MOODY'S ANALYTICS

WEEKLY MARKET OUTLOOK

Moody's Analytics Research

Weekly Market Outlook Contributors:

Moody's Analytics/New York:

John Lonski
Chief Economist
1.212.553.7144
john.lonski@moodys.com

Yukyung Choi
Quantitative Research

Moody's Analytics/Asia-Pacific:

Katrina Ell
Economist

Moody's Analytics/Europe:

Barbara Teixeira Araujo
Economist

Moody's Analytics/U.S.:

Ryan Sweet
Economist

Michael Ferlez
Economist

Maria Cosma
Economist

Editor
Reid Kanaley

Contact: help@economy.com

Positive Earnings Outlook Requires Flat to Lower Interest Rates

Credit Markets Review and Outlook *by John Lonski*

Positive Earnings Outlook Requires Flat to Lower Interest Rates

» FULL STORY PAGE 2

The Week Ahead

We preview economic reports and forecasts from the US, UK/Europe, and Asia/Pacific regions.

» FULL STORY PAGE 6

The Long View

Full updated stories and key credit market metrics: Despite far more high-yield downgrades than upgrades, thin spreads reflect a benign default outlook for 2020.

Credit Spreads	Investment Grade: We see the year-end 2020's average investment grade bond spread above its recent 108 basis points. High Yield: Compared with a recent 363 bp, the high-yield spread may approximate 415 bp by year-end 2020.
Defaults	US HY default rate: Moody's Investors Service's Default Report has the U.S.' trailing 12-month high-yield default rate dipping from December 2019's actual 4.2% to a baseline estimate of 3.5% for December 2020.
Issuance	For 2019's offerings of US$-denominated corporate bonds, IG bond issuance rose by 2.6% to $1.309 trillion, while high-yield bond issuance surged by 55.8% to $432 billion. In 2020, US$-denominated corporate bond issuance is expected to rise by 5.0% for IG to $1.375 trillion, while high-yield supply may grow by 3.2% to $446 billion.

» FULL STORY PAGE 9

Ratings Round-Up

European Upgrades Outnumber Downgrades 5-1

» FULL STORY PAGE 12

Market Data

Credit spreads, CDS movers, issuance.

» FULL STORY PAGE 15

Moody's Capital Markets Research *recent publications*

Links to commentaries on: Thin spreads, leverage, rate sensitivity, sentiment, VIX, fundamentals, next recession, liquidity and defaults, cheap money, fallen angels, corporate credit, Fed moves, yields, inversions, unmasking danger, divining markets, upside risks.

» FULL STORY PAGE 20

THIS EDITION OF THE WEEKLY MARKET OUTLOOK WAS REPUBLISHED JANUARY 17, 2020, TO CORRECT A TABLE ON PAGE 7

Click here for *Moody's Credit Outlook*, our sister publication containing Moody's rating agency analysis of recent news events, summaries of recent rating changes, and summaries of recent research.

Moody's Analytics markets and distributes all Moody's Capital Markets Research, Inc. materials. Moody's Capital Markets Research, Inc. is a subsidiary of Moody's Corporation. Moody's Analytics does not provide investment advisory services or products. **For further detail, please see the last page.**

Credit Markets Review and Outlook

By John Lonski, Chief Economist, Moody's Capital Markets Research, Inc.

Positive Earnings Outlook Requires Flat to Lower Interest Rates

After shrinking by 0.6% year over year during January-September 2019, yearlong 2019's core after-tax profits may be unchanged annually, at best. Nevertheless, the market value of U.S. common stock soared higher by 28.4% from the end of 2018 to the end of 2019.

In addition to expectations of a material increase by 2020's core profits, 2019's equity rally overcame flat profitability because of an unexpected plunge by interest rates that included a narrowing of corporate bond yield spreads. The market's anticipation of rejuvenated corporate earnings for 2020 stems from the typical lagged response of expenditures to lower borrowing costs and an easing of trade tensions. Put simply, the market would not be looking for material profits growth in 2020 had interest rates not sunk in 2019.

Also underpinning a positive outlook for 2020's corporate earnings are statements from high-ranking Federal Reserve officials that suggest monetary policy may be more tolerant of faster price inflation compared to the past. However, the Fed's tolerance of any rise in inflation risks may be quickly abandoned once a climb by inflation expectations puts unwanted upward pressure on Treasury bond yields.

The influence of interest rates on the equity market can never be overstated. From the start to the finish of 2018, the market value of U.S. common stock fell by 7.0% despite calendar-year 2018's 10.0% increase by core after-tax profits. The broad equity indices failed to respond positively to 2018's jump by core profits partly because of a surge by interest rates that included a 104-basis point yearly surge by Moody's long-term Baa industrial company bond yield to 5.34%. In addition, markets correctly anticipated 2019's flat corporate earnings.

Equities Tend to Appreciate when Baa-Grade Yields Fall

The market value of U.S. common equity has long exhibited an inverse relationship with corporate bond yields. The declining trend by corporate bond yields since 1982 has been accompanied by a stronger equity market performance when compared to the showing by the broad equity price indices during 1951-1982's rising trend for corporate bond yields.

After bottoming at January-February 1951's 2.84%, the month-long average of Moody's long-term Baa industrial-company bond yield began a long and uneven climb to June 1982's apex of 16.63%. From January 1951 through June 1982, the yearly increases averaged 42 basis points for the long-term Baa industrial yield and 7.2% for the S&P 500 stock price index.

After June 1982, the Baa industrial yield would eventually grind its way down to December 2019's 4.03%, which was the lowest month-long average since September 1956's 4.02%. Since June 1982, the Baa industrial yield has declined by 31 bp from a year earlier, on average, while the S&P 500 has averaged a yearly increase of 10.1%.

Since the end of 1982, the yearly percent change of the S&P 500 generates a highly significant inverse statistical relationship with the yearly change of Moody's long-term Baa industrial company bond yield. On balance, the S&P 500 posts a yearly increase up until the Baa industrial yield's year-to-year increase reaches roughly a percentage point, or 103 bp to be exact.

However, in only 30 of the 444 months since 1982 did the Baa industrial-company bond yield rise by at least 100 bp from a year earlier. The average year-to-year changes for these 30 months show a 153 bp increase for the Baa bond yield and an 8.2% decline for the S&P 500.

