

WEEKLY MARKET OUTLOOK

SEPTEMBER 2, 2021

Lead Author

Ryan Sweet Senior Director-Economic Research

ClientServices@Moodys.com

Asia-Pacific

Shahana Mukherjee Economist

Europe

Ross Cioffi Economist

U.S.

Steven Shields Economist

Ryan Kelly Data Specialist

Contact Us

Americas +1.212.553.1658 clientservices@moodys.com

+44.20.7772.5454 clientservices.emea@moodys.com

Asia (Excluding Japan) +85 2 2916 1121 clientservices.asia@moodys.com

Japan +81 3 5408 4100 clientservices.japan@moodys.com

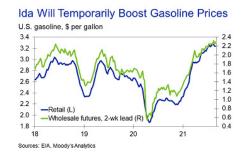
Ida, Gasoline and Inflation Expectations

The Federal Reserve is catching some heat about inflation, but the Fed's bet on it being transitory is correct, and price pressures will moderate later this year and in early 2022. However, the Fed isn't going to be off the hot seat soon. Hurricane Ida will put additional, temporary, upward pressure on growth in September's consumer prices because of higher energy costs. The Fed views fluctuations in inflation driven by energy prices as transitory and this won't change unless there is a sustained increase in long-term inflation expectations.

Retail gasoline prices are going to increase. Wholesale gasoline futures, which lead retail gasoline prices by two weeks, point to prices at the pump reaching \$3.40 per gallon, compared with \$3.24 in the week ended August



30, roughly a 5% gain. This is a fairly modest increase relative to that seen after Hurricanes Katrina and Rita in 2015, when retail gasoline prices jumped 20%.



Moody's Analytics and Moody's Investors Service maintain separate and independent economic forecasts. This publication uses the forecasts of Moody's Analytics. Moody's Analytics markets and distributes all Moody's Capital Markets Research materials. Moody's Analytics does not provide investment advisory services or products. For further detail, please see the last page.

It's still unclear what the ultimate increase in retail gasoline prices will be because there are a number of refineries offline in Louisiana, and if they remain dormant for an extended period of time, gasoline prices will rise even further. Odds are that energy prices will boost the headline consumer price index in both August and September.

Higher gasoline prices could ding growth but maybe not as much as in the past. We ran four different scenarios involving 5%, 10%, 15% and 20% increases in retail gasoline prices this quarter. We assumed gasoline prices remained above the baseline in the fourth quarter before falling back to the baseline in early 2022. A 5% increase in gasoline prices would reduce real GDP growth by a little less than 0.1 percentage point over the course of a year. A 10% increase cuts GDP growth by 0.1 percentage point, and a 15% gain shaves 0.2 percentage point. A 20% increase reduces GDP growth by 0.3 percentage point. However, the hit to GDP growth could be less because of the significant amount of excess savings households are sitting on.

Higher energy prices could nudge inflation expectations higher. Our past work has shown that the five-year, five-year forward break-even inflation rate, which uses Treasury Inflation-Protected Securities, is sensitive to fluctuations in energy prices.

The Fed will look through any rise in market-based inflation expectations that is attributed to Hurricane Ida. However, the central bank will become increasingly sensitive to market-based measures of inflation expectations if inflation doesn't moderate as soon as policymakers anticipate, and the labor market continues to improve. We are closely tracking various measures of inflation expectations and one to keep an eye on is the five-year, five-year zero-coupon inflation swap rate. This differs from expectations based on TIPS.

A zero-coupon inflation swap is a derivative used to transfer inflation risk from one party to another through an exchange of cash flows. In a zero-coupon inflation swap, only one payment is done at maturity where a party pays a fixed rate on a notional principal amount, while the other party pays a floating rate linked to an inflation index. On the other hand, TIPS pay a semiannual coupon based on the principal value, which is adjusted for changes in the consumer price index. TIPS don't protect against increases in real interest rates because, like nominal bonds, TIPS are exposed to movements in real interest rates while inflation swaps are constructed to prevent investors from being exposed to changes in real interest rates.

Inflation Expectations Remain Anchored



With data on the 10- and five-year zero-coupon inflation swap, we're able to calculate the five-year, five-year swap inflation rate. This is another measure of inflation expectations, and it suggests that long-term inflation expectations are anchored just south of 2.4%. This is in line with that seen through 2018 but higher than that in 2019. Inflation was moderating in 2019. Therefore, we could see the five-year, five-year swap inflation rate decline later this year and into next, providing the Fed some cover. Unless inflation expectations steadily climb, the Fed can be patient and not raise the target range for the fed funds rate for a while.

Is a bottom forming?

Sources: Bloomberg LP, Moody's Analytics

The gap between the U.S. 10-year Treasury yield and our estimate of its "economic fair value" continues to widen, but this could imply a bottom could form soon.

We use an ordinary least squares regression to estimate an economic fair value of the 10-year Treasury yield. A significant deviation from this estimate would imply that there are other forces driving long-term interest rates.

The five variables used in the regression are our estimate of monthly real U.S. GDP, the CPI, the current effective fed funds rate, the Fed's balance sheet as a share of nominal GDP, and a Fed bias measure constructed using fed funds futures.

All five variables were statistically significant with the correct sign and explained 63% of the fluctuation in the 10-year Treasury yield. The regression used monthly data. The model's implied economic fair value of the 10-year Treasury yield in February—the latest available data for some of the explanatory variables—is 1.58%. This is only 28 basis points higher than the current yield on the 10-year Treasury.

Also, seasonals favor an increase in the 10-year Treasury yield in September. On average, over the past several years,

Treasury returns have declined in September. Further, the 10-year Treasury yield has risen in four of the last five Septembers. We don't anticipate a jump in interest rates this fall, but with seasonals turning less favorable, odds are rates will rise rather than continuing to drop.

