

**WEEKLY MARKET
OUTLOOK**

SEPTEMBER 22, 2022

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No Clipping Hawks' Wings

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 as it hiked the target range for the fed funds rate by 75 basis points and signaled a noticeably higher terminal rate than previously thought. We likely need to make a noticeable change to our forecast for the fed funds rate when we update the October baseline. 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, as 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 a 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, were 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.

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There were some sizable downward revisions to its forecasts for GDP. It anticipates real GDP will have risen 0.2% year over year in the fourth quarter of this year followed by 1.2% and 1.7% in 2023 and 2024, respectively. Growth over the next couple of years will be below its estimate of the economy's potential of 1.8%, which is necessary to reduce inflation. The Fed revised its forecast higher for inflation through 2024. Inflation returns to the Fed's target in 2025. The Fed revised its forecast higher for the unemployment rate next year and anticipates it will rise by 0.6 percentage point. Historically, an increase in the unemployment rate of this magnitude over a year has been followed by a recession.

The Fed nudged its core inflation higher this year and next. Part of this likely reflects the incoming data. It is also possible the Fed believes it will take longer for past rate hikes to reduce inflation or it anticipates that some of the stickier components of inflation, including rents, will linger.

What if?

It's fairly clear that the Fed is going to front-load rate hikes more than in our September baseline and the terminal rate, or the peak for the fed funds rate this cycle, will be higher. The upcoming baseline forecast will include additional rate hikes and a higher terminal rate.

We haven't finalized our new policy assumptions, but we ran a scenario through the macro model that takes the Fed at its word. Financial markets believe the Fed, as the market-implied path has the terminal rate at 4.61%. Therefore, we shocked the model to incorporate the projected path of the fed funds rate included in the new Summary of Economic projections.

The new path for the fed funds rate reduces GDP growth next year by 0.6 percentage point and 0.3 percentage point in 2024. Per Okun's law, this will reduce job growth and raise the unemployment rate. The unemployment rate peaks in the first quarter of 2024, averaging 4.5%, compared with the September baseline of 4.1%. The unemployment rate declines as the Fed starts cutting interest rates. Treasury yields across the yield curve would be higher than in the baseline, with the 10-year Treasury yield hitting 4% by the end of 2023, roughly 50 basis points higher than in the baseline.

When U.S. economy is vulnerable, watch the small things

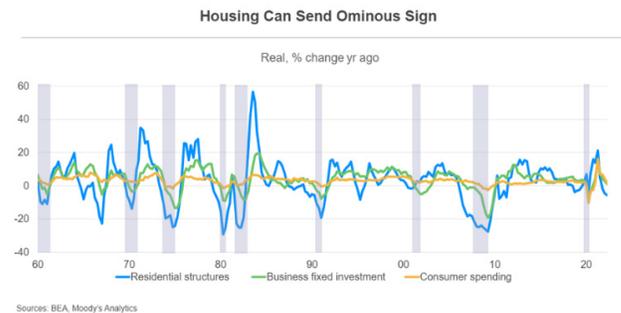
Though the U.S. economic data have been decent, the economy is still at risk. It is vulnerable to anything going wrong, including further tightening in financial market conditions or an unexpected spike in energy prices. Also, the Federal Reserve could overtighten. Fed Chair Jerome Powell has pledged to keep raising interest rates until the job is done taming inflation. Our probability of recession model

puts the odds of a downturn in the next 12 months at 59.5%, which is uncomfortably high.

Now that the economy is at risk, it is important to assess what drives changes in the business cycle or contributes to the swings in GDP growth. We find that even small components of GDP contribute an outsize share to volatility in GDP growth.

We looked at the five-year rolling correlation between the contribution of each component to GDP and total GDP growth. This is then multiplied by the five-year rolling standard deviation of the components' contribution to GDP divided by the rolling standard deviation in GDP growth.

The key takeaway is that although consumer spending makes up the bulk of GDP, the contribution to volatility from some of the smaller components in GDP increases as the economy enters recession. These components include inventories and residential investment. Contrary to popular belief, consumers are not the first to run to the bunker, pushing the economy into recession. Rather, the first to turn is housing, then business investment, followed by consumer spending.



Housing is extremely interest-rate sensitive, and rates are normally rising when the economy is in either a late-stage expansion or potentially at risk of falling into a recession. A fairly reliable recession warning is year-over-year growth in new-home sales. The rule of thumb is that when the six-month centered moving average of new-home sales is down 20% to 30%, a recession normally follows with varying lags. There was only one false negative and that was during the pandemic, but it should be discounted as more noise than signal.

Currently, the centered average of new-home sales is down 19.6% on a year-ago basis and odds favor further weakening as mortgage rates will likely continue to increase. This cycle is unlike any other because of what sparked the recession and subsequent recovery, so it is important not to rely on a single warning of a recession. But declines in housing activity may be an ominous sign.

When Good News Is Bad News

BY MARK ZANDI

For the U.S. economy to avoid a recession, inflation must steadily subside back to the Federal Reserve's inflation target. A number of indicators are useful to watch to gauge if inflation is on script.

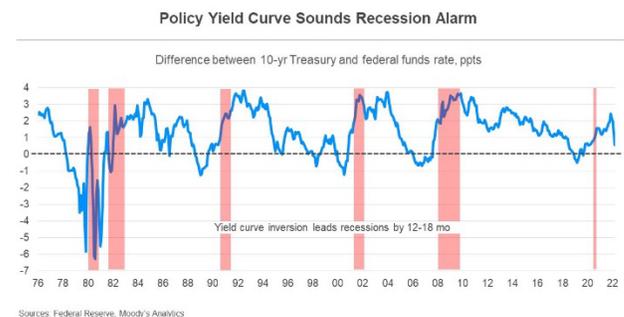
The recent hand-wringing over whether the economy is in recession or that a downturn was imminent has been substantially overdone. Although real GDP fell during the first half of the year—historically, a good rule of thumb for pegging recessions—it is likely GDP will ultimately be revised higher, showing little if any decline. Gross domestic income, which is conceptually the same as GDP but is based on difference source data, indicates that the economy has steadily grown since the pandemic recession. GDI is signaling upward revisions to GDP. More important, the rip-roaring job market is not consistent with an economy struggling with recession. Abstracting from the monthly vagaries of the jobs data, underlying monthly growth appears to be near 350,000. This is substantially more than the closer-to-100,000 monthly job gains consistent with the underlying growth in the labor force and stable unemployment. There are no indications that businesses are significantly curtailing hiring or increasing layoffs, which are features of recessions.

The job market's resilience suggests that a recession beginning in the next three to six months is unlikely. Unless the COVID-19 pandemic or Russian invasion of Ukraine take dark turns or another inherently unpredictable shock slams the economy—a rail strike would have been a good example—it is hard to see businesses pulling back that quickly on their payrolls. Indeed, the more serious threat is that the job market continues to barrel along, pushing unemployment lower and wage growth and inflation higher. The Fed's efforts to cool off the job market and inflation would be stymied, forcing an even more aggressive monetary policy response than what financial markets currently anticipate. This is the fodder for a recession in 12 to 18 months, which is an uncomfortably high even odds, more or less.

The Fed and investors

Global investors expect the Fed to increase the funds rate target by 75 basis points at the Federal Open Market Committee's meeting this coming week and an additional 100 basis points by early next year, putting the target between 4% and 4.25%. This terminal rate is where the target will remain until 2024, when there is no question inflation is back to the Fed's target, at which time the Fed will slowly ease the funds rate back to its estimated neutral

rate, or r -star, of 2.5%. Financial conditions, including the more than 20% decline in stock prices, 10-year Treasury yields that are near 3.5%, the more than doubling in fixed mortgage rates to more than 6%, and the extraordinarily muscular value of the U.S. dollar against nearly all currencies are consistent with this monetary policy outlook.



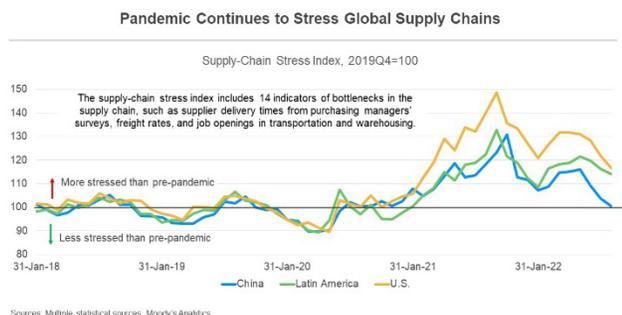
Investors also appear to attach just about even odds to a recession beginning late next year. The inversion of the Treasury yield curve, with two-year yields rising consistently above 10-year yields, is historically consistent with a recession. But the still positively sloped so-called policy yield curve, with 10-year Treasury yields above the federal funds rate target, is consistent with skirting a downturn. Although the policy yield curve has inverted in the past and a recession has not followed, a recession has always been preceded by an inversion of the policy yield curve. We do anticipate the 10-year Treasury yield will continue to push higher to more than 4%, roughly consistent with the terminal funds rate, but the policy curve never inverts and the economic outlook remains recession-free.

What to look for

Whether the economy suffers a recession critically hinges on inflation steadily moderating back to the Fed's inflation target with no more monetary tightening than financial markets currently anticipate. If inflation is on script, this means that by early next year core consumer price inflation will have clearly rolled over and is near 5%, and by early 2024 it is back to the Fed's implicit target of 2.5%. Consistent with this, inflation as measured by the core consumer expenditure deflator should be definitively below 4% by early next year and back to the Fed's 2% target by early 2024. To gauge whether this script is unfolding, these are a handful of indicators to monitor:

Global Supply-Chain Stress Index. Our index measures how well global supply chains are functioning based on a

range of indicators, including freight rates, purchasing managers' surveys, and job market conditions in the transportation and distribution industries. The index, which is set equal to 100 just prior to the pandemic, jumped to a peak of 150 when the surprising Delta wave of the virus hit the global economy hard this time last year, especially in Asia, where most supply chains begin. It has since fallen back but remains elevated at near 120.



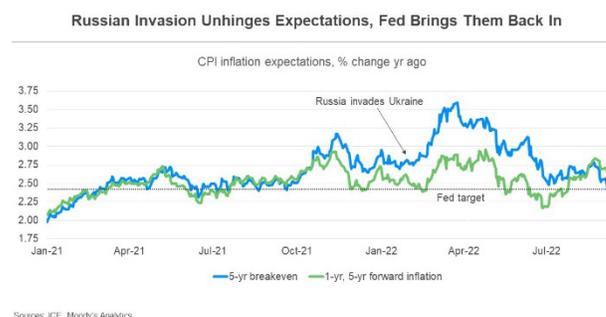
A continued steady normalization of supply chains is necessary to increase chip and vehicle production and bring down vehicle prices, which continues to be a significant source of inflation. It is also critical for the supply of building materials and appliances necessary to support new housing construction and quell rent growth and housing cost inflation. Normalization in turn depends on China allowing its highly disruptive zero-COVID policy of lockdowns to wind down, which we anticipate after Chinese President Xi Jinping is reelected in a few weeks. More waves of the virus are likely, and if China continues to respond with mass lockdowns, supply chains will be roiled again, exacerbating shortages and inflation pressures.

Oil prices. Oil prices, which are near \$90 per barrel, must not rise to much more than \$100 per barrel for more than a few weeks any time soon. Gasoline prices, which are near \$3.70 per gallon for regular unleaded, would jump to more than \$4 per gallon. Though well below the \$5 per gallon all-time high reached in June, it would be difficult for the fragile collective psyche to bear. Nothing is more central to how people think about inflation and the state of their finances more broadly than how much it costs to fill their gas tank. It was when oil prices spiked with Russia's invasion of Ukraine early this year that inflation expectations jumped, forcing the Fed to go on high alert and aggressively tighten monetary policy.

Currently weighing on oil and gasoline prices are the weaker global economy and recession worries, which have crimped global demand. But oil prices are sure to come under renewed upward pressure as the European Union prepares to implement its sanctions on Russian oil in the coming months. The EU imports close to 4 million barrels a day of Russian oil, and while some will be diverted to China, India and other countries, filling the void in oil

supply could prove difficult, at least soon enough to avoid a debilitating jump in prices.

Inflation expectations. Lower oil prices and a hawkish Federal Reserve have pushed inflation expectations back near the Fed's inflation target. This is evident in bond investors' inflation expectations as measured by five-year breakevens—the difference between nominal five-year Treasury yields and five-year Treasury inflation-indexed securities—and one-year, five-year forwards—what inflation will be beginning a year from now in the subsequent five-year period based on breakevens and inflation swaps.



It is also evident in consumer expectations as measured by the University of Michigan and New York Federal Reserve surveys. Low and stable inflation expectations are a necessary condition for ensuring that a dreaded wage-price spiral is not ignited. That is, workers expecting high inflation to persist demand bigger pay increases to compensate, and employers acquiesce to their workers' demands as they believe they can pass along their higher labor costs in higher prices to their customers. A wage-price spiral has not taken hold yet, but if it did, this would be the fodder for stagflation—persistently high inflation and a weak economy. The Fed is clear that it will not countenance stagflation and will aggressively tighten monetary policy to force the economy into recession to wring out the high inflation and inflation expectations.

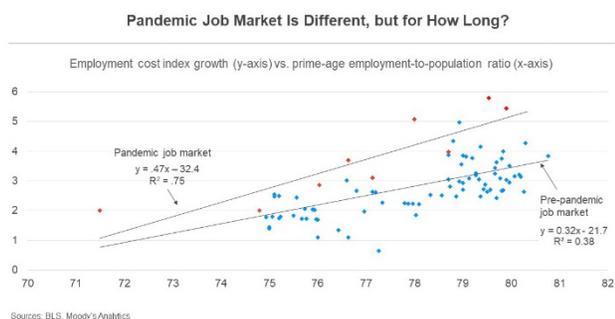
Job growth. As long as supply chains continue to normalize and oil prices and inflation expectations remain stable, inflation seems set to significantly moderate in the coming months. This is encouraging but not good enough to fully get back to the Fed's inflation target in a timely way, as labor demand and thus job growth need to significantly slow. Some progress to this end has been made, as underlying job growth has slowed from close to 500,000 per month as recently as this spring to 350,000 currently. But to be consistent with the underlying growth in labor supply, monthly job growth needs to throttle back to no more than 100,000.

Close to no job growth for a time would even be desirable to allow unemployment to edge higher, for employers to pull down some of their extraordinary number of open job postings, and for the large numbers of workers quitting

their jobs to abate. This is necessary to quell the strong wage growth and thus rein in inflation in the labor-intensive service side of the economy.

The poster child for this is medical care services, which are struggling with severe labor shortages, accelerating wage growth, and more quickly rising prices. This is especially problematic for inflation as measured by the core consumer expenditure deflator, which puts a high weight on the cost of medical care. Robust job growth was good news when the economy was trying to make its way back from the pandemic recession, but it is now bad news when outsize wage growth and inflation are the problem.

Wage growth. The crux of whether inflation will moderate sufficiently to avoid recession is thus increasingly on wage growth. The difficulties involved are evident in the relationship between the employment-to-population ratio for prime-age workers and compensation growth as measured by the employment cost index, or the Phillips curve.



The twist is that the Phillips curve for the pre-pandemic economy back to 2001 when the employment cost index began, as shown by the blue squares, is different than the

curve during the pandemic, shown by the red squares. The curve has shifted up—for a given employment-to-population ratio, wage growth is stronger. If this pandemic curve holds firm, the current employment-to-population ratio of more than 80% suggests wage growth of 5%. This is inconsistent with the Fed's 2% inflation target. For that, wage growth must be near 3.5%, equal to the sum of the Fed's target and estimated underlying productivity growth of 1.5%.

The Fed will have to brake hard to get the employment-to-population ratio and wage growth down. That means recession. However, if the curve returns to its long-standing pre-pandemic relationship, the current employment-to-population ratio implies wage growth of 3.5%. This is consistent with the Fed's inflation target and it can thus stand down on its rate hikes by early next year. The economy will avoid recession, as the curve should shift back.

The shift-out was driven by the pandemic and the disruption to the labor market, manifested in the surge in unfilled positions and high quit rate, and Russia's invasion of Ukraine and the surge in oil, food and other commodity prices. It should normalize as the fallout from the pandemic and Russia's invasion fade but watch the growth in the employment cost index to determine whether it really has.

It's all about inflation

Odds that the economy will suffer a recession through next year are about even. Recession is a serious threat, but it is not inevitable. Whether the economy suffers a downturn or skirts one depends on if inflation continues to steadily moderate back to the Fed's target.

The Week Ahead in the Global Economy

U.S.

The U.S. economic calendar is busy next week. Among the key data released are durable goods orders, consumer confidence, new-home sales, the advance goods deficit, initial claims, personal income and spending, along with the PCE deflator. We also get the government's third estimate of second-quarter GDP. The incoming data could alter our high-frequency GDP model's estimate of third-quarter GDP, which has already fallen from 1.1% to 0.8% at an annualized rate. Recent data on housing starts, permits and completions weren't favorable for our high-frequency GDP model's tracking estimate, as residential investment will be a drag. There isn't a big cushion between a gain in GDP and a third consecutive drop. The weakness in GDP is broadening out as inventories, residential investment, business equipment spending, and nonresidential structures investment are set to be drags on GDP.

Europe

Preliminary estimates will likely report that the euro zone's inflation rate sped up to 9.4% on a year-ago basis in September from 9.1% in August. We expect upward movement across each of the major components of the harmonised index of consumer prices. Energy prices will still be on the rise as there was a slight uptick in crude oil prices this month, and there is still likely to be some pass-through from higher wholesale electricity to consumer prices. Food inflation will continue at a quick pace as well. There will likely be higher services inflation due to the end of Germany's €9 public transport ticket. On the flipside, core goods inflation will likely slow down following an unseasonable jump in clothing prices.

Business and consumer confidence in the euro zone likely weakened during September. We expect the economic sentiment indicator tumbled to 96 from 97.6. Consumer confidence fell back according to flash estimates, after recovering in August. We suspect households were more worried about inflationary pressure and employment. Meanwhile, the situation for firms has likely worsened amidst still-soaring production costs and faltering demand. This will be reflected in lower intentions to hire. Though we still expect the unemployment rate held steady in August at 6.6% from the previous month as the service sector remained a point of strength during the tail end of the tourism season.

Unfortunately, we expect retail sales fell across the major economies. In Germany we see sales falling back by 0.5% month over month in August, after surprising to the upside with a 1.9% jump in July. France's household consumption of goods likely decreased by 0.5% month over month in August, deepening a 0.8% decline, and Spain's retail sales likewise also went further down, by 0.3% after a 0.7% loss previously. Retail sales are being hit by the cost-of-living crisis and households' preference for services above goods in the wake of the pandemic.

Finally, we expect Russia's retail sales continued to fall in July, though at a slower pace than in August. The labour market likely kept its strength during the month as well, with the unemployment rate rising to just 4% from 3.9% previously. Industrial production, meanwhile, likely weakened again in July due to supply issues. We forecast a 0.7% month-over-month contraction.

Asia Pacific

The Bank of Thailand is expected to raise the policy rate by 25 basis points to 1% as food, transport and energy add to the headline print. Inflation is expected to peak in the coming months as energy prices cool and base effects caused by food subsidies in 2021 come off.

The BoT's September policy meeting is also likely to adopt a more hawkish tone with more members opting for a 50-basis point hike and perhaps a shift away from language such as "gradual and measured" in describing its path ahead. Given the strong tourist arrival numbers supporting economic growth alongside a depreciating baht, the case for a larger 50-basis point hike is building in the December quarter.

The Reserve Bank of India is expected to raise the reverse repo rate by 50 basis points to 5.9% in September as consumer prices grow, supported by fuel and energy. The rupee fell to a record low last month prompting the RBI to sell some of its U.S. dollar reserves. A sizeable increase in the policy rate will help keep the currency above the INR80 per dollar mark. This will be increasingly important to quell imported inflation. The RBI will need to tread carefully as it seeks to maintain price stability and keep the rupee afloat while balancing weakening growth.

Geopolitical Calendar

Date	Country	Event	Economic Importance	Financial Market Risk
19-26-Sep	U.N.	U.N. General Assembly	Medium	Medium
20-Sep	Sweden	Riksbank monetary policy announcement	Low	Low
21-Sep	Brazil	Banco Central do Brasil monetary policy announcement	Low	Low
20-21-Sep	U.S.	Federal Open Market Committee meeting	High	High
22-Sep	United Kingdom	Bank of England monetary policy announcement	Medium	Medium
22-Sep	Japan	Bank of Japan monetary policy announcement	Medium	Low
22-Sep	Switzerland	Swiss National Bank monetary policy announcement	Medium	Low
22-Sep	Norway	Norges Bank monetary policy announcement	Medium	Low
25-Sep	Italy	General election	Low	Low
29-Sep	Mexico	Banxico monetary policy announcement	Low	Low
30-Sep	India	Reserve Bank of India monetary policy announcement	Medium	Low
30-Sep	Colombia	Banrep monetary policy announcement	Low	Low
2-Oct	Brazil	Presidential and congressional elections	High	Medium
4-Oct	Australia	Reserve Bank of Australia monetary policy announcement	Medium	Low
16-24-Oct	China	National Party Congress	High	Medium
20-21-Oct	European Union	European Council summit	Low	Low
27-Oct	Euro zone	European Central Bank monetary policy announcement	Medium	Medium
28-Oct	Japan	Bank of Japan monetary policy announcement	Medium	Low
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	APEC	Economic Leaders' Meeting, hosted by Thailand	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

Defaults Surpass 2021 Total

BY RYAN SWEET

CREDIT SPREADS

Moody's long-term average corporate bond spread widened by 3 basis points to 162 basis points over the past week. The spread is below the 176 basis point average in August. The long-term average industrial corporate bond spread narrowed from 149 to 146 basis points. It averaged 160 basis points in August.

The ICE BofA BBB U.S. corporate option-adjusted bond spread rose from 182 basis points to 183 basis points over the past week. Meanwhile, the ICE BofA U.S. high-yield option-adjusted bond spread rose from 474 to 478 basis points. The Bloomberg Barclays high-yield option-adjusted spread widened over the week from 463 to 482 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. Current 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 that implied by a VIX of 28. The VIX increased over the course of the past week.

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).

Moody's Credit Transition Model predicts that under our baseline scenario the global speculative-grade default rate will climb to 2.9% at the end of 2022 before rising to 3.8% in August 2023. If realized, these rates would still be lower than 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.

There was \$800 billion in US\$-denominated high-yield issuance in the week ended September 16. This puts the

year-to-date total at \$117.5 billion. Investment-grade bond issuance totaled \$20.9 billion last week. This brings its year-to-date total to \$1.098 trillion. Issuance is still tracking that seen in 2018 and 2019.

U.S. ECONOMIC OUTLOOK

We made some adjustments to the U.S. baseline forecast in September. Among the notable changes is monetary policy as the Federal Reserve has signaled that it will front-load rate hikes. Therefore, we pulled a rate hike from early next year and changed November from a 25- to 50-basis point rate hike. We don't anticipate the Fed cutting interest rates to return to the neutral rate until early 2025. This compares with the August baseline that had cuts starting in late 2023. Changes to the forecast for employment, inflation, unemployment rate and GDP were minor. The outlook for housing deteriorated as higher mortgage rates and rising prices cut into affordability.

Our baseline forecast is still for the Fed to engineer a soft landing and the economy to skirt a recession, while inflation, over time, returns to the central bank's target.

Fiscal assumptions

The September baseline forecast incorporates the effects of President Biden's announced changes to student loan relief. While the announcement made a big splash, the macroeconomic consequences are minimal. There are three principal avenues by which student loan forgiveness and the resumption of federal student loan repayments in January affect growth. First, the end to the student loan freeze after this year will reduce household cash flow and thus consumer spending. Second, debt cancellation will increase household net worth and thus consumer spending via a positive net wealth effect. Finally, the two policies will increase interest rates due to more federal government debt.

By itself, ending the student loan moratorium reduces real GDP growth in 2023 by an estimated 18 basis points, increases the unemployment rate by 8 basis points, and reduces inflation by 11 basis points. In isolation, debt forgiveness increases real GDP growth by 13 basis points, reduces the unemployment rate by 6 basis points, and increases inflation by 8 basis points. Ultimately, the net of the two policies is a wash in the near term.

Energy price forecast and assumptions

The baseline forecast assumes West Texas Intermediate crude oil prices peaked in the second quarter. The September baseline forecast includes the recent slide in WTI crude oil prices, which are expected to average \$95.30 per barrel this quarter and \$98 in the final three months of the year.

Recession concerns, appreciation in the U.S. dollar, and a number of countries releasing some of their oil reserves have helped push global oil prices lower recently. Oil prices are still expected to steadily decline in 2023 and the first half of 2024. Oil prices bottom in 2024, a touch below \$65 per barrel. This is the same as in our August baseline.

There are a number of risks to the forecast. Prices could soar past our baseline projection if the EU quickly adopts a strict ban on Russian oil. Prices also would be higher if Russia has trouble replacing its European customers or if OPEC halts its production increases. On the downside, an Iranian nuclear deal would tank prices. A Russia-Ukraine cease-fire or a weaker Chinese rebound from its self-induced zero-COVID shuttering of population centers could also send prices lower.

Trimming the GDP forecast, but not for 2022

The September baseline incorporates the revisions to second-quarter GDP. Real GDP fell 0.6% at an annualized rate in the second quarter, the second consecutive decline. This is a smaller drop than in the government's advance estimate of second-quarter GDP, where it was shown to have fallen 0.9% at an annualized rate.

Though GDP has declined for two consecutive quarters—a rule of thumb for a recession—we don't have a recession in the baseline forecast. GDP is only one of many variables that the National Bureau of Economic Research, the de facto arbiter of U.S. business cycles, uses to define a recession. Its stated definition is a "significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in production, employment, real income and other indicators." Outside of GDP, the other key data on which the NBER relies have generally continued to increase, including nonfarm employment, real consumer spending, industrial production, and weekly hours worked. Even real personal income—excluding transfers, another variable it watches—is flat to increasing.

The baseline forecast is for real GDP growth to increase in the second half of the year. The September forecast is for GDP to rise 1.3% at an annualized rate, which is less than our high-frequency GDP model's tracking estimate of 2%. Therefore, the risk bias, or the difference between our high-frequency GDP model's estimate of third-quarter GDP growth and our official forecast, is 0.7 of a percentage point. The forecast is for GDP to rise 0.6% at an annualized rate in the fourth quarter, less than the 1% at an annualized rate in the August baseline.

The forecast is for a 1.4% increase in real GDP next year, a touch lighter than the 1.5% in the August baseline. We also shaved 0.1 of a percentage point off GDP growth in 2024, as it is now expected to rise 2.6%.

Our baseline forecast for real GDP growth for next year is above the Bloomberg consensus of 1%. The forecast for 2024 is 0.9 percentage point higher than the Bloomberg consensus of 1.7%.

Business investment and housing

We didn't make any noticeable changes to the forecast for real business equipment spending this year. It is expected to increase 4.5% compared with the 4.6% gain in the prior baseline. We didn't change the forecast for real business equipment spending in either 2023 or 2024, since fundamentals didn't change appreciably between the update of the August and September baseline forecasts. Growth is expected to moderate as the share of banks tightening lending standards on commercial and industrial loans breached the threshold that has been consistent with a recession in the past. We doubt recession fears will vanish soon, and this should boost high-yield corporate bond spreads.

The interest-rate-sensitive segments of the economy have weakened, which is not surprising as the Federal Reserve is front-loading rate hikes. Housing starts are expected to be 1.58 million compared with 1.64 million in the prior baseline. Housing starts are expected to total 1.55 million next year, down from 1.56 million in the August baseline. Housing starts are forecast to increase in 2024, totaling 1.63 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.

A decline in affordability has cut into our forecast for home sales, which are expected to total 5.89 million this year, less than the 6.27 million in the August baseline. We also cut the forecast for total home sales next year to 5.81 million, compared with 6.14 million in the prior 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 August baseline has it rising 15.9% this year compared with 12.9% in the prior baseline. The revision is mostly attributable to incoming historical data. The forecasts for 2023 and 2024 are for house prices to decline 0.9% and 2.4% respectively. In the August baseline, we didn't have house prices falling in either 2023 or 2024.

Labor market

The U.S. labor market remains very strong, but job growth has moderated. Nonfarm employment increased by a net of 315,000 jobs, modestly stronger than either we or the consensus anticipated. The net revision to the prior two months was -107,000. The three-month moving average in nonfarm employment was 378,000 in August, a slight step down from 402,000 in July.

Goods-producing employment increased 45,000 in August following 66,000 in July. Within goods, mining and logging rose 7,000, in line with that seen over the prior two months. Construction employment continues to hold up even though it is interest rate-sensitive and residential investment has weakened recently. Construction employment added 16,000 in August after rising 24,000 in July.

Private services employment increased 263,000 in August, noticeably weaker than the 411,000 in July. Despite the shift from spending on goods to services, retail employment growth remained strong. It was up 44,000 in August following a 29,000 gain in July and 22,000 in June. Transportation and warehousing employment increased 5,000, while information rose 7,000.

Temporary help services employment was up 12,000 in August, compared with 9,000 in July. Temporary help is normally a leading indicator and declines ahead of recessions. Elsewhere, education and healthcare increased 68,000 after jumping 118,000 in July.

Household employment increased 442,000, while the number of unemployed rose 344,000. Duration of unemployment rose, as did the labor force. The labor force participation rate increased from 62.1% to 62.4%. The unemployment rate increased from 3.5% to 3.7%. Unemployment rates across demographic cohorts generally rose in August.

The August employment report didn't warrant significant changes to the baseline forecast. We have job growth averaging 371,000 per month this year before dropping to 103,000 in 2023 and then accelerating to 124,000 in 2024. Job growth next year is weaker than that needed to keep the unemployment rate stable.

The forecast is for the unemployment rate to average 3.7% in the fourth quarter of this year, identical to that in the August baseline. The unemployment rate rises next year, averaging 4.1% in the final three months of the year, compared with 4% in the August baseline. The unemployment rate falls in 2024, averaging 3.8% in the fourth quarter.

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 0.4 of a percentage point below this threshold.

On the surface, there appears to be a disconnect between employment and GDP. The correlation coefficient between average monthly job growth in a given quarter and annualized growth in real GDP since 2000 is 0.71. Granger causality tests show that the causation between job and GDP growth runs both ways. The results didn't change when using different lags. This isn't surprising. Still, job growth has been stronger than GDP growth—but the disconnect between it and employment isn't unusual. Initial reports are volatile and subject to revision, and thus don't always tell similar stories.

Beyond data issues, there are real differences in how output and the labor market respond during the business cycle. For example, firms normally adjust workers' hours before adding or subtracting staff, which can cause output to rise or fall before employment does. Also, if we factor in productivity growth, it doesn't appear that employment and GDP are telling different stories.

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 decrease employment growth by around 800,000 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 continued to keep hiring even as growth slows because they have a ton of open positions and need to make up for lost work.

Central Banks Aggressively Raise Rates

BY ROSS CIOFFI

The Bank of England hiked its key interest rate by 50 basis points to 2.25% at its meeting on Thursday. Five members of the committee voted for the 50-basis point hike, three voted for a 75-basis point hike, and one voted for a 25-basis point hike. Concern about inflation has only risen since the last meeting when eight of the members voted for a 50-basis point hike and one voted for a 25-basis point hike. Looking ahead, we see the committee raising rates to a greater extent than in the September baseline, with rates now expected to peak above 4% in 2023, compared to 3% previously.

The Swiss National Bank hiked its sight deposit rate by 75 basis points at its September monetary policy meeting. This brought the rate to 0.5%, the first time it has been in positive territory in more than a decade. The SNB's move is meant to cut inflationary momentum; in August, CPI inflation rose to 3.5% on a year-ago basis. But there's a chance that inflation has not yet peaked in the country: Switzerland's average electricity price cap will be hiked by 27% in 2023. The SNB did not provide guidance on future rates but warned that more 'embedded' inflation would require a stronger policy response. The next meeting is on 15 December.

The Norges Bank also rose rates by 50 points; its sight deposit rate is now at 2.25%. The Norges Bank is motivated by a need to cool inflationary pressures in the economy. The guidance offered by the bank is for the policy rate to reach 3% over the winter. Moreover, the policy committee also stated that as the policy rate becomes tighter, it may use 'a more gradual approach to policy rate settings ahead'. This likely means another 50-basis point hike at the November meeting and then a 25-basis point hike at the December meeting.

However, Turkey's central bank, TCMB, broke expectations and cut its interest rate. The Monetary Policy Committee lowered its one-week repo rate by 100 basis points to 12%. This is the second consecutive rate cut; in August, the TCMB lowered the rate by 100 basis points to 13%. At the time of writing, the lira has depreciated a modest 0.2% against the dollar to TL18.383 since the previous trading day. That said, the trend is clearly towards further depreciation and when making a year-ago comparison, the lira is a stunning 112.7%

weaker against the dollar. Over the past three months, Turkey's inflation rate has been accelerating at a slower pace, up to 80.2% on a year-ago basis as of August from 79.6% in July. This may have convinced the TCMB it has room to ease monetary conditions. The central bank is focusing on stimulating growth, as it sees the grim economic outlook—an expected hit to foreign demand due to weakness in Europe.

Gas, energy prices ease, but worries still loom

Natural gas prices have been trending down over the past month, easing from the eye-watering €339.20 per MWh peak reached in August, when the news first broke that Gazprom would be conducting unscheduled maintenance on the Nord Stream I pipeline at the start of September. Even though Gazprom eventually closed the pipeline indefinitely, natural gas futures have been trading lower. At the time of writing, one-month forwards are trading at their lowest price since late July.

The price has come down amid news that the European Union's gas reserves filled up faster than planned: As of 18 September, reserves were more than 85% full. This is undoubtedly promising, but risks remain acute. Once households begin heating, reserves will start to draw down, and the speed of this draw could lead to a rebound in gas prices. Either way, at the current level, gas prices are significantly higher than a year earlier. We think that another spike past €300 per MWh as happened in August is unlikely. But gas prices will remain a source of inflation for the rest of the year.

Meanwhile, with the closure of the Nord Stream I pipeline, the euro zone drifted closer to a 'no-flow' scenario, in which it is cut off fully from Russian gas exports. However, we are not yet forecasting that Europe runs out of gas reserves. Some countries have already imposed rationing measures aimed at lower energy use from public buildings and monuments. Our baseline assumption remains that Europe will not have to resort to significant nonmarket rationing measures, but market-based rationing will be painful enough. Firms across the Continent have been announcing cuts to production or simply the need to shut down amid raging production costs.

Test of Resilience

BY STEVE COCHRANE

The economy of the Asia-Pacific region is being tested. Export markets are weakening, inflation is rising, and the multiple imbalances holding back China's economy have only just begun to abate with no clear signal of the future. But much of the region, including most of Southeast Asia and India, are nowhere near the risk of recession facing Europe. And inflation across the APAC region is below the lofty heights seen in Europe or the elevated inflation still in the U.S.

Supply-chain disruptions in China have nearly disappeared following the end of the Shanghai lockdowns in the second quarter and more targeted lockdowns in nearly every province as COVID-19 clusters appeared. Volatility of supply-chain disruptions in and around China is bound to happen in the coming months as China will maintain its targeted zero-COVID policy through at least the end of this year. Regional shipping disruptions could be further exacerbated if China's reactions to evolving U.S.-Taiwan relations lead to the kind of military drills that limited shipping through the Taiwan Strait in August.

China weighs on region

It is the weakness of China's economy, however, that weighs on the broader APAC economy. Its weak exports during August and near-zero change in imports since March, illustrate the slowdown of China's manufacturing industries.

The housing market is the other major factor of weakness. Property developers have yet to find the financing they need to complete their many unfinished projects, and those with mortgages on undelivered housing units continue their payment boycotts. Similarly, cash-strapped local governments and local government finance vehicles are not able to rev up housing or infrastructure construction. Prices on new housing units continue to fall, and new construction is down by a third over the year. Outside of the tier-one cities, the market is quite weak.

Recent stimulus measures to help shore up domestic demand include cuts to the one-year and five-year loan prime rates, easing capital requirements for banks and borrowing requirements for household mortgages. Yet, when compared with the accelerating growth rate of the money supply since the beginning of this year, aggregate social financing has maintained a relatively sluggish growth rate. Some glimmer of improvement has come from acceleration of both retail sales and industrial production in August, indicating a more robust fourth quarter. But that is not likely to bring the 2022 GDP growth rate much above 3% this year.

The U.S. economy is still a source of demand for APAC's goods-producing industries. Total imports into the U.S. slowed in June and July, but maintained a nearly 15% growth rate over the year in July. The ISM manufacturing index for August remained above the neutral threshold of 50, and the University of Michigan consumer sentiment survey has improved in the three months through September—indicating that demand from the U.S. for global products will remain robust.

In the near term, economies that depend more on trade with the U.S. than with China—such as Vietnam, India and Thailand—enjoy some comparative advantage. The U.S. accounts for more than 25% of Vietnam's exports, made up of high-tech equipment as well as footwear and apparel. Accelerated foreign direct investment into Vietnam has diversified its export base, including to Korea, from where much of its recent FDI inflows have originated.

South Korea depends relatively highly upon exports to China, along with Taiwan, Australia, Singapore and New Zealand. Malaysia and Indonesia's trade patterns are more diverse, although Indonesia's trade with China is more concentrated in coal and coal products, as well as iron ore—all related to China's manufacturing and construction industries. India's largest single export destination is Europe, which poses a unique near-term risk to its export base given Europe's elevated risk of recession.

It is no surprise, therefore, that export trade is slowing from Korea and Taiwan, whereas Vietnam's trade growth has held quite stable since May. The growth rate of exports from Malaysia and Indonesia are quite strong due to high prices of their commodity exports, but this may not last much longer as commodity prices have fallen from their peaks.

Outlook

In this environment, APAC central banks continue to normalise policy interest rates. Aside from China and Japan, policymakers have their eyes not only on domestic inflation but on the fast pace of policy increases by the Federal Reserve that are strengthening the value of the dollar. Along with China and Japan, the currencies of India, South Korea, Malaysia, Philippines and Thailand are under some pressure. Not only will the APAC central banks need to raise rates further through the end of this year and into next year, but they will have to stay at high levels for longer if the U.S. federal funds rate remains at a high rate through 2024, as is now expected.

Upgrades Dominate in U.S., Europe Breaks Even

BY OLGA BYCHKOVA

U.S.

U.S. credit upgrades outnumbered downgrades in the latest weekly period. The changes issued by Moody's Investors Service spanned a diverse set of speculative- and investment-grade bonds, and industrial and financial companies. Upgrades comprised 13 of the 20 rating changes and 49% of affected debt.

The largest upgrade was issued to Wesco International Inc. with its corporate family and probability of default ratings raised to Ba2 from Ba3, the rating on Wesco Distribution Inc.'s senior unsecured notes increased to Ba3 from B1 and accounted for 16% of debt affected in the period. According to Moody's Investors Service, the upgrades reflect the improvement in Wesco's financial profile and credit metrics stemming from revenue growth, execution of synergy realization, and favourable end market fundamentals.

The rating outlook is stable, supported by Moody's expectation of a balanced approach to free cash flow allocation among shareholder returns, merger and acquisition opportunities, and maintaining a healthy balance sheet. Moody's could upgrade the ratings if Wesco sustainably improves its credit metrics and maintains good liquidity. At the same time, if credit metrics or liquidity deteriorate because of aggressive financial policies including large debt-funded acquisitions or shareholder returns, Moody's could downgrade the ratings.

Downgrades were headlined by DaVita Inc., which saw its corporate family and probability of default ratings lowered to Ba3 from Ba2, its senior secured debt rating affirmed at Ba1, and senior unsecured debt rating cut to B1 from Ba3, accounting for nearly a quarter of the debt affected in the period. The downgrades reflect the company's aggressive financial policies and deterioration in liquidity at a time when the U.S. dialysis business is facing multiple headwinds, according to Moody's Investors Service. Furthermore, Moody's expects that DaVita may continue to use debt to finance its share repurchases, which will contribute to elevated leverage and erode liquidity. The continuing stable outlook reflects the underlying stability of DaVita's cash flows, supported by continued growth in the population of people needing dialysis.

In line with the latest period, through the first eight months of the year, U.S. rating changes were favourable with upgrades exceeding downgrades 252:193.

Europe

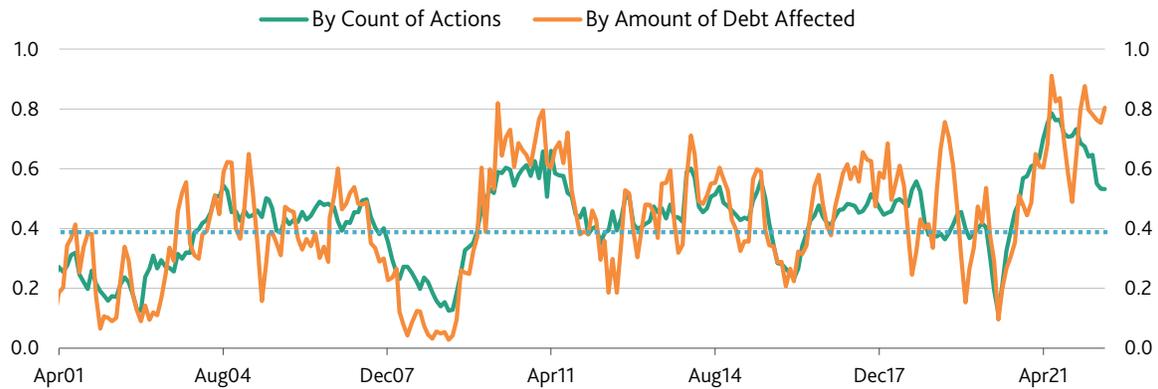
European rating change activity was a bit weaker with as many credit upgrades as downgrades. The majority of ratings changes were issued to speculative-grade industrial firms with upgrades comprising 96% of affected debt.

The largest upgrade last week was made to Switzerland-based investment-grade industrial company Roche Holding AG, which saw its long-term issuer rating and the backed senior unsecured debt ratings of its guaranteed subsidiaries raised to Aa2 from Aa3. According to Marie Fischer-Sabatie, Moody's Investors Service senior vice president, "The upgrade was prompted by Roche's improvements in its business profile in recent years, supported by greater product and therapeutic diversity, together with the maintenance of a strong pipeline and conservative financial policies and metrics." The change impacted more than \$27 billion in outstanding debt, almost 93% of debt affected in the period. The stable outlook factors in Moody's expectations that Roche will continue to maintain decent operating results and steady free cash flow generation in the next 12 to 18 months, which will result in credit metrics further improving and positioning the company solidly at Aa2.

The largest downgrade was issued to Spain-based speculative-grade industrial company Grupo Antolin-Irausa S.A. Moody's Investors Service cut the company's corporate family probability of default and guaranteed senior secured notes ratings to B3 from B2. The downgrades were motivated by the company's inability to improve profitability and credit metrics to the extent expected for the B2 rating category, driven by a challenging environment for the global auto parts suppliers, in particular those with a high focus on Europe, considering ongoing cost inflation and only moderate pricing power. The continuing stable outlook reflects Moody's expectation of continued progress in Grupo Antolin's financial recovery that should lead to financial metrics becoming more adequate for the B3 rating level over the coming quarters.

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/SG
44818	ALLOY PARENT LIMITED-DONCASTERS US LLC	Industrial	SrSec/BCF/LTCFR/PDR		U	Caa2	Caa1	SG
44818	MEN'S WEARHOUSE, LLC (THE)	Industrial	SrSec/BCF/LTCFR/PDR		U	Caa1	B1	SG
44819	SYNEOS HEALTH, INC.	Industrial	SrUnsec/LTCFR/PDR/LGD	1200	U	B2	B1	SG
44819	LINDBLAD EXPEDITIONS HOLDINGS, INC.-LINDBLAD EXPEDITIONS, LLC	Industrial	LGD	360	U			
44819	REDSTONE BUYER LLC (RSA SECURITY)	Industrial	SrSec/BCF/LTCFR/PDR/LGD		D	Caa2	Caa3	SG
44819	LD HOLDINGS GROUP, LLC	Financial	SrUnsec/LTCFR	1100	D	B3	Caa1	SG
44819	HOME POINT CAPITAL INC.	Financial	SrUnsec/LTCFR	550	D	B3	Caa1	SG
44819	AKORN HOLDINGS LLC-AKORN OPERATING COMPANY LLC	Industrial	SrSec/BCF/LTCFR/PDR/LGD		D	Caa2	Caa3	SG
44820	HOVNIANIAN ENTERPRISES, INC.-K. HOVNIANIAN ENTERPRISES, INC.	Industrial	SrSec/SrUnsec/LTCFR/PDR/PS	847.6	U	Caa1	B3	SG
44820	POPULAR, INC.	Financial	SrUnsec/LTIR/STD/LTD/MTN/PS	866.875	U	Ba3	Ba1	IG
44820	DAVITA INC.	Industrial	SrUnsec/LTCFR/PDR/SGL	4250	D	Ba3	B1	SG
44820	WESCO INTERNATIONAL, INC.-WESCO DISTRIBUTION, INC.	Industrial	SrUnsec/LTCFR/PDR	2825	U	B1	Ba3	SG
44820	FIRST BANCORP-FIRSTBANK PUERTO RICO	Financial	LTIR/STD/LTD		U	B1	Ba2	SG
44820	BROADSTREET PARTNERS, INC.	Financial	LGD		U			SG
44823	CHASSIX HOLDINGS, INC.-ALUDYNE, INC.	Industrial	LTCFR/PDR		D	B3	Caa1	SG
44823	LAGUARDIA GATEWAY PARTNERS, LLC	Industrial	SrSec		U	Baa3	Baa2	IG
44823	BCPE ULYSSES INTERMEDIATE, INC.-LBM ACQUISITION, LLC	Industrial	SrUnsec/SrSec/BCF/LTCFR/PDR	1220	U	Caa2	Caa1	SG
44823	ENCORE GLOBAL LP-AVSC HOLDING CORP.	Industrial	SrSec/BCF/LTCFR/PDR		U	Caa2	Caa1	SG
44823	CONNECT HOLDING II LLC-EMBARQ CORPORATION	Industrial	SrUnsec/LGD	2970	D	Ba2	Caa2	SG
44824	ATI INC.	Industrial	SrUnsec/LTCFR/PDR	1175	U	B3	B2	SG

Source: Moody's

FIGURE 4

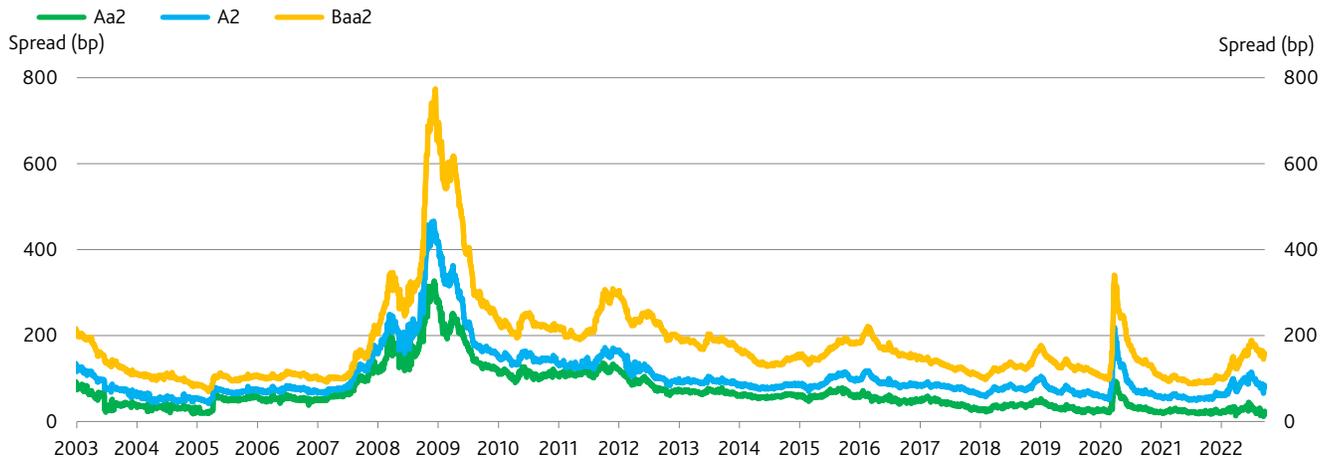
Rating Changes: Corporate & Financial Institutions - Europe

Date	Company	Sector	Rating	Amount (\$ Million)	Up/Down	Old LTD Rating	New LTD Rating	IG/SG	Country
9/15/2022	ROCHE HOLDING AG-ROCHE KAPITALMARKT AG	Industrial	SrUnsec/LTIR/MTN	27233.5	U	Aa3	Aa2	IG	SWITZERLAND
9/15/2022	CINERWORLD GROUP PLC (GBP)-CROWN FINANCE US, INC.	Industrial	SrSec/BCF/LTCFR/PDR/LGD		D	Caa2	Ca	SG	UNITED KINGDOM
9/15/2022	JOYE MEDIA S.L.	Industrial	LTCFR/PDR		U	Caa2	B2	SG	SPAIN
9/15/2022	ROOT BIDCO S.A.R.L.	Industrial	LGD		U			SG	LUXEMBOURG
9/19/2022	GRUPO ANTOLIN-IRAUSA, S.A.	Industrial	SrSec/LTCFR/PDR	641.9515	D	B2	B3	SG	SPAIN
9/19/2022	DAKAR FINANCE S.A.-PARTS EUROPE S.A.	Industrial	SrSec/LTCFR/PDR	962.9273	U	B3	B2	SG	FRANCE
9/19/2022	ZF INVEST	Industrial	SrSec/BCF/LTCFR/PDR		D	B2	B3	SG	FRANCE
9/20/2022	CECONOMY AG	Industrial	SrUnsec/LTCFR/PDR	501.5246	D	Ba1	Ba3	SG	GERMANY

Source: Moody's

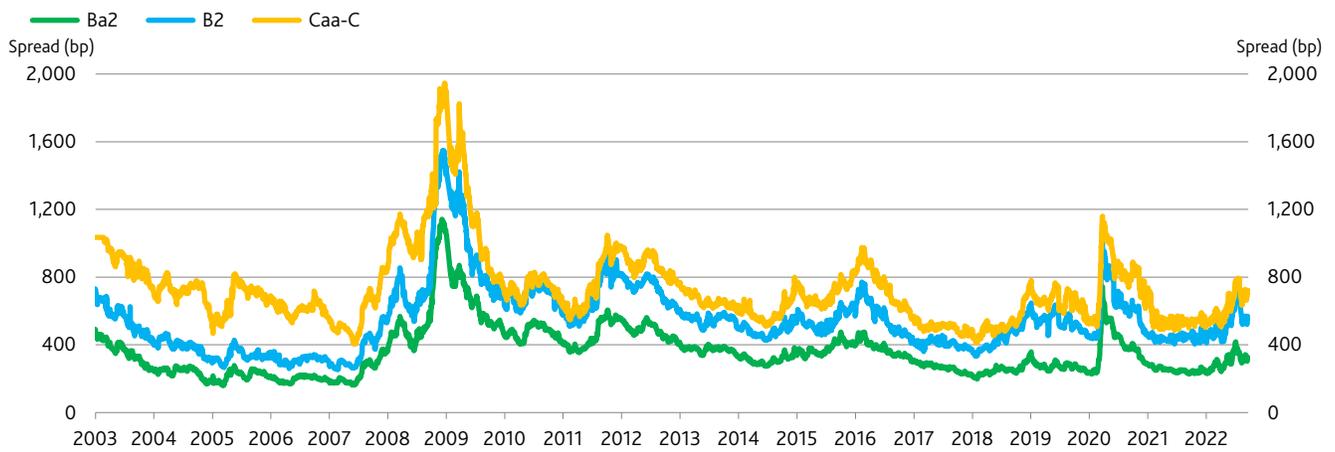
MARKET DATA

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 (September 14, 2022 – September 21, 2022)

CDS Implied Rating Rises	CDS Implied Ratings			
	Issuer	Sep. 21	Sep. 14	Senior Ratings
	The Terminix Company, LLC	Aa2	Baa1	B1
	Meritor, Inc.	Aa3	A2	B1
	Toyota Motor Credit Corporation	Aa2	Aa3	A1
	Apple Inc.	Aaa	Aa1	Aaa
	Amazon.com, Inc.	Aa1	Aa2	A1
	CVS Health Corporation	A2	A3	Baa2
	Johnson & Johnson	Aaa	Aa1	Aaa
	Walt Disney Company (The) (Old)	Aaa	Aa1	A2
	Charles Schwab Corporation (The)	A2	A3	A2
	Southern California Edison Company	Baa2	Baa3	Baa2

CDS Implied Rating Declines	CDS Implied Ratings			
	Issuer	Sep. 21	Sep. 14	Senior Ratings
	Pitney Bowes Inc.	C	Caa2	B3
	United Airlines, Inc.	Caa2	B3	Ba3
	United Parcel Service, Inc.	A1	Aa2	A2
	Dish DBS Corporation	Ca	Caa2	B3
	Alabama Power Company	A2	Aa3	A1
	Staples, Inc.	C	Caa3	Caa2
	International Paper Company	Baa2	A3	Baa2
	American Axle & Manufacturing, Inc.	Caa1	B2	B2
	TEGNA Inc.	Caa2	B3	Ba3
	Liberty Interactive LLC	Ca	Caa2	B2

CDS Spread Increases	CDS Spreads				
	Issuer	Senior Ratings	Sep. 21	Sep. 14	Spread Diff
	Pitney Bowes Inc.	B3	1,665	1,299	366
	Rite Aid Corporation	Caa2	2,082	1,879	203
	United States Steel Corporation	B1	712	585	128
	Gap, Inc. (The)	Ba3	691	577	114
	American Axle & Manufacturing, Inc.	B2	637	534	103
	Deluxe Corporation	B3	745	651	94
	United Airlines, Inc.	Ba3	829	736	93
	Macy's Retail Holdings, LLC	Ba2	542	449	93
	Embarq Corporation	Caa2	759	666	93
	Macy's, Inc.	Ba2	562	481	80

CDS Spread Decreases	CDS Spreads				
	Issuer	Senior Ratings	Sep. 21	Sep. 14	Spread Diff
	Carnival Corporation	B3	904	981	-76
	Royal Caribbean Cruises Ltd.	B3	817	889	-72
	ATI Inc.	B2	263	318	-56
	The Terminix Company, LLC	B1	45	82	-36
	Dish DBS Corporation	B3	1,251	1,279	-28
	SITE Centers Corp.	Baa3	190	208	-18
	Service Corporation International	Ba3	174	190	-16
	Masco Corporation	Baa2	142	157	-15
	Travel + Leisure Co.	B1	380	393	-13
	AT&T Corp.	Baa2	130	142	-12

Source: Moody's, CMA

CDS Movers

Figure 4. CDS Movers - Europe (September 14, 2022 – September 21, 2022)

CDS Implied Rating Rises	CDS Implied Ratings		
	Issuer	Sep. 21	Sep. 14
United Kingdom, Government of	Aaa	Aa1	Aa3
Portugal, Government of	Aa3	A1	Baa2
Landesbank Baden-Wuerttemberg	Aa3	A1	Aa3
SEB AB	A1	A2	Aa3
KBC Bank N.V.	Aa2	Aa3	A1
Bank of Ireland	Baa2	Baa3	A1
Schneider Electric SE	Aa1	Aa2	A3
VERBUND AG	Aaa	Aa1	A3
Caixa Geral de Depositos, S.A.	Baa2	Baa3	Baa2
EWE AG	Baa2	Baa3	Baa1

CDS Implied Rating Declines	CDS Implied Ratings		
	Issuer	Sep. 21	Sep. 14
Deutsche Post AG	Aa3	Aa1	A2
Jaguar Land Rover Automotive Plc	Caa3	Caa1	B1
Ardagh Packaging Finance plc	Caa3	Caa1	Caa1
Vedanta Resources Limited	C	Caa3	B3
Iceland Bondco plc	Ca	Caa2	Caa2
Banco Santander S.A. (Spain)	Baa1	A3	A2
ABN AMRO Bank N.V.	A3	A2	A1
Standard Chartered PLC	Baa2	Baa1	A3
Banque Federative du Credit Mutuel	Baa2	Baa1	Aa3
Lloyds Banking Group plc	Baa2	Baa1	A3

CDS Spread Increases	Senior Ratings	CDS Spreads		
		Sep. 21	Sep. 14	Spread Diff
Vedanta Resources Limited	B3	1,764	1,441	323
Casino Guichard-Perrachon SA	Caa1	3,163	2,928	234
Iceland Bondco plc	Caa2	1,424	1,220	204
Novafives S.A.S.	Caa2	1,779	1,603	176
Boparan Finance plc	Caa3	2,350	2,186	164
CECONOMY AG	Ba3	746	651	96
Jaguar Land Rover Automotive Plc	B1	1,003	910	93
Stena AB	B2	581	506	76
UPC Holding B.V.	B3	417	355	62
Ziggo Bond Company B.V.	B3	499	445	54

CDS Spread Decreases	Senior Ratings	CDS Spreads		
		Sep. 21	Sep. 14	Spread Diff
Fortum Oyj	Baa2	157	232	-75
Banca Monte dei Paschi di Siena S.p.A.	Caa1	628	645	-17
Vue International Bidco plc	C	653	666	-13
Germany, Government of	Aaa	16	16	0
Norway, Government of	Aaa	12	12	0
Swedish Export Credit Corporation	Aa1	16	16	0
KBC Bank N.V.	A1	44	44	0
KBC Group N.V.	Baa1	111	111	0
Schneider Electric SE	A3	36	36	0
Landesbank Baden-Wuerttemberg	Aa3	52	51	0

Source: Moody's, CMA

CDS Movers

Figure 5. CDS Movers - APAC (September 14, 2022 – September 21, 2022)

CDS Implied Rating Rises	CDS Implied Ratings		
	Senior Ratings	Sep. 21	Sep. 14
Issuer			
Suncorp-Metway Limited	A1	A3	Baa2
Australia and New Zealand Banking Grp. Ltd.	Aa3	A1	A2
Macquarie Bank Limited	A2	A2	A3
Hong Kong SAR, China, Government of	Aa3	Aa1	Aa2
Kyushu Electric Power Company, Incorporated	Baa3	Aaa	Aa1
Chubu Electric Power Company, Incorporated	A3	Aaa	Aa1
Toyota Motor Corporation	A1	Aaa	Aa1
Kyoto, City of	A1	Aaa	Aa1
Japan Tobacco Inc.	A2	Aa2	Aa3
ITOCHU Corporation	A3	Aa1	Aa2

CDS Implied Rating Declines	CDS Implied Ratings		
	Senior Ratings	Sep. 21	Sep. 14
Issuer			
Philippines, Government of	Baa2	Baa2	Baa1
Export-Import Bank of China (The)	A1	A3	A2
China Development Bank	A1	Baa1	A3
SoftBank Group Corp.	Ba3	B3	B2
Malayan Banking Berhad	A3	Baa2	Baa1
JFE Holdings, Inc.	Baa3	A2	A1
Export-Import Bank of India	Baa3	Baa2	Baa1
NIPPON STEEL CORPORATION	Baa2	A1	Aa3
Kia Corporation	Baa1	Baa2	Baa1
Hyundai Capital Services, Inc.	Baa1	A1	Aa3

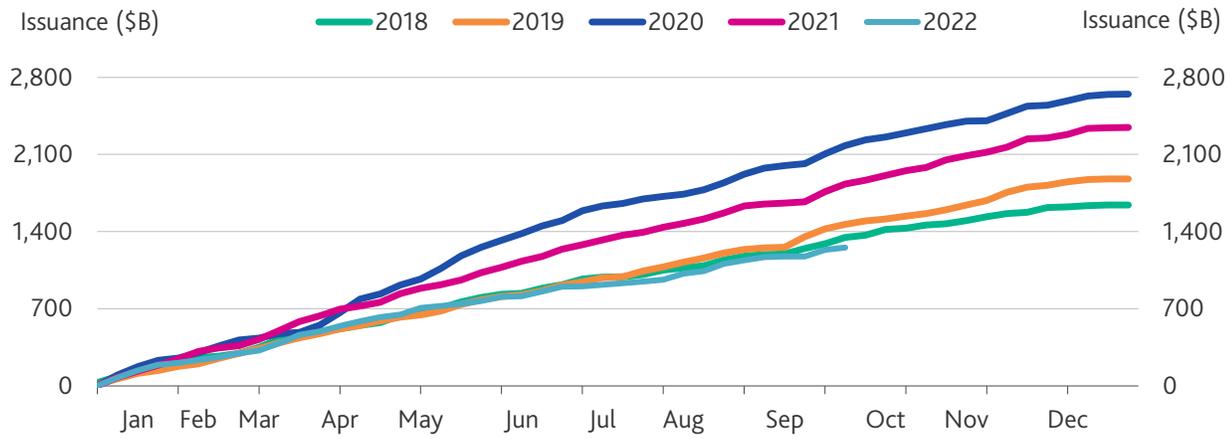
CDS Spread Increases	Senior Ratings	CDS Spreads		
		Sep. 21	Sep. 14	Spread Diff
Issuer				
SoftBank Group Corp.	Ba3	515	477	38
CITIC Group Corporation	A3	143	115	29
Vietnam, Government of	Ba2	147	124	23
Indonesia, Government of	Baa2	124	102	22
Nissan Motor Co., Ltd.	Baa3	200	178	22
Kia Corporation	Baa1	112	90	22
India, Government of	Baa3	119	98	21
Philippines, Government of	Baa2	111	90	21
Industrial & Commercial Bank of China Ltd	A1	102	81	21
Bank of China Limited	A1	102	83	19

CDS Spread Decreases	Senior Ratings	CDS Spreads		
		Sep. 21	Sep. 14	Spread Diff
Issuer				
Pakistan, Government of	B3	2,194	2,272	-78
Development Bank of Kazakhstan	Baa2	214	226	-13
Suncorp-Metway Limited	A1	84	93	-9
Coca-Cola Amatil Limited	Baa1	61	62	0
New Zealand, Government of	Aaa	24	24	0
Kansai Electric Power Company, Incorporated	A3	34	34	0
Mitsui Fudosan Co., Ltd.	A3	26	25	0
Macquarie Bank Limited	A2	72	72	1
Mitsubishi Estate Co., Ltd.	A2	21	20	1
Japan, Government of	A1	22	20	2

Source: Moody's, CMA

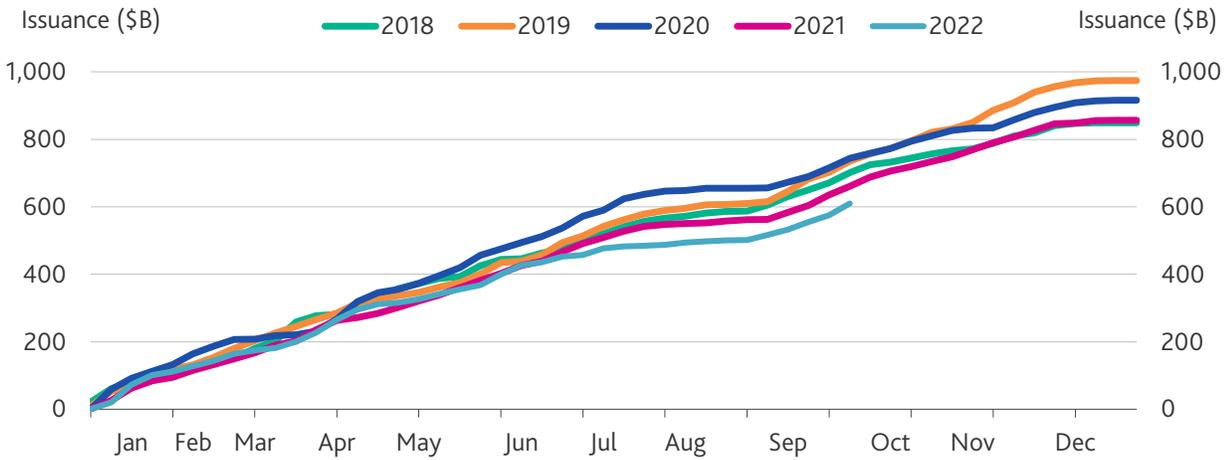
ISSUANCE

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	20.926	0.800	22.685
Year-to-Date	1,098.504	117.534	1,255.807

	Euro Denominated		
	Investment-Grade	High-Yield	Total*
	Amount \$B	Amount \$B	Amount \$B
Weekly	30.662	2.273	35.006
Year-to-Date	566.485	32.424	609.910

* Difference represents issuance with pending ratings.

Source: Moody's/ Dealogic

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