Nevertheless, the S&P 500 managed to increase from a year earlier for 10 of the 30 cited months.

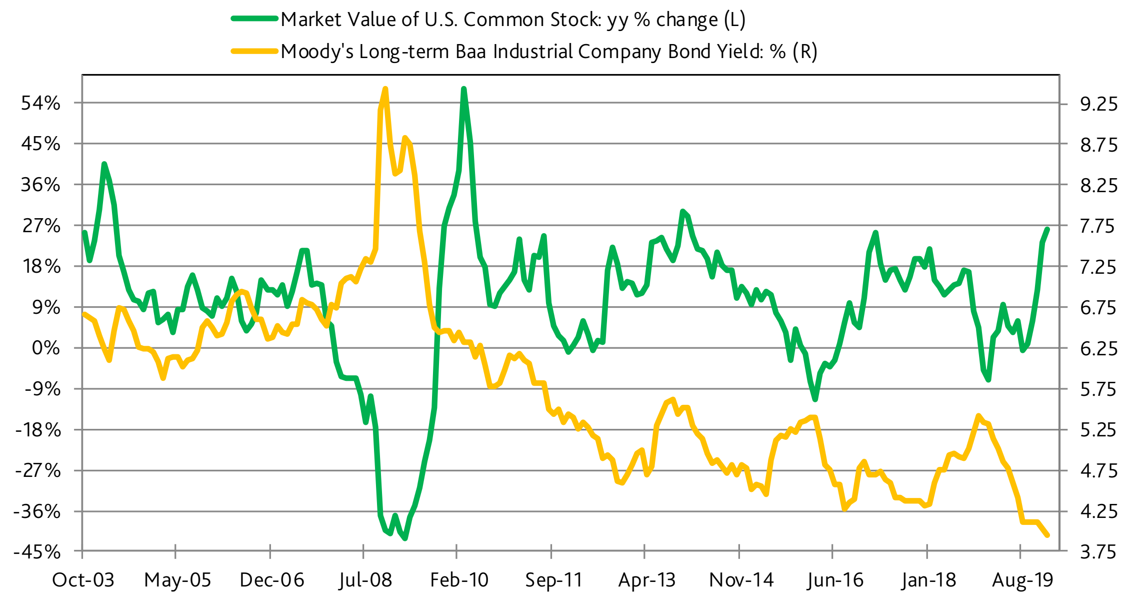
The most egregious violations of the equity market's tendency to decline when the Baa yield advanced by more than 100 bp were followed by deep equity market sell-offs. The equity market's outsized gains notwithstanding the steep yearly increases by medium-grade corporate bond yields of October 1987 and

Credit Markets Review and Outlook

August-October 1999 gave way to ultimate declines by the S&P 500 of 14% from its October 1987 reading and 36% from its average of August-October 1999.

Lately, the equity market's positive response to lower medium-grade corporate bond yields has been close to the norm. The 136 bp year-to-year drop by January 15, 2020's long-term Baa industrial company bond yield to 3.97% was joined by a 26.0% yearly advance for the S&P 500. Historically, a 136 bp annual drop by the Baa industrial company bond yield has been accompanied by roughly a 20% annual increase for the S&P 500.

Figure 1: Lower Baa Bond Yield Helps to Power Equity Rally
month-long averages
sources: Dow Jones, Moody's Analytics



It May Take a Deeper than 5% Drop by Core Profits to Sink Equities

The quarter-long average for the market value of U.S. common stock grew year-over-year in 86% of the 72 quarters showing an annual increase by the moving yearlong average of core pretax profits of more than 5%. For the 72 quarters, the market value of common stock grew by 11.9% annually, on average.

The annual increase by yearlong core pretax profits was slower than 5% for 30 quarters, wherein the market value of U.S. common equity grew by 13.1% annually, on average. For 90% of the 30 quarters, the market value of equity was above its year-earlier reading.

Conforming to expectations, the quarter-long average of the market value of U.S. equities fell year-to-year for 65% of the 20 quarters since 1984 showing a deeper than 5% annual drop by the moving yearlong average of core pretax profits. For the 20 quarters overlapping a deep contraction by core profits, the market value of common stock averaged a yearly decline of 5.6%.

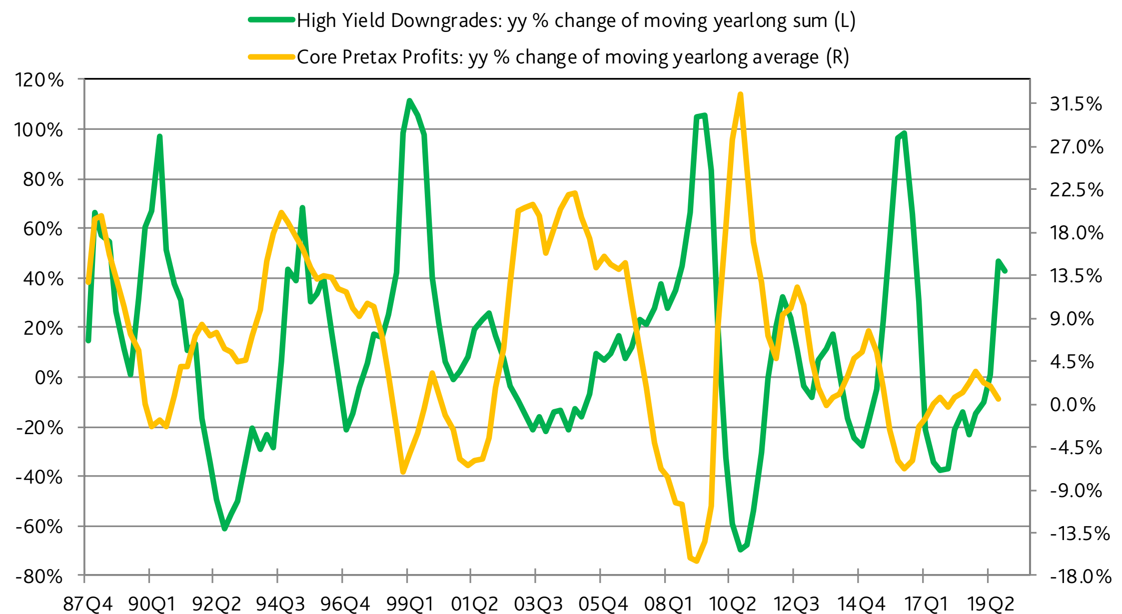
Nevertheless, the U.S. equity market's overall valuation managed to increase annually for 16 of the 18 quarters since 1984 showing an annual percent decline by core pretax profits' moving yearlong average that was shallower than 5%. For the 18 mentioned quarters, the market value of common equity advanced by 12.0% annually, on average. Thus, marginally lower declines by core pretax profits are typically not accompanied by disruptive equity market sell-offs.

The record of the last 35 years shows that long-term investors have benefited considerably from exposure to a well-diversified portfolio of equities. Incredibly enough, the quarterly average of the market value of U.S. common equity rose annually in 113, or 80%, of the 141 quarters beginning with 1984's final quarter and ending with 2019's final quarter.

High-Yield Credit Rating Revisions Have Moved Closely with Core Profits

Since 1986, each annual contraction by the moving yearlong average of core pretax profits that was deeper than 5% was joined by a year-over-year increase for the moving yearlong sum of the number of high-yield downgrades. The median annual increase for this set of high-yield downgrades was 66%. Also, deeper than 5% annual contractions by core profits were accompanied by a median annual decline of 11% for the number of high-yield upgrades.

Figure 2: Moving Yearlong Sum of High-Yield Downgrades Often Soars When Core Profits Shrink
sources: BEA, Moody's Analytics



Comparatively rapid profits growth has done more to lift the number of high-yield upgrades than to reduce the incidence of high-yield downgrades. For example, high-yield downgrades fell annually for only 50% of the moving yearlong advances by core pretax profits that exceeded 5%. Here, the median annual decline in the number of high-yield downgrades was merely 1.7%.

By contrast, the yearlong count of high-yield upgrades grew annually for 69% of the annual increases by core pretax profits that exceeded 5%. For this sample, the median annual increase by the number of high-yield upgrades was 15.8%.

High-Yield Downgrades per Upgrade Ratio Soars When Core Profits Sink

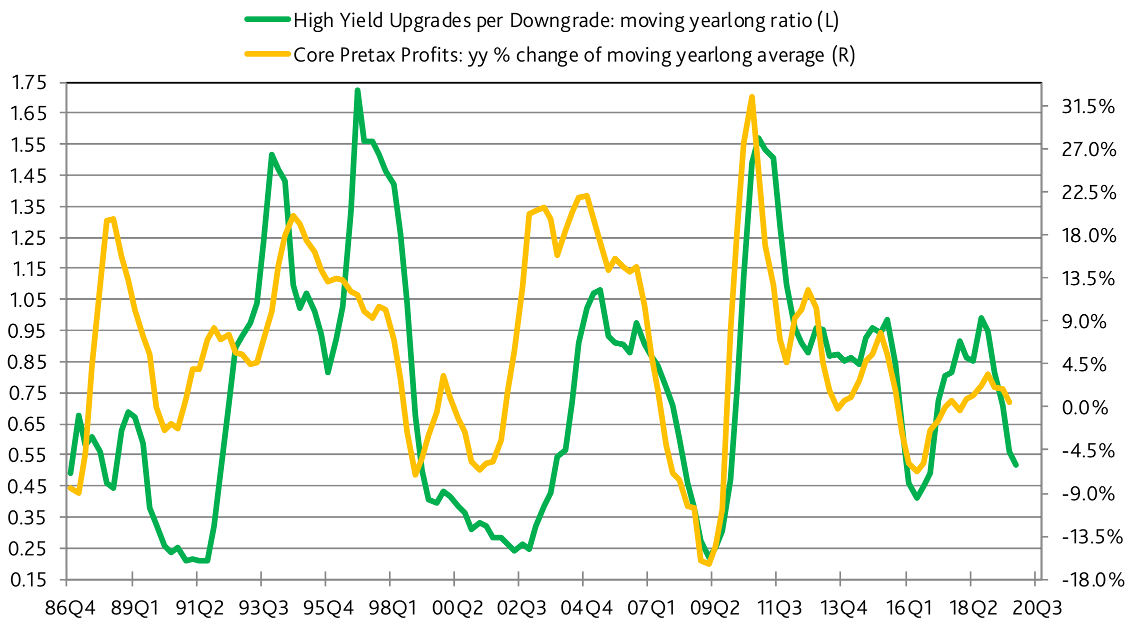
When core pretax profits incurred a drop that was deeper than 5% over a yearlong span, the median downgrade per upgrade ratio of high-yield credit rating revisions was a 2.43:1. This very high downgrade per upgrade ratio was accompanied by medians of 744 bp for the high-yield bond spread and 248 bp for the yearly increase of the high-yield spread.

When the annual decline by core pretax profits was shallower than 5%, the medians were 2.24:1 for the high-yield downgrade per upgrade ratio, 518 bp for the high-yield bond spread, and 73 bp for the high-yield spread's year-to-year change.

For those yearlong averages showing a faster than 5% annual increase by core pretax profits, the median yearlong high-yield downgrade per upgrade ratio was 1.08:1. In turn, the sample's composite high-yield bond spreads produced a median of 435 basis points that was the offshoot of a 50 bp median yearly decline by the high-yield spread.

When the increase of core pretax profits was slower than 5%, the medians were 1.19:1 for the high-yield downgrade per upgrade ratio, 443 bp for the high-yield bond spread, and minus-13 bp for the high-yield spread's year-to-year change.

Figure 3: Yearlong High-Yield Upgrade per Downgrade Ratio Is Likely to Rise If Profits Accelerate
sources: BEA, Moody's Analytics



The Week Ahead – U.S., Europe, Asia-Pacific

THE U.S.
By Ryan Sweet of Moody's Analytics

Trade Deal Won't Significantly Alter Our Forecasts

President Trump and China's Vice Premier Liu He this week signed the Phase One trade deal, limiting further escalation in the U.S.-China trade war. While this reduces some of the risks to the outlooks for both countries, the agreement will not significantly affect our baseline forecast for the U.S. or China.

China agreed to purchase an additional $200 billion in U.S. goods over the next two years. The breakdown of these purchase over the next two years includes $77.7 billion in manufactured goods, $32 billion in agricultural goods, $52.4 billion in energy goods, and $37.9 billion in services. It may seem surprising that this doesn't justify a change to our forecast but the trade deal should increase the real trade-weighted U.S. dollar. This would reduce demand for U.S. exports, offsetting a chunk of the impact of the trade deal on GDP growth. Also, an appreciation in real exchange rates will increase U.S. imports. Therefore, we anticipate little change in total U.S. net exports because of the trade deal.

One of our key questions for this year was whether the effective tariff rate would increase. We expected that it wouldn't and the Phase One trade deal makes us increasingly confident in this. Tariffs will remain in place at 25% on about $250 billion worth of Chinese goods imports. The only tariff reduction will be that duties on about $120 billion worth of Chinese goods imports will fall from 15% to 7.5%. By our estimates, this will lower the effective tariff rate from around 5% to around 4.6%. However, this is still well above the effective tariff rate before the trade war of about 2%. We don't anticipate a Phase Two deal until next year.

The trade deal won't cause the Federal Reserve to rethink keeping the target range for the fed funds rate unchanged this year. In fact, the incoming inflation data keep the possibility of a rate cut alive as both the consumer and producer price index came in a little lighter than we expected in December.

Inflation

Our mapping of the CPI and PPI to the core PCE deflator, the Fed's preferred measure of inflation, point toward a 0.16% gain in the core PCE deflator in December. Monthly growth in the core PCE deflator will need to average 0.17% in 2020 to put year-over-year growth in December 2020 at 2%, or the Fed's target. For perspective, the core PCE deflator rose an average of 0.1% in 2019 (through November). All told, risks to our inflation forecast remain weighted to the downside.

Employment

There was some good news on the labor market as initial claims for unemployment insurance benefits continue to decline. The strong labor market is key for supporting consumer spending. Nominal retail sales rose 0.3% in December. Sales excluding vehicle dealers increased a strong 0.7%, up from no growth in November.

Growth was widespread across segments, as the only major segments posting sales declines were vehicle dealers and department stores. Growth was led by gasoline stations. Core sales, excluding gas stations and vehicle dealers, rose 0.5%. Other growth leaders included apparel stores and building supply stores. Growth was surprisingly modest at nonstore retailers. In December, sales were 5.8% above their year-ago level, up from November's 3.3% and helped by easing comparisons that reverse in January. Core sales were up 5.7% from a year earlier.

Next week

The economic calendar is light. The key data include existing-home sales and initial claims for unemployment insurance benefits.

EUROPE

By Barbara Teixeira Araujo of Moody's Analytics

No BoE Cut in the Forecast

The coming week won't bring much top-tier data, but it will bring crucial January leading data for the U.K. economy. Markets now see the chances of a Bank of England rate cut on January 30 as being above 60%, but it depends on next week's results. If the data surprise heavily to the downside, it's likely we would incorporate into our forecast a rate cut of 0.5% from 0.75%—not necessarily in January, but more likely in the spring. We think that a move this month would be premature as the no-deal Brexit risks fade following the December's general elections, which should give a substantial boost to growth in the first quarter. The BoE should wait to see the extent to which households and firms' confidence increased because of the vote before adding more stimulus to the economy; there is a lot of pent-up demand to be unleashed following more than a year of extremely elevated uncertainty. We currently have only one datapoint for the period covering the aftermath of the elections, which is the RICS Residential Market Survey. Its results were unambiguously positive, showing that both new buyer enquiries and new sales instruction rose sharply in January. Next week, all eyes will be on the flash PMIs that will be released on Friday. The consensus expects only a marginal rebound in the composite PMI, but we expect the gain will be more substantial, bringing the measure above the 50 no-change threshold—it was only 49.3 in December. The CBI Industrial Trends Survey for January should show an increase in manufacturers' order books.

The major event next week will be the European Central Bank's January monetary policy meeting, President Christine Lagarde's second as the head of the institution. We don't expect much will happen, and we definitively don't think any policy changes will be announced. We believe Lagarde needs to establish herself and gain the full support of the bank's Governing Council members before contemplating changes—that is, provided that the currency area's economy doesn't start falling off a cliff, in which case, we don't think she would hesitate to follow former President Mario Draghi's dovish footsteps and lower rates further. Additionally, Lagarde sounded relatively optimistic about the euro zone's economic outlook during December's press conference; she repeated several times that, while growth remains subdued and risks are to the downside, there are increasing signs that the economy is stabilizing. The good news is that most of the economic data released since then has corroborated her.

The highlight of next week's meeting should be the launch of the ECB's strategic review, which is expected to be completed by the end of the year. It has been 16 years since the ECB conducted its last review—which examines the effectiveness of ECB's monetary policy tolls—and Lagarde insists it is past time it did so again. There have been increasing calls for the ECB to tweak its inflation target—either by lowering it, raising it, or making it symmetrical—as observed inflation has remained extremely low for too long. Our view is that Lagarde won't say much next week, though. She will probably just announce a more specific timeline for the review and make the possible research topics known. They should include the low-inflation enigma, the price-stability goal, climate change, and digital currencies.

Our baseline is still for no ECB rate cuts in 2020. The bank needs to see how the additional stimulus translates into the real economy first, as banks now have little margin to further reduce lending rates. Also, the ECB is under increased pressure not to act because of the heightened fears regarding the side effects of negative interest rates.

	Key indicators	Units	Moody's Analytics	Last
Tues @ 9:30 a.m.	U.K.: Unemployment for November	%	3.9	3.8
Thur @ 12:45 p.m.	Euro zone: Monetary Policy for December	%	0.0	0.0
Thu @ 1:00 p.m.	Russia: Industrial Production for December	% change yr ago	1.4	0.3

ASIA-PACIFIC

By Katrina Ell of Moody's Analytics

Bank of Japan Will Maintain the Status Quo

The Bank of Japan will maintain the status quo at its January monetary policy meeting. The impetus on the BoJ to ease further has waned since the government unveiled a fiscal stimulus package early in December. The government will spend US$122 billion in its largest stimulus measure since 2016. Legitimate questions over the effectiveness of further monetary easing contributed to the government stepping up spending in a bid to support the economy through the aftermath of the consumption tax hike early in October and weak exports and overall business conditions.

Philippine GDP growth likely improved to 6.2% y/y in the December quarter, following the 6.1% expansion in the September quarter and 5.5% in the June stanza. This brings full-year GDP growth to 5.8% in 2019. Growth in 2019 was weighed down by budget delays, alongside subdued external conditions weighing on exports. We forecast GDP growth to improve to 6.7% in 2020, supported by higher government spending and expected modest improvements in global demand. Elsewhere, South Korea's GDP growth likely held at 2% y/y in the December quarter, according to advance estimates. The economy underperformed through 2019, including the final quarter. Exports struggled at the hand of the trade war and subdued global demand, while domestic demand was soft despite government efforts to insulate from weakness and uncertainty abroad.

Australia's seasonally adjusted unemployment rate likely increased to 5.3% in December, from 5.2% in November. Employment growth has cooled and in trend terms came in at 2.1% y/y in November, just above the long-term average of 2%. Alongside cooling employment, part-time employment has picked up at the expense of full-time positions, further exacerbating already elevated underemployment. Given the close relationship between wage growth and the labour market, we expect that income growth will stay broadly put at its mediocre level heading at least into early in 2020.

	Key indicators	Units	Confidence	Risk	Moody's Analytics	Last
Tues @ Unknown	Japan Monetary policy for January	¥ tril	4	←	80.0	80.0
Wed @ 10:00 a.m.	South Korea GDP for Q4 - advance	% change	3	←	0.5	0.4
Thurs @ 10:50 a.m.	Japan Foreign trade for December	¥ bil	2	↓	-51.4	-60.8
Thurs @ 11:30 a.m.	Australia Unemployment rate for December	%	3	↑	5.3	5.2
Thurs @ 1:00 p.m.	Philippines GDP for Q4	% change yr ago	3	←	6.2	6.1
Fri @ 8:45 a.m.	New Zealand CPI for Q4	% change	3	←	0.6	0.7
Fri @ 10:30 a.m.	Japan CPI for December	% change yr ago	3	↑	0.6	0.5

The Long View

Despite far more high-yield downgrades than upgrades, thin spreads reflect a benign default outlook for 2020.

By John Lonski, Chief Economist, Moody's Capital Markets Research Group
January 16, 2020

CREDIT SPREADS

As measured by Moody's long-term average corporate bond yield, the recent investment grade corporate bond yield spread of 108 basis points was less than its 122-point mean of the two previous economic recoveries. This spread may be no wider than 115 bp by year-end 2020.

The recent high-yield bond spread of 363 bp is thinner than what is suggested by the accompanying long-term Baa industrial company bond yield spread of 173 bp, but wider than what might be inferred from the recent below-trend VIX of 12.3 points.

DEFAULTS

December 2019's U.S. high-yield default rate of 4.2% was up from December 2018's 2.8% and may average 3.6% during 2020's final quarter according to Moody's Investors Service.

US CORPORATE BOND ISSUANCE

Fourth-quarter 2018's worldwide offerings of corporate bonds incurred annual setbacks of 23.4% for IG and 75.5% for high-yield, wherein US$-denominated offerings plunged by 26.1% for IG and by 74.1% for high yield.

First-quarter 2019's worldwide offerings of corporate bonds revealed annual setbacks of 0.5% for IG and 3.6% for high-yield, wherein US$-denominated offerings fell by 3.0% for IG and grew by 7.1% for high yield.

Second-quarter 2019's worldwide offerings of corporate bonds revealed an annual setback of 2.5% for IG and an annual advance of 17.6% for high-yield, wherein US$-denominated offerings sank by 12.4% for IG and surged by 30.3% for high yield.

Third-quarter 2019's worldwide offerings of corporate bonds revealed annual advances of 15.2% for IG and 56.8% for high-yield, wherein US$-denominated offerings soared higher by 36.8% for IG and 81.3% for high yield.

Fourth-quarter 2019's worldwide offerings of corporate bonds revealed annual advances of 15.3% for IG and 329% for high-yield, wherein US$-denominated offerings dipped by 0.8% for IG and surged higher by 330% for high yield.

For 2019, worldwide corporate bond offerings grew by 5.4% annually (to $2.447 trillion) for IG and advanced by 49.2% for high yield (to $561 billion). The projected annual percent increases for 2020's worldwide corporate bond offerings are 5.1% for IG and 3.3% for high yield.

US ECONOMIC OUTLOOK

In view of the underutilization of the world's productive resources, low inflation should help to rein in Treasury bond yields. As long as the global economy operates below trend, the 10-year Treasury yield may not remain above 2.00% for long. A fundamentally excessive climb by Treasury bond yields and a pronounced slowing by expenditures in dynamic emerging market countries are among the biggest threats to the adequacy of economic growth and credit spreads.

EUROPE

By Barbara Teixeira Araujo of Moody's Analytics
January 16, 2020

U.K.

The U.K.'s December CPI report was a shocker. Inflation in the closing month of 2019 plunged to its lowest since November 2016. This added to the evidence that the Bank of England might be on the verge of lowering interest rates; markets are now putting the odds of a cut on January 30—Mark Carney's last meeting as the head of the institution—at over 50%. But December's CPI decline was mostly because of one-off developments, which should be reversed in January. Adding to that, the Monetary Policy Committee had anticipated a printing of 1.4% in its latest Monetary Policy Report, which suggests that the final result of 1.3% probably wasn't much of a game changer.

Volatility in the travel-related subsectors was the main drag on December's headline. Airfare, package holiday, and accommodation inflation all plunged over the month, but the Office for National Statistics said this is mostly due to the timing of the price collection days in relation to Christmas. Another subsector dragging significantly on the headline was clothing and footwear, but here too the decline was mainly due to one-off factors. Notably, Black Friday fell much later in November than last year, suggesting that the aggressive discounting carried into December. In both cases, we expect a correction in January.

Higher fuel prices

On the upside, motor fuels prices are now rising again following four consecutive months of declines. Base effects in oil prices suggest that they will continue to increase in coming months. Adding to this, we expect tobacco inflation to rise sharply at the end of the quarter after the publication of the 2020 budget, as we expect that tobacco duties will be raised significantly then.

Combined, these developments suggest that inflation will rise in the first quarter of this year, likely to 1.6%. We expect that the core rate will also continue to increase, especially services inflation, in line with the tight labour market and strong wage numbers.

Also this week, the Bank of England's survey of fourth-quarter credit conditions told us what we already knew: U.K. households and companies were nervous ahead of December 12's general elections, denting demand for credit cards, mortgage and corporate loans in the final three months of the year. What matters, however, is that prospects are now to the upside, especially as we forecast a broad-based rebound in confidence in January, in line with the fading of no-deal Brexit risks. Banks seem to agree, and they have reported they expect demand for credit card loans and corporate lending to increase at the start of the year.

Pent-up demand

Firms and households sat on their hands during most of 2019 as they waited for some clarity on Brexit, and this has created a lot of pent-up demand for investment projects and big-ticket purchases. Granted, uncertainty hasn't completely evaporated; the U.K. still needs to find a trade deal with the EU before the end of the year, and this is no easy task. But our view is that households and firms will open their wallets during the first quarter before reining in spending from spring, when they will realize that the risk of a no-deal Brexit by New Year's Eve is alive and well.

The RICS Residential Market Survey released on Thursday corroborates our forecast. It is the first leading U.K. survey conducted after the general elections to be published—the survey was conducted from December 20 to January 9—and to capture the economic result of the Conservatives' victory. The results were unquestionably positive, showing that the new buyer enquiries balance jumped to 17 in December from -5 in November, its highest level in almost four years. The new sales instructions balance also rose, to 31 from -13, in line with our view that the downturn in the housing market already bottomed out, and that house prices will gradually return to growth in 2020.

We will be watching the forthcoming leading data for January closely, but as of now we are sticking to our view that the recent decrease in uncertainty will be powerful enough to give a strong boost to GDP in the first quarter. We thus think the BoE can afford to leave rates on hold for some time, and that a cut on January 30 is not a given.

ASIA PACIFIC

By Katrina Ell and Maria Cosma of Moody's Analytics
January 16, 2020

JAPAN

Japan's core machinery orders jumped 18% m/m in November, marking the largest jump on record. The increase follows from the 6% decline in October. Rebuilding efforts and easing disruption from Typhoon Hagibis in October were an important driver of November's strength.

Typhoon Hagibis was the strongest typhoon in decades to strike mainland Japan, causing massive damage to agricultural and industrial facilities. In terms of categories, agriculture, forestry and fishing rose 21.6% after falling 29.5% in October; mining rose 19.4% after an 18.5% contraction; and transportation and postal activities rose 146.4% after falling 28.6%.

While the core machinery orders series is a good barometer of capital spending six to nine months in advance, it is highly volatile, and the surge in November was the first monthly expansion since June. Japan's medium- to long-term outlook remains subdued. Persistent weakness in investor sentiment following the implementation of the higher sales tax and continued uncertainty arising from the global trade environment will keep on lid on machinery orders growth. Manufacturing orders recorded only a 0.6% rise after consecutive falls in previous months, while orders from overseas fell 11.5%. Furthermore, the Japan Machine Tool Builders' Association reported a plunge of 33.6% year on year of orders for machine tools, signifying weakness in Japanese automakers and machinery builders.

Japanese producers' business confidence sharply declined in the December quarter, as the diffusion index for large manufacturers fell 5 points from the September quarter to 0. While the decline in confidence in the December quarter was broad-based, there were notable declines for large manufacturing enterprises and medium and small nonmanufacturing enterprises. The latest reading marks a visible deterioration in expectations and is a consequence of the anticipated effect of the sales tax increase on Japan's economy along with the persistent pressures from weak external demand amid growing trade tensions.

CHINA

The Phase One trade deal limits further escalation in the U.S.-China trade war but will not significantly alter the status quo. The U.S. will press pause on further tariff hikes, and China will increase purchases of some American goods and services. However, the agreement includes only limited solutions to the larger issues of intellectual property and knowledge transfer protections, steps China was already planning to take.

Tariffs will remain in place at 25% on about $250 billion worth of Chinese goods imports. The only tariff reduction will be that duties on about $120 billion worth of Chinese goods imports will fall from 15% to 7.5%. By our estimates, this will lower the effective tariff rate from around 5% to around 4.6%. However, this is still well above the effective tariff rate of about 2% before the trade war.

In exchange, China will increase purchases of U.S. goods and services, to the tune of $200 billion above 2017 levels over two years. This is a significant ask for China, as 2017 marked the year of peak Chinese imports of American goods. Since then, the trade war has caused U.S. exports to China to plummet.

China is expected to increase purchases of agricultural products by about $32 billion, manufactured goods by about $80 billion, energy products by about $50 billion, and services by about $35 billion. Considering what have historically been the biggest Chinese imports of American products, those most likely to benefit from increased purchases are soy and hog farmers, oil and natural gas producers, financial services firms, and aircraft, machinery and vehicle manufacturers.

The agreement's enforcement mechanism is a dispute resolution process that involves three rounds of bilateral talks, a process that would take about three months. If talks are not successful, either side can impose tariffs without being subject to countermeasures. In other words, chances are high that this type of enforcement mechanism could lead to a replay of the last two years: trade disputes leading to tariff hikes and retaliation, hurting both countries' economies.

Ratings Round-Up

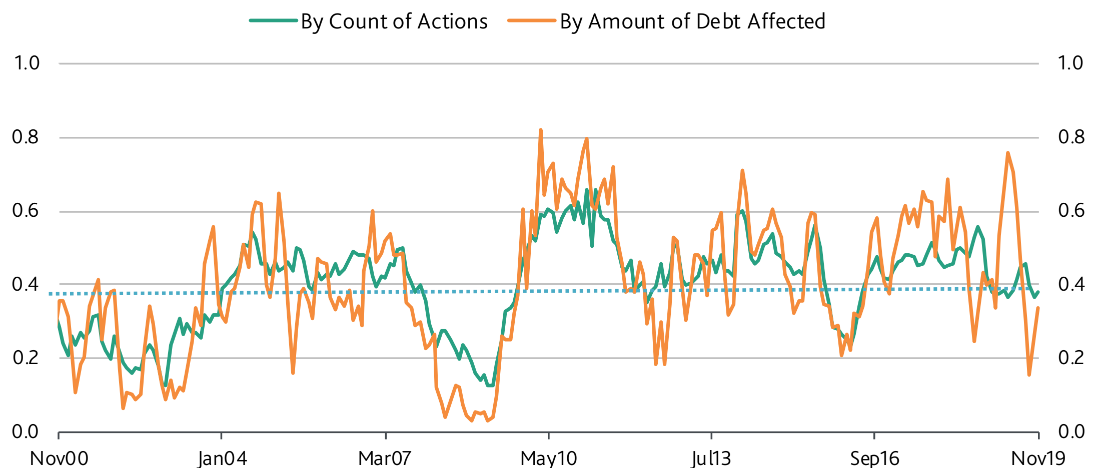
European Upgrades Outnumber Downgrades 5-1

Michael Ferlez

U.S. rating change activity remained weak with downgrades out numbering upgrades. For the week ended January 14, downgrades accounted for 70% of the total changes and roughly three-quarters of the total affected debt. While the rating activity was dominated largely by speculative-grade companies, several notable investment-grade companies to received rating changes. EQT Corp. saw its senior unsecured debt downgraded from Baa3 to Ba1, lowering the firm's debt to speculative grade. The rating change affected $3.9 billion in debt. The downgrade reflects Moody's Investors Service view that the firm's cash flow metrics are unlikely to improve. Elsewhere, Spirit AeroSystems Inc., also saw its senior unsecured debt rating downgraded to speculative grade with its credit rating cut two-notches to Ba2 from Baa3. The downgrade reflects Moody's Investors Service expectation that the firm's liquidity profile will deteriorate quickly due to factors largely outside the firm's ability to control. The downgrade affects $1.6 billion of debt.

European rating change activity increased, and the overall trend improved last week. Upgrades outnumbered downgrades by 5 to 1 and accounted for the overwhelming share of affected debt. Three of the five upgrades were made to investment-grade firms. The most notable rating change was made to Norddeutsche Landesbank GZ. The German bank saw its senior unsecured credit rating upgraded two-notches to A3 from Baa2 and its outlook changed to stable from rating under review. Moody's Investors Service upgraded the firm's credit rating to reflect the bank's improved solvency which has strengthened the firm's standalone credit profile. The upgrade affected $28.6 billion in debt.

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



* Trailing 3-month average

Source: Moody's

Ratings Round-Up

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
1/8/20	ORTHO-CLINICAL DIAGNOSTICS, INC. -ORTHO-CLINICAL DIAGNOSTICS SA	Industrial	SrSec/BCF		D	B1	B2	SG
1/8/20	PLH GROUP, INC.	Industrial	SrSec/BCF /LTCFR/PDR		D	B2	B3	SG
1/9/20	PIER 1 IMPORTS, INC. -PIER 1 IMPORTS (U.S.), INC.	Industrial	SrSec/BCF /LTCFR/PDR		D	Ca	C	SG
1/10/20	FTS INTERNATIONAL, INC.	Industrial	SrSec/BCF /LTCFR/PDR	398	D	Caa1	Caa2	SG
1/10/20	FIRST EAGLE HOLDINGS, INC.	Financial	SrSec /BCF/LTCFR		D	Ba1	Ba2	SG
1/13/20	EQT CORPORATION	Utility	SrUnsec/MTN	3,945	D	Baa3	Ba1	IG
1/13/20	SPIRIT AEROSYSTEMS, INC.	Industrial	SrUnsec	1,600	D	Baa3	Ba2	IG
1/13/20	ZEKELMAN INDUSTRIES, INC.	Industrial	SrSec /LTCFR/PDR	375	U	B3	B2	SG
1/14/20	PDC ENERGY	Industrial	SrUnsec /LTCFR/PDR	1,200	U	B1	Ba3	SG
1/14/20	SRC ENERGY INC.	Industrial	SrUnsec	550	U	B3	Ba3	SG

Source: Moody's

Ratings Round-Up

FIGURE 4

Rating Changes: Corporate & Financial Institutions – Europe

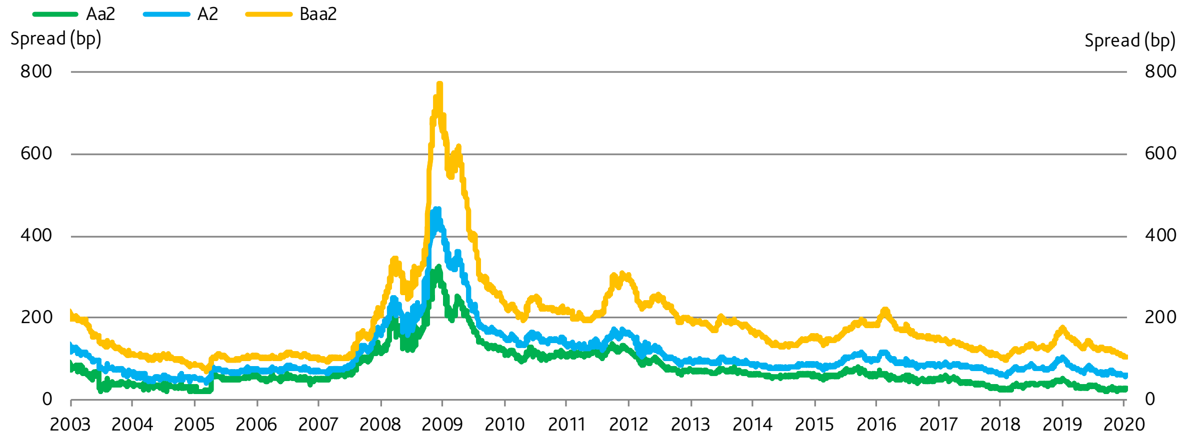
Date	Company	Sector	Rating	Amount ($ Million)	Up/ Down	Old LTD Rating	New LTD Rating	IG/ SG	Country
1/8/20	ALLIANZ SE-LEGAL & GENERAL INSURANCE LIMITED	Financial	ISFR		U	A2	A1	IG	UNITED KINGDOM
1/9/20	BANCA MONTE DEI PASCHI DI SIENA S.P.A.	Financial	Sub/MTN	1,167	U	Caa2	Caa1	SG	ITALY
1/9/20	NORDDEUTSCHE LANDESBANK GZ	Financial	SrUnsec/JrSrUnsec/LTIR/LTD/Sub/MTN/PS	28,648	U	Baa2	A3	IG	GERMANY
1/10/20	GLOBAL UNIVERSITY SYSTEMS HOLDING B.V.	Industrial	LTCFR/PDR		U	B3	B2	SG	NETHERLANDS
1/13/20	VERBUND AG	Utility	SrUnsec/MTN	778	U	Baa1	A3	IG	AUSTRIA
1/13/20	ASTON MARTIN LAGONDA GLOBAL HOLDINGS PLC	Industrial	SrSec/LTCFR/PDR	1,112	D	B3	Caa1	SG	UNITED KINGDOM

Source: Moody's

Market Data

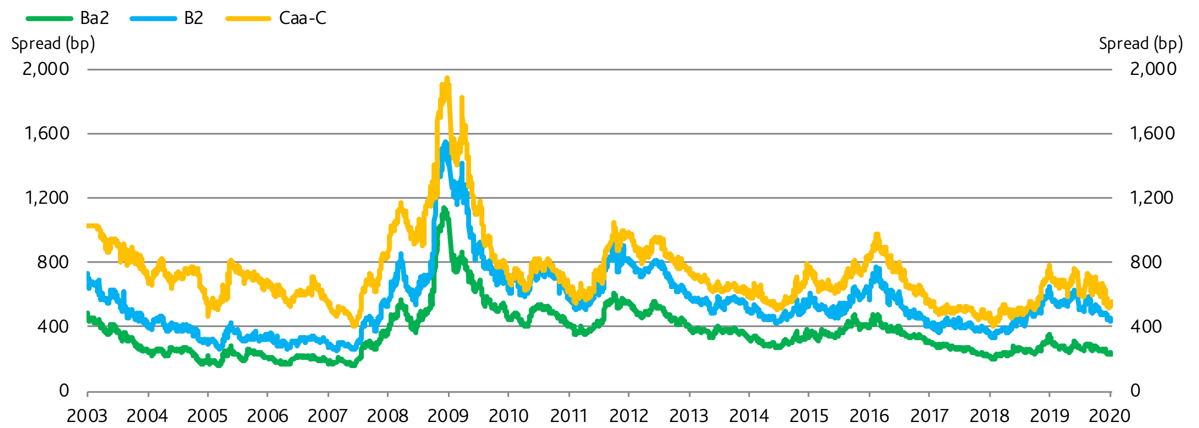
Spreads

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

Market Data

CDS Movers

Figure 3. CDS Movers - US (January 9, 2020 – January 15, 2020)

CDS Implied Rating Rises	CDS Implied Ratings		
Issuer	Jan. 15	Jan. 8	Senior Ratings
Morgan Stanley	A3	Baa1	A3
McDonald's Corporation	Aa1	Aa2	Baa1
Johnson & Johnson	Aa1	Aa2	Aaa
CCO Holdings, LLC	Baa3	Ba1	B1
United Airlines, Inc.	Ba1	Ba2	Ba3
Roche Holdings Inc.	Aaa	Aa1	Aa3
Springleaf Finance Corporation	Ba2	Ba3	Ba3
Freeport-McMoRan Inc.	Ba1	Ba2	Ba1
Sysco Corporation	Ba1	Ba2	A3
McKesson Corporation	Baa3	Ba1	Baa2

CDS Implied Rating Declines	CDS Implied Ratings		
Issuer	Jan. 15	Jan. 8	Senior Ratings
Apple Inc.	Aa2	Aa1	Aa1
Verizon Communications Inc.	A2	A1	Baa1
Oracle Corporation	A2	A1	A1
Merck & Co., Inc.	A2	A1	A1
American Express Company	Aa3	Aa2	A3
Becton, Dickinson and Company	Ba1	Baa3	Ba1
NextEra Energy Capital Holdings, Inc.	Baa2	Baa1	Baa1
Norfolk Southern Corporation	Aa2	Aa1	Baa1
General Mills, Inc.	A1	Aa3	Baa2
National Rural Utilities Coop. Finance Corp.	A1	Aa3	A2

CDS Spread Increases		CDS Spreads		
Issuer	Senior Ratings	Jan. 15	Jan. 8	Spread Diff
Frontier Communications Corporation	Caa3	9,115	7,123	1,991
Chesapeake Energy Corporation	Caa3	2,399	2,226	172
Penney (J.C.) Corporation, Inc.	Caa3	3,111	2,958	152
Rite Aid Corporation	Caa3	999	921	78
R.R. Donnelley & Sons Company	B3	583	526	57
Diamond Offshore Drilling, Inc.	B3	647	599	48
United States Steel Corporation	B3	616	590	26
Nabors Industries, Inc.	B1	559	535	23
Tenet Healthcare Corporation	Caa1	240	220	20
Kohl's Corporation	Baa2	131	115	16

CDS Spread Decreases		CDS Spreads		
Issuer	Senior Ratings	Jan. 15	Jan. 8	Spread Diff
Neiman Marcus Group LTD LLC	Ca	4,364	4,544	-180
AK Steel Corporation	B3	325	409	-84
K. Hovnanian Enterprises, Inc.	Caa3	1,100	1,146	-46
Cablevision Systems Corporation	B3	363	406	-43
Mattel, Inc.	B3	249	291	-42
Pitney Bowes Inc.	Ba3	517	546	-29
Unisys Corporation	B2	309	338	-29
Realogy Group LLC	B3	541	566	-25
Dish DBS Corporation	B1	337	361	-24
Hertz Corporation (The)	B3	293	318	-24

Source: Moody's, CMA

Market Data

Figure 4. CDS Movers - Europe (January 9, 2020 – January 15, 2020)

CDS Implied Rating Rises	CDS Implied Ratings		
Issuer	Jan. 15	Jan. 8	Senior Ratings
Bankia, S.A.	Baa1	Baa3	Baa3
Casino Guichard-Perrachon SA	Caa2	Ca	B3
CaixaBank, S.A.	Baa1	Baa2	Baa1
Electricite de France	A2	A3	A3
Norddeutsche Landesbank GZ	Baa2	Baa3	A3
Eurobank Ergasias S.A.	Caa3	Ca	Caa1
Unibail-Rodamco-Westfield SE	A3	Baa1	A2
Bayer AG	Baa1	Baa2	Baa1
Hamburg Commercial Bank AG	Ba1	Ba2