This assumption could be wrong if the number of COVID-19 cases continues to climb, increasing the economic costs.

.

TOP OF MIND

Asia Capital Market View

BY SHAHANA MUKHERJEE

Intense <u>COVID-19</u> outbreaks across Asia have renewed risks to the region's recovery. The resulting moderation in investor perception is reflected in the region's bond markets.

Several Asian countries are in the midst of another wave of localised outbreaks, prompting investors to reassess their outlooks for growth—pushing 10-year government bond yields lower. Since late June, <u>Indonesia</u>, <u>South</u>

<u>Korea</u> and <u>Thailand</u> have recorded the sharpest declines in long-term interest rates, as 10-year government bond yields have dropped by 40, 16 and 14 basis points, respectively. The sovereign yield curves for all Southeast Asian economies have also shifted lower across longer-term tenors (over five years) during this period, diminishing the early gains from the March quarter.

In contrast, India's 10-year government bond yield has risen 21 basis points since the end of June, aided by signs the current wave of COVID-19 cases has settled down. India's sovereign yield curve, however, has steepened during this period, reflecting better perception regarding its long-term outlook—but concurrently, continued uncertainty about its near-term prospects.

This wave of COVID-19 cases in the Asia-Pacific region has also driven up risk premiums for most of the affected Asian economies, as the credit default swap spreads (senior five-year) hit quarterly or year-to-date highs for most Southeast Asian economies. But in all cases, spreads have tightened throughout August, likely reflecting some gains from a step-up in the pace of inoculations in the region.

China's bond market facing headwinds

China's remarkable economic performance since the second half of 2020 has bolstered its distinctive position in the region's bond markets, as foreign investors expanded their holdings of Chinese sovereign bonds to a record high of US\$330 billion by June.

Recently, however, concerns about moderating growth, the Delta variant, and a shift in the government's regulatory stance have caused some movements in the domestic bond market. In particular, the government's crackdown on tech and private education firms triggered a risk-off sentiment for Chinese equities and bonds from the end of July, stemming a near eight-week bond market rally. The CDS spread climbed to hit the year's second-highest peak at 42.3 basis points in late July.

Though the dip in sovereign bonds and equities from the selloff has moderated recently, a tighter regulatory stance on selected private industries has sustained some pressure on China's investment-grade corporate debt market. Chinese corporate bond spreads for five-year AAA-rated bonds widened by 6 basis points in the past week to 73 basis points on 31 August. The comparable spread for AA-rated corporate bonds also widened by the same margin of 6 basis points during this period to settle at 162 basis points by 31 August.

Outlook factors

Asian financial markets will be shaped by a few factors in the coming months.

Improving vaccination rates are a bright spot for the region. However, localised outbreaks are far from settled in several Asian countries, which will keep the downside risks from prolonged shutdowns pertinent. Making matters worse is that the Delta variant has raised concerns about the efficacy of some approved vaccines, which could have a bearing on the timing of border reopenings. Moreover, the ongoing global chip shortage and the broader supply-chain disruptions affecting Asia's manufacturing capacities could also limit the gains from a strong trade position—a crucial factor which has anchored the region's recovery. These elements will keep investors cautious in the near term.

Rising interest-rate differentials may seem a less-likely phenomenon to trigger sharp capital outflows from Asia in the very near term, especially in the low-interest rate regime being maintained by most developed and developing countries. However, significant inflation pressures can still emerge earlier than expected in some economies, especially if supply-side or cost factors persist, which can weaken the real returns for overseas investors. These issues, coupled with depreciation risks against the U.S. dollar, could reduce the attractiveness of emerging Asia debt in the near term.

Concern over a Fed taper

Talk of the Federal Reserve's plans to reduce its current pace of asset purchases has dominated the headlines and generated some concerns regarding another potential taper tantrum. While this probability remains relatively low at this stage and an occurrence may not trigger a sharp emergingmarket selloff similar to magnitudes in 2013, emerging Asian

markets can still be susceptible to this shift if global financial conditions materially tighten as a consequence.

Some Asian countries now maintain better reserves positions and may be appropriately equipped to manage the buildup of depreciation pressures on the domestic currency. However, weaker balance sheets in the advent of the latest shutdowns, and the prolonged income uncertainty facing businesses, can potentially become significant limiting factors for the domestic banking sector if access to cross-border credit is affected.

For China's bond market, while a stringent regulatory stance on tech firms can remain a cause for concern among investors and sustain pressure on corporate debt, there are some upsides which can provide some offset to the current uncertainty, particularly for investment-grade corporate

debt. In particular, higher returns on Chinese corporate dollar debt vis-à-vis its Southeast Asian peers, the country's significant potential to provide additional economic stimulus given limited injections thus far, and the growing differential in its near-term recovery prospects with much of the rest of Asia are factors that can sustain its appeal to foreign debt holders in the near term.

For China's sovereign bonds, their historically weaker correlation with other sovereign bonds and some other asset classes is another feature which can keep investors interested in this segment/market, especially in light of the renewed uncertainty in the region's recovery prospects.

The Week Ahead in the Global Economy

U.S.

The U.S. economic calendar settles down next week. Among the key data being released is the Job Openings and Labor Turnover Survey. This will continue to show that U.S. businesses have a boatload of open positions to fill. The Delta variant of COVID-19 could delay when some people are able to return to the labor force because of childcare responsibilities and concerns about contracting the virus. These have been two significant weighs on labor supply. Initial claims for unemployment insurance benefits for the week ending September 4 will be released. Take this data with a grain of salt, since new filings can be volatile around holidays and the incoming data will include Labor Day.

We also get the final Quarterly Services Survey for the second quarter, and it could have implications for our tracking estimate of second-quarter GDP. The week wraps up with August producer prices. Though the PPI isn't source data for the CPI, it is for the core PCE deflator, the Fed's preferred measure of inflation. Hurricane Ida will put some upward pressure on producer and consumer prices via higher energy costs, but that will likely appear in the September data rather than August.

Europe

The final estimate for euro zone second-quarter GDP will be released next week. Output likely rose 2% q/q in the stanza, following the previous 0.3% decline. As seen in the national releases out so far, we expect household consumption played an important role in fueling growth. Investments also likely surprised to the upside. However, net trade likely detracted from growth as supply issues stymied order fulfillment.

The U.K.'s estimate of monthly GDP growth in July likely came in at 1%, same as in June. Despite the outbreak of the Delta variant of COVID-19, social distancing measures remained fundamentally loose. Upbeat PMI

surveys and solid core inflation pointed to stable demand during the month.

Industrial production was likely mixed among the major euro zone economies during July. We expect output partially rebounded by 0.8% m/m in Germany after decline and that production continued to grow in France, by 0.9%. In Spain, things were likely unchanged, while in Italy, after solid growth, we expect factories slowed down slightly by 0.4%.

Finally, we expect the Central Bank of Russia to increase its key policy rate to 7% from 6.5%. The decision will come as consumer price inflation remains stubbornly high in the country. Global supply issues combined with a weak ruble are pushing up producer costs, which are getting passed on to consumers. The inflation rate was unchanged in July from June, at 6.5% y/y, but we are also expecting another acceleration in the rate for August, to 6.7%, which should push the CBR to act.

Asia-Pacific

The Reserve Bank of Australia's monetary policy decision will be the highlight on the economic calendar. We expect the central bank to keep its monetary settings steady in this announcement and for the cash rate to be maintained at 0.1%. With the latest domestic outbreak set to drive Australia into its first quarterly contraction since June 2020, the central bank is likely to prioritise stability by maintaining settings conducive for demand and employment recovery once restrictions are relaxed.

China's exports are likely to have held up in August, benefitting from improving overseas demand for consumer goods, though the yearly increase in exports and imports should have moderated as low base effects fade. China's annual inflation is likely to come in a touch softer at 0.9% in August, compared with 1% in July, as a result of cooling food prices. Some easing in domestic spending due to movement restrictions is expected to have weighed on household consumption.

Geopolitical Calendar

Date	Country	Event	Economic Importance	Financial Market Risk
5-Sep	Hong Kong	Legislative Council elections	Low	Medium
15-Sep to 15-Oct	Italy	Local elections	Low	Low
26-Sep	Germany	Federal elections	Medium	Medium
2-Oct	Brazil	Presidential and congressional elections	High	Medium
Oct/Nov	Japan	General elections	Low	Low
Oct/Nov	ASEAN	ASEAN summit	Low	Low
Nov	Asia-Pacific	Asia-Pacific Economic Cooperation forum	Medium	Low
Nov	G-20	G-20 Summit	Medium	Low
7-Nov	Nicaragua	Presidential, congressional elections	Low	Low
14-Nov	Argentina	Legislative elections	Medium	Low
21-Nov	Chile	Presidential elections	Low	Low
28-Nov	Honduras	Presidential, congressional and municipal elections	Low	Low
10-Apr	France	General elections	Medium	Medium
29-May	Colombia	Presidential elections	High	Low

THE LONG VIEW: U.S.

Seasonals Favor a September Increase in the 10-yr Treasury Yield

BY RYAN SWEET

CREDIT SPREADS

Moody's long-term average corporate bond spread is 98 basis points, 2 bp tighter than this time last week. This is below its high over the past 12 months of 138 bps and just above its lowest over the past year of 95 bps. This spread may be no wider than 118 bps by year-end 2021. The long-term average industrial corporate bond spread also fell 2 bp over the past week to 89 bps. This is only modestly above its low over the past 12 months of 86 bps and well below its high of 131 bps.

The long-term investment grade corporate bond spread was 131 basis points, compared with 133 bp last week. It remains well below its recent high of 194 bps. Its tightest over the past year was 129 bps. Investment-grade industrial corporate bond spreads narrowed from 138 bps to 135 bps.

The recent ICE BofA U.S. high-yield option adjusted bond spread of 319 basis points was 3 bps tighter than at this point last week. The high-yield option adjusted bond spread approximates what is suggested by the accompanying long-term Baa industrial company bond yield spread but wider than that implied by a VIX of 15.9. The VIX has been bouncing around over the past few weeks and is now slightly below its historical average of around 19.

DEFAULTS

The global speculative-grade corporate default rate fell to 4.9% for the trailing 12 months ended in May, returning to where it stood a year earlier and down from 5.6% at the end of April. Among high-yield bond issuers, the U.S. default rate was 2.8% at the end of May when measured on a dollar-volume basis, down from 4.5% at the end of April. The decline reflects the exit of a few large defaults in 2020 from the trailing 12-month window.

According to the Moody's Credit Transition Model, the trailing 12-month global speculative-grade default rate will fall to 1.8% by the end of the year under the MIS baseline scenario and remain little change through May 2022. To derive default-rate forecasts, Moody's CTM uses inputs, including ratings and rating transitions, as well as assumed future paths of high-yield bond spreads and changes in unemployment rates.

In the Moody's Investors Service baseline scenario, the speculative-grade default rate will drop to 1.7% at the end of this year before creeping higher in April and May of next year, touching 1.9%. For Europe, the speculative-grade default rate will steadily decline over the next several months and end 2021 at 1.9%.

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 faired noticeably better in the second quarter.

U.S. dollar denominated investment-grade issuance was \$6.2 billion in the week ended Wednesday, bringing the year-to-date total to \$1.137 trillion. Issuance normally tails off right before the Labor Day holiday and this year is no exception. High-yield corporate bond issuance rose \$300 million, bringing the year-to-date total to \$470.7 billion.

U.S. ECONOMIC OUTLOOK

U.S. federal lawmakers are feverishly working on another massive fiscal program, including a \$550 billion bipartisan infrastructure deal and a \$3.5 trillion package of spending and tax breaks to support a range of social investments.

The bipartisan infrastructure deal is small, as new outlays would average only 0.2% of annual GDP within the next decade. It would also include a potpourri of pay-fors. The most immediate impact of the deal would be to marginally reduce growth in 2022, since the pay-fors kick in right away while increased spending takes time to materialize because of lags in starting infrastructure projects. The apex in the boost to growth would come in 2023 when real GDP increases 2.9%, compared with 2.3% when assuming no further fiscal support is enacted. The deal creates close to 650,000 jobs at its peak impact in mid-decade, reducing the jobless rate a couple of tenths of a percentage point.

The \$3.5 trillion package is much larger, as gross fiscal support would average 1% of annual GDP over the next decade. It is assumed to be mostly paid for by higher taxes on corporations and well-to-do households. The boost to growth under just the reconciliation package would occur quickly, with real GDP increasing 5.4% in 2022, compared with 4.3% if no further fiscal stimulus is passed. There are more than 2 million additional jobs by mid-decade and the jobless rate is at least 0.5 percentage point lower.

The August baseline forecast assumes that the \$550 billion bipartisan infrastructure deal passes in its current form. This fall, Democrats will debate the \$3.5 trillion package and seek to enact it through the budget reconciliation process, which requires only a simple Senate majority. Our base-case scenario is that moderate Democrats will roll back the scale of spending and tax breaks from \$3.5 trillion to \$3 trillion. All but \$200 billion of the partisan reconciliation package will be financed by higher taxes on corporations and well-to-do households. Concerns around the deficit will be much more binding going forward than they have been in the past year. Under our current fiscal assumptions, the federal deficit

will fall from 15% of GDP in fiscal 2020 to 12.8% and 5.8% in fiscal 2021 and 2022, respectively.

Tweaking GDP forecast

We lowered our forecast for GDP growth this year and next. We now expect real GDP to rise 6.3% this year, compared with 6.7% in the July baseline. Some of the downward revision is attributed to the data on second-quarter GDP, which came in weaker than in our prior baseline forecast. Another reason for the downward revision to our forecast for growth this year and next is we now anticipate a slower inventory rebuild because of supply chain issues. The number of days between a semiconductor order and shipment continues to climb. The Delta variant is hitting the Asia-Pacific region hard. This could also delay any improvement in global supply chains and might limit the amount of inventory that must be restocked in the U.S.

Real GDP is forecast to grow 4.5% in 2022, compared with 5% in the July baseline. We revised higher our forecast for GDP growth in 2023 by 0.3 of a percentage point to 2.6%. Our GDP forecasts are close to the Bloomberg consensus of 6.5% in 2021 and 4.2% in 2022. The consensus is for GDP to rise 2.3% in 2023.

Note: The August baseline forecast incorporates the annual revisions to GDP that were released by the BEA with the advance estimate of second-quarter GDP.

Labor market recovery sticking to script

The July U.S. employment report was strong across the board, but labor supply constraints remain binding. There isn't any concrete evidence that states that ended expanded unemployment insurance benefits prematurely boosted the labor force.

Nonfarm employment rose by a net 943,000 in July, and the two-month net revision totaled 119,000. Seasonal adjustment issues with state and local government education juiced the headline. July is encouraging, but there is still a long way to go, as employment is down more than 8 million from where it would have been if the pandemic hadn't occurred. Private employment increased by 703,000 in July, and the underlying trend is running around 480,000 per month. Not seasonally adjusted, private employment rose 779,000, which is significantly stronger than in a typical July.

Given the incoming data, we nudged higher our forecast for average monthly job growth this year from 503,000 in the July baseline to 532,000 in the August baseline.

The unemployment rate fell more than expected in July, but we didn't alter the forecast. The unemployment rate is still expected to average 4.6% in the fourth quarter of this year and 3.5% in the final three months of next year. Both numbers are identical to the July baseline.

Inflation and the Fed

New historical data led us to revise higher our forecast for the core PCE deflator, as it's now expected to rise 3.5% on a year-ago basis in the fourth quarter of this year, compared with 3.2% in June. We look for inflation to moderate next year, with the core PCE deflator up 2.1% on a year-ago basis in the fourth quarter of 2022, identical to the July baseline.

There were no changes to our assumptions about monetary policy in the August baseline. We still look for the initial rate hike in the first quarter of 2023. Tapering will occur in January 2022 and will complete by the end of next year. We don't anticipate a repeat of the 2013 "taper tantrum," which occurred because markets tied the Fed's balance sheet and interest rate policies together. But taper-implied rates haven't risen, implying that markets now understand this.

Financial markets expect this tightening cycle to be gradual, pricing in about 125 basis points of tightening by the end of 2028. Also, in the next few years, the Fed is expected to become more aggressive than the Bank of England and European Central Bank but less than the Bank of Canada. It is difficult to see how the central bank could normalize rates in 2023 and subsequent years as slowly as the markets are pricing in with the economy expected to be at full employment and inflation firmly above its 2% through-the-business cycle target.

For another way to assess the amount of tightening this cycle, we turn to the inertial Taylor rule, one endorsed by Fed Vice Chairman Richard Clarida. This modification of the Taylor rule has a coefficient of zero on the unemployment gap, a 1.5 coefficient on the inflation gap, or the difference between core PCE inflation and the Fed's 2% longer-run objective. Clarida also used a neutral real-policy rate equal to his long-run expectation. We use this Taylor rule and a real-neutral real-policy rate of 0.5%. We include our baseline forecasts for the core PCE deflator, which has a significantly more aggressive tightening cycle than markets are betting on, with the target fed funds rate at 2.25% by the end of 2025, around 75 to 100 basis points more than what markets expect.

We cut our forecast for the 10-year U.S. Treasury in the third quarter and now have it averaging 1.4%, compared with 1.7% in the July baseline. The 10-year Treasury yield is now expected to average 1.7% in the fourth quarter of this year, 20 basis points lower than in the prior baseline. The August baseline for long-term rates converges to the July baseline in mid-2022.

We have revised higher the forecast for the Dow Jones Industrial Average because of how equity markets have performed since the July baseline, but the contours of the forecast haven't changed. The Dow is forecast to have peaked and will gradually decline during the next year. Risks are heavily weighted to the upside, but peak growth, inflation and Fed tapering could weigh on equity markets.

.

THE LONG VIEW: EUROPE

How the ECB Will View Inflation

BY ROSS CIOFFI

Looking ahead to next week's European Central Bank monetary policy decision, we don't expect any changes. The policy rates will be left unchanged, the refinancing rate at 0% and the deposit rate at -0.5%. Meanwhile, purchases under the Pandemic Emergency Purchase Program will continue at a significantly higher pace, and we expect purchases to average around €80 billion over the coming stanza. As Europe's recovery progresses, the urgency behind looser monetary policy has subsided. But we do not expect the ECB to wind down bond purchases earlier than already promised, especially as uncertainty about the pandemic remains.

Moreover, the ECB will not be pushed to tighten policy by the recent HICP release that reported price growth speeding up to 3% y/y during the month. For now, the forces pushing the inflation rate above the bank's target largely remain temporary. Base effects are playing a significant role in pushing inflation above target; the effects will only strengthen in the final months of the year before beginning to revert at the start of 2022. That said, there are tangible risks that inflation could set in, most significantly from longer than expected disruptions to supply channels. The ongoing pandemic abroad is weighing on global supply chains, and the longer this is the case, the more likely it is that firms will have to push on costs to consumers. This could then increase inflation expectations and potentially set in a cycle of wage and price growth. At the time of writing, the 5Y5Y forward euro inflation swap rate is trading at 1.68%, which, excluding a few days of higher rates earlier in August, is the highest it has been since 2018.

European recoveries pick up in Q2

Austria's poor performance in the first quarter was offset by stronger than average growth in the second. The economy grew by 3.6% q/q after a 0.2% decline in the first quarter and a 2.5% contraction in the quarter preceding that. The main driver was consumption growth, in line with the general European trend of a consumer-driven recovery in the second quarter. Investments slowed, but this was made up for by a jump in net exports.

Meanwhile, Irish GDP grew strongly in the second quarter of 2021, increasing by 6.3% q/q following an 8.7% increase in the first quarter. This quarter's growth is qualitatively

different from the last, as it is driven by the domestic economy. The gross national product, a measure that excludes profits of multinationals, increased by 6.7% q/q. All the GDP components except for exports suffered greatly during the first quarter's strict lockdowns, but the economic reopening from mid-April caused a rebound, with consumption increasing by 12.6% and investments increasing by 5.8%. The 6.4% export growth was paralleled with 5.4% growth in imports, somewhat muting the role of net exports in second quarter growth.

Finally, Swiss GDP recovered from its first quarter slump, growing by 1.8% q/q. Previously, GDP contracted by 0.4% q/q due to the third wave of COVID-19 infections. Once again, consumption drove the quarter's increase, though a steep downturn in inventory investments and acquisitions less disposals of valuables subtracted nearly 3.8 percentage points from growth.

The second quarter GDP releases are in line with our outlook on the rebound in consumer spending this year. They do, however, highlight some supply issues that may slow growth in the second half of the year, namely that short supplies will put extra attention on inventories and could hold back exports.

PPI inflation accelerating

Speaking of supply difficulties, the euro zone's Producer Price Index charged ahead by 2.3% m/m in July, adding to June's 1.4% rise. In yearly terms, the inflation rate of the PPI sped up to 12.1% from 10.2%. Energy prices drove the increase, up 5.7% m/m and 28.9% y/y, speaking to the drastic change in oil and gas prices over the past year. Excluding energy prices, the PPI would have risen by 1% m/m and 6.7% y/y. Intermediate goods prices rose considerably as well in light of global input shortages. Intermediate goods prices were up 1.9% m/m and 12.6% y/y in July. Because of the outbreak of COVID-19 in Asia, supply channels have once again come under pressure, meaning that shortages of key inputs will last longer than we had initially hoped. Some relief will come for energy prices, however, because as we head into 2022, OPEC+ members are expected to begin increasing oil supply such that by the end of the year, oil production will be back around prepandemic levels.

Domestic Demand Drives Aussie GDP

BY SHAHANA MUKHERJEE

Australia's seasonally adjusted GDP grew by a stronger-than-expected 0.7% in the June quarter, sustained by improving domestic conditions. The result followed a revised 1.9% expansion in the prior quarter and consolidated the country's recovery as output settled at 2% above prepandemic levels (relative to December 2019).

As expected, the quarterly increase was entirely driven by domestic demand. Gross fixed capital formation and private consumption were the primary drivers; they grew by the largest margins of 3.2% and 1.1% over the quarter, and contributed 0.7 and 0.6 percentage point, respectively, to the quarterly increase. Higher government spending strengthened the domestic segment, adding another 0.3 percentage point to growth. The net trade position, however, was weakened over this period by a drop in exports and a higher import bill, which jointly dampened the quarterly pickup

Restrictions take their toll

The Australian economy has reaped the gains from significant fiscal and monetary policy support, the release of pent-up demand, and a fast-recovering labour market. However, the gains from a better-than-expected June quarter performance have been cut short. The country is in the midst of its most intense COVID-19 outbreak, which has mandated the imposition of stringent restrictions since the end of June. Although movement restrictions have so far been concentrated on New South Wales and Victoria, these two states contribute the most to national output and so the fallout on domestic demand will be severe.

Although the largest strain is expected to materialise from a sharp decline in household spending, significantly weaker employment prospects could hurt household incomes for

longer and weaken the spending appetite in the months ahead. Australia's headline unemployment rate may have settled 0.3 percentage point lower at 4.6% in July, but the counter-intuitive change resulted from a sharp decline in the labour force, or from fewer people looking for employment, rather than a sizeable increase in new positions added to the market. The true magnitude of the hit, however, will be reflected in the August labour market reading, as several states were forced to impose limited duration shutdowns.

Two-speed recovery

State and federal fiscal support measures are cushioning the economy but cannot entirely offset the hit from a dramatic fall in cashflows. Particularly for customer-facing services, the new pause on domestic tourism marks a significant setback. It not only erodes recent gains, but it is set to aggravate the dual-speed recovery between goods and services until interstate mobility curbs are materially relaxed.

A significant acceleration in domestic inoculations is a rare bright spot for Australia, with nearly 28% of the entire population being fully vaccinated (as of 31st August), and this could bring forward the timing of reopenings. But the risks posed by the Delta variant of the virus — from being more contagious to raising doubts about the efficacy of approved vaccines — could mean a slower and more guarded phasing out of movement restrictions in the weeks ahead.

In the current setting, assuming that restrictions are phased out only by the end of October and no further policy support is provided, we expect domestic output to decline by 0.6% over the September quarter, marking the first contraction since June 2020.

RATINGS ROUND-UP

Mostly Downgrades in Latest U.S. Changes

BY STEVEN SHIELDS

U.S. corporate credit quality was mixed in the latest period. Downgrades outstripped upgrades 6-to-5 but positive rating changes comprised about two-thirds of the period's total affected debt. All 11 changes were issued to speculative grade companies including Brightsphere Investment Group Inc. which was lowered two notches to Ba1. The largest change in terms of debt affected was issued to Ally Financial Inc. on August 27. Moody's Investors Service upgraded several ratings for both Ally Financial Inc. and its subsidiaries including its preferred stock rating to Ba2 from Ba3. Additionally, Moody's raised Ally Financial's long-term senior unsecured ratings one notch to Baa3, reflecting that the bank's capital, liquidity and funding structure have continued to improve for the last several quarters despite the economic uncertainties from the coronavirus pandemic.

Meanwhile Macy's Inc. and subsidiary, Macy's Retail Holding, LLC's senior unsecured rating was raised to Ba3 from B1 in the period. According to the ratings rationale, "Macy's, Inc.'s Ba2 corporate family rating reflects its conservative capital allocation strategy which includes its continued prioritization of debt reduction and the reinstatement of a smaller common dividend after its suspension at the onset of the pandemic." The retailers' outlook was revised to stable from negative. Endo Finance Co. was the most notable downgrade in the period. The change to Caa3 from Caa2 on its senior

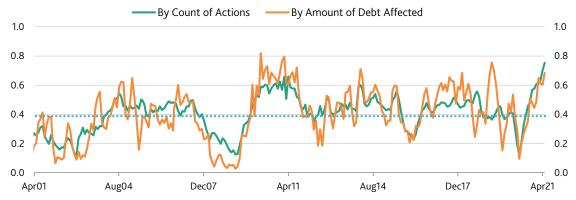
unsecured notes reflects Moody's expectation that Endo's potential cash outflows related to opioid litigation will hinder its ability to improve its operational performance or meaningfully deleverage. Similarly, Endo's negative outlook reflects Moody's view of Endo's rising exposure to opioid-related litigation and settlement involving cash outflows. The negative outlook also reflects Moody's view that Endo's earnings will decline in 2022, but that it's large cash balance will provide adequate liquidity for operations.

Europe

Activity was relatively weak across Europe with downgrades accounting for three of the four rating changes. The most notable change in the period was made to Endo Luxembourg Finance Company S.a.r.l. The finance subsidiary, created by Endo Health Solutions, Inc. received a downgrade to B3 on its senior secured notes due to high financial leverage and material exposure to opioid-related litigation. Meanwhile ASML Holding N.V.'s senior unsecured rating was raised to A2 from A3 with a stable outlook. The upgrade impacted approximately \$5.3 billion in outstanding debt and reflects ASML's further improved market position for lithography systems over the last years because of ongoing innovations, with limited competition and strong underlying fundamentals for the semiconductor industry, which will drive further revenue growth over the next few years.

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

3CF	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
Sub	Junior Subordinated Rating	SLTD	Short- and Long-Term Deposit Rating
.GD	Loss Given Default Rating	SrSec	Senior Secured Rating
.TCF	Long-Term Corporate Family Rating	SrUnsec	Senior Unsecured Rating
LTD	Long-Term Deposit Rating	SrSub	Senior Subordinated
TIR	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
8/25/2021	SOUTHEAST SUPPLY HEADER, LLC	Utility	LTCFR/PDR/SrUnsec	400.00	D	Ba1	Ba2	SG
8/25/2021	THE TOPPS COMPANY, INC.	Industrial	LTCFR/PDR/SrSec/BCF		D	B1	B2	SG
8/25/2021	ENDO INTERNATIONAL PLC-ENDO FINANCE CO.	Industrial	SrUnsec	7,903.31	D	Caa2	Caa3	SG
8/26/2021	MACY'S, INC.	Industrial	SrUnsec/LTCFR/PDR	8,228.52	U	B1	Ba3	SG
8/26/2021	BRIGHTSPHERE INVESTMENT GROUP INC.	Financial	SrUnsec	400.00	D	Baa2	Ba1	IG
8/27/2021	ALLY FINANCIAL INC.	Financial	CP/PS/LTIR/SrUnsec/MT	10,285.51	U	Ba3	Ba2	SG
8/27/2021	ALLOY PARENT LIMITED	Industrial	SrSec/BCF/PDR		D	Caa3	Caa2	SG
8/30/2021	DOWNSTREAM DEVELOPMENT AUTHORITY- SARACEN DEVELOPMENT, LLC	Industrial	LTCFR/PDR/SrSec	285.00	U	Caa1	В3	SG
8/30/2021	TRAVEL LEADERS GROUP, LLC	Industrial	LTCFR/PDR/SrSec/BCF		U	Caa3	Caa2	SG
8/31/2021	DOWNSTREAM DEVELOPMENT AUTHORITY	Industrial	LTCFR/PDR/SrSec	270.00	D	Caa1	В3	SG
8/31/2021	HOLLEY PURCHASER, INC.	Industrial	LTCFR/PDR		U	В3	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
8/25/2021	ENDO INTERNATIONAL PLC-ENDO LUXEMBOURG FINANCE I COMPANY S.A.R.L.	Industrial	SrSec/BCF/SrUnsec/ LTCFR/PDR	7,903.31	D	B2	В3	SG	LUXEMBOURG
8/30/2021	ASML HOLDING N.V.	Industrial	SrUnsec	5,303.73	U	А3	A2	IG	NETHERLANDS
8/30/2021	COMDATA S.P.A.	Industrial	LTCFR/PDR/SrSec	265.03	D	Caa3	Caa1	SG	ITALY
8/31/2021	SPARKASSENVERBAND BADEN- WUERTTEMBERG	Financial	LTIR		D	Aa2	Aa3	IG	GERMANY

Source: Moody's

MARKET DATA

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

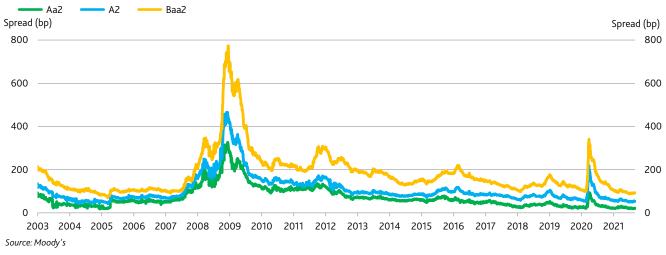
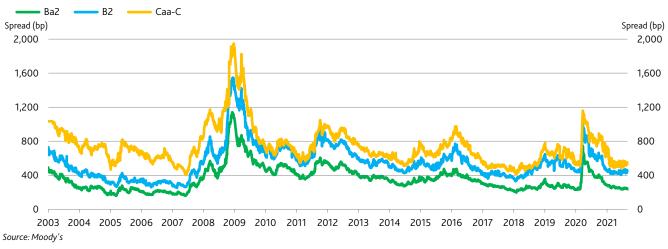


Figure 2: 5-Year Median Spreads-Global Data (High Yield)



CDS MOVERS

Figure 3. CDS Movers - US (August 25, 2021 – September 1, 2021)

CDS Implied Rating Rises	CDS Impl	_	
Issuer	Sep. 1	Aug. 25	Senior Ratings
FedEx Corporation	Aa3	A2	Baa2
Baker Hughes Holdings LLC	Baa2	Ba1	A3
Bank of America Corporation	A3	Baa1	A2
Morgan Stanley	Baa1	Baa2	A1
American Express Credit Corporation	A1	A2	A2
International Business Machines Corporation	Aa3	A1	A2
Amgen Inc.	Aa2	Aa3	Baa1
Raytheon Technologies Corporation	Aa3	A1	Baa1
Charles Schwab Corporation (The)	Baa1	Baa2	A2
Bank of America, N.A.	A3	Baa1	Aa2

CDS Implied Rating Declines	CDS Impl	ied Ratings	_
Issuer	Sep. 1	Aug. 25	Senior Ratings
Eversource Energy	Baa2	А3	Baa1
NextEra Energy Capital Holdings, Inc.	A3	A2	Baa1
Dominion Energy, Inc.	A1	Aa3	Baa2
Waste Management, Inc.	Baa2	Baa1	Baa1
Cargill, Incorporated	Baa1	А3	A2
Welltower Inc.	Baa1	A3	Baa1
ONEOK, Inc.	Ba1	Baa3	Baa3
Constellation Brands, Inc.	Baa3	Baa2	Baa3
DTE Energy Company	Baa1	А3	Baa2
Air Products and Chemicals, Inc.	Aa3	Aa2	A2

CDS Spread Increases	CDS Spreads			
Issuer	Senior Ratings	Sep. 1	Aug. 25	Spread Diff
Eversource Energy	Baa1	53	40	13
Macy's Retail Holdings, LLC	Ba3	286	277	10
DTE Energy Company	Baa2	48	42	6
Cargill, Incorporated	A2	46	41	5
Welltower Inc.	Baa1	50	46	4
Baxter International Inc.	Baa1	33	29	3
Clorox Company (The)	Baa1	39	36	3
NVR Inc.	Baa1	60	56	3
NextEra Energy Capital Holdings, Inc.	Baa1	41	38	2
Dillard's, Inc.	Baa3	104	102	2

CDS Spread Decreases	CDS Spreads			
Issuer	Senior Ratings	Sep. 1	Aug. 25	Spread Diff
Talen Energy Supply, LLC	Caa1	3,763	6,134	-2,371
Nabors Industries, Inc.	Caa2	869	962	-92
Rite Aid Corporation	Caa3	714	775	-61
Baker Hughes Holdings LLC	A3	51	96	-45
Occidental Petroleum Corporation	Ba2	167	207	-40
Staples, Inc.	Caa1	916	955	-40
Beazer Homes USA, Inc.	В3	295	324	-30
Embarq Corporation	Ba2	286	311	-25
Scripps (E.W.) Company (The)	Caa1	241	266	-24
R.R. Donnelley & Sons Company	В3	518	541	-22

Source: Moody's, CMA

CDS Movers

Figure 4. CDS Movers - Europe (August 25, 2021 – September 1, 2021)

CDS Implied Rating Rises	CDS Impli	_	
Issuer	Sep. 1	Aug. 25	Senior Ratings
Banque Federative du Credit Mutuel	Aa3	A1	Aa3
CaixaBank, S.A.	A2	A3	Baa1
Unione di Banche Italiane S.p.A.	Baa2	Baa3	Baa3
Orsted A/S	Aa3	A1	Baa1
Vedanta Resources Limited	Ca	С	В3
CMA CGM S.A.	B1	B2	В3
Ziggo Bond Company B.V.	Ba3	B1	В3
United Kingdom, Government of	Aaa	Aaa	Aa3
Italy, Government of	Baa3	Baa3	Baa3
France, Government of	Aaa	Aaa	Aa2

CDS Implied Rating Declines	CDS Impl	CDS Implied Ratings		
Issuer	Sep. 1	Aug. 25	Senior Ratings	
adidas AG	A2	Aa3	A2	
Intesa Sanpaolo S.p.A.	Baa2	Baa1	Baa1	
Portugal, Government of	Aa2	Aa1	Baa3	
DZ BANK AG	Aa2	Aa1	Aa1	
Bayerische Motoren Werke Aktiengesellschaft	A2	A1	A2	
RCI Banque	Ba3	Ba2	Baa2	
Stellantis N.V.	Ba1	Baa3	Baa3	
KBC Bank N.V.	Aa3	Aa2	A1	
de Volksbank N.V.	A3	A2	A2	
Iberdrola International B.V.	A3	A2	Baa1	

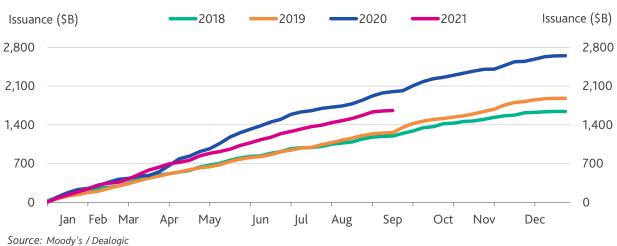
CDS Spread Increases	CDS Spreads			
Issuer	Senior Ratings	Sep. 1	Aug. 25	Spread Diff
Vue International Bidco plc	Ca	631	625	6
Banca Monte dei Paschi di Siena S.p.A.	Caa1	153	149	5
DZ BANK AG	Aa1	29	25	4
SKF AB	Baa1	51	48	4
adidas AG	A2	39	35	4
Rexel SA	Ba3	105	102	3
Boparan Finance plc	Caa1	952	949	3
Greece, Government of	Ba3	72	70	2
KBC Group N.V.	Baa1	60	58	2
Atlas Copco AB	A2	34	32	2

CDS Spread Decreases	CDS Spreads			
Issuer	Senior Ratings	Sep. 1	Aug. 25	Spread Diff
Vedanta Resources Limited	В3	644	707	-64
CMA CGM S.A.	В3	249	298	-48
Sappi Papier Holding GmbH	Ba2	314	338	-24
Novafives S.A.S.	Caa2	787	808	-20
Ziggo Bond Company B.V.	В3	207	223	-17
Stena AB	Caa1	411	427	-16
Virgin Media Finance PLC	B2	215	230	-15
thyssenkrupp AG	B1	222	237	-14
JPC Holding B.V.	В3	178	192	-14
Casino Guichard-Perrachon SA	Caa1	460	473	-13

Source: Moody's, CMA

ISSUANCE

Figure 5. Market Cumulative Issuance - Corporate & Financial Institutions: USD Denominated



, ,

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

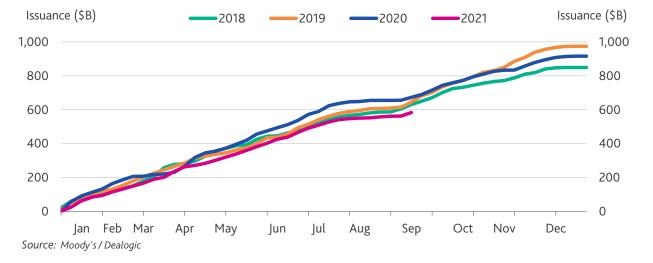


Figure 7. Issuance: Corporate & Financial Institutions

	USD Denominated			
	Investment-Grade	High-Yield	Total*	
	Amount \$B	Amount \$B	Amount \$B	
Weekly	6.156	0.300	7.406	
Year-to-Date	1,137.736	470.672	1,657.439	

	Euro Denominated			
	Investment-Grade	High-Yield	Total*	
	Amount \$B	Amount \$B	Amount \$B	
Weekly	19.077	1.762	20.839	
Year-to-Date	457.291	110.067	583.670	

^{*} Difference represents issuance with pending ratings.

Source: Moody's/ Dealogic

To order reprints of this report (100 copies minimum), please call 212.553.1658.

 Report Number: 1301570
 Contact Us Americas:
 1.212.553.4399

 Editor
 Europe:
 +44 (0) 20.7772.5588

 Reid Kanaley help@economy.com
 Asia:
 813.5408.4131

© 2021 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR INVESTOR. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLICATIONS AND PUBLICATIONS AND PUBLICATIONS AND PUBLICATIONS OR PUBLICATIONS OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS ON THE EXPECTATION AND UNDERSTANDING THAT EACH INVE

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to:
(a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$5,000,000. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moodys.com under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly owned by Moody's Overseas Holdings Inc., a wholly owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY550,000,000.

 $MJKK\ and\ MSFJ\ also\ maintain\ policies\ and\ procedures\ to\ address\ Japanese\ regulatory\ requirements.$