. | Baa1 | Baa2 | Baa3 |
| Japan, Government of | Aaa | Aaa | A1 |
| Australia, Government of | Aa1 | Aa1 | Aaa |
| India, Government of | Baa3 | Baa3 | Baa3 |
| Indonesia, Government of | Baa3 | Baa3 | Baa2 |

| CDS Implied Rating Declines | CDS Implied Ratings | | |
|--|---------------------|---------|----------------|
| | Oct. 26 | Oct. 19 | Senior Ratings |
| Hutchison Whampoa International (03/33) Ltd. | Baa2 | A3 | A2 |
| Rizal Commercial Banking Corporation | Baa3 | Baa1 | Baa3 |
| Adani Green Energy Limited | Ca | Caa2 | B2 |
| China, Government of | Baa2 | Baa1 | A1 |
| Korea, Government of | A1 | Aa3 | Aa2 |
| Westpac Banking Corporation | A3 | A2 | Aa3 |
| Commonwealth Bank of Australia | A3 | A2 | Aa3 |
| National Australia Bank Limited | A3 | A2 | Aa3 |
| Sumitomo Mitsui Trust Bank, Limited | A2 | A1 | A1 |
| Korea Development Bank | A2 | A1 | Aa2 |

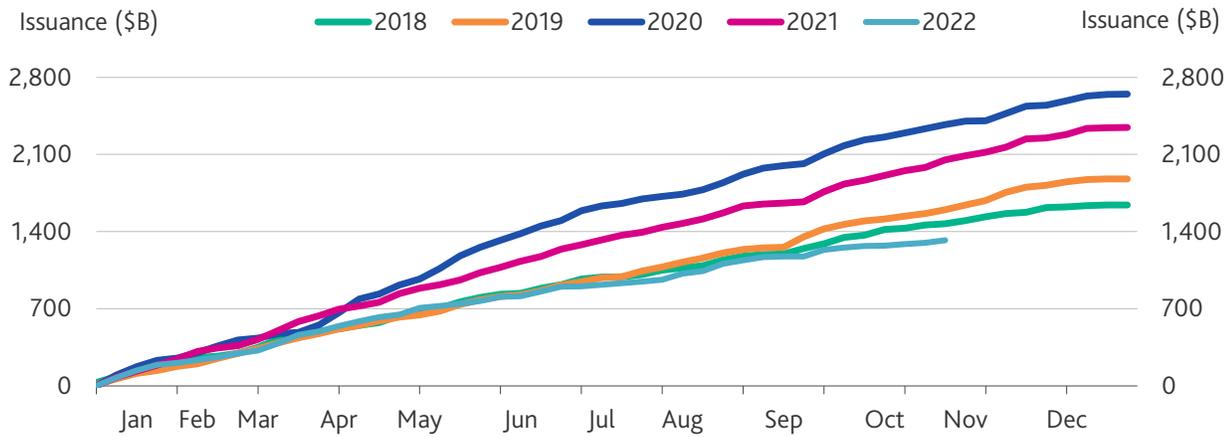
| CDS Spread Increases | Senior Ratings | CDS Spreads | | |
|---|----------------|-------------|---------|-------------|
| | | Oct. 26 | Oct. 19 | Spread Diff |
| Pakistan, Government of | Caa1 | 3,935 | 2,194 | 1,742 |
| Adani Green Energy Limited | B2 | 1,301 | 871 | 431 |
| Vanke Real Estate (Hong Kong) Company Limited | Baa2 | 691 | 608 | 83 |
| GMR Hyderabad International Airport Limited | Ba3 | 448 | 400 | 48 |
| CNAC (HK) Finbridge Company Limited | Baa2 | 255 | 211 | 43 |
| Rizal Commercial Banking Corporation | Baa3 | 132 | 95 | 37 |
| Bank of China (Hong Kong) Limited | Aa3 | 169 | 138 | 31 |
| Amtor Pty Ltd | Baa2 | 152 | 122 | 30 |
| Bank of China Limited | A1 | 150 | 122 | 28 |
| Agricultural Bank of China Limited | A1 | 153 | 125 | 28 |

| CDS Spread Decreases | Senior Ratings | CDS Spreads | | |
|----------------------------------|----------------|-------------|---------|-------------|
| | | Oct. 26 | Oct. 19 | Spread Diff |
| Development Bank of Kazakhstan | Baa2 | 178 | 198 | -21 |
| Flex Ltd. | Baa3 | 101 | 119 | -18 |
| RHB Bank Berhad | A3 | 89 | 105 | -16 |
| Indonesia, Government of | Baa2 | 134 | 149 | -15 |
| Halyk Savings Bank of Kazakhstan | Ba2 | 497 | 511 | -15 |
| Philippines, Government of | Baa2 | 121 | 135 | -14 |
| SK Hynix Inc. | Baa2 | 185 | 196 | -11 |
| Suncorp-Metway Limited | A1 | 77 | 88 | -10 |
| Malayan Banking Berhad | A3 | 124 | 134 | -10 |
| Vietnam, Government of | Ba2 | 155 | 166 | -10 |

Source: Moody's, CMA

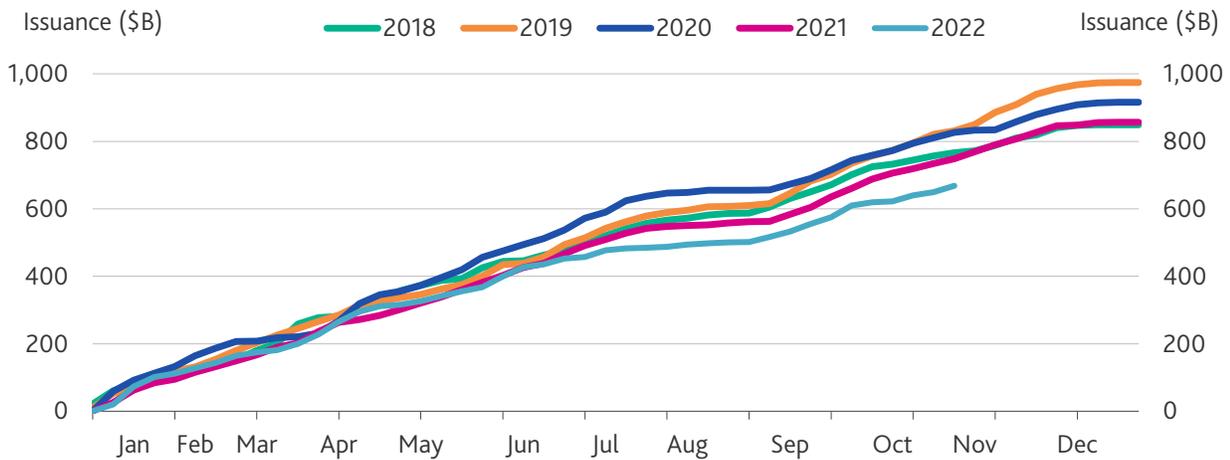
ISSUANCE

Figure 6. Market Cumulative Issuance - Corporate & Financial Institutions: USD Denominated



Source: Moody's / Dealogic

Figure 7. Market Cumulative Issuance - Corporate & Financial Institutions: Euro Denominated



Source: Moody's / Dealogic

Figure 8. Issuance: Corporate & Financial Institutions

| | USD Denominated | | |
|--------------|------------------|---------------|---------------|
| | Investment-Grade | High-Yield | Total* |
| | Amount \$B | Amount \$B | Amount \$B |
| Weekly | 21.854 | 2.130 | 24.874 |
| Year-to-Date | 1,150.437 | 129.274 | 1,322.160 |

| | Euro Denominated | | |
|--------------|------------------|---------------|---------------|
| | Investment-Grade | High-Yield | Total* |
| | Amount \$B | Amount \$B | Amount \$B |
| Weekly | 17.718 | 1.474 | 19.235 |
| Year-to-Date | 621.884 | 35.231 | 668.692 |

* Difference represents issuance with pending ratings.

Source: Moody's/ Dealogic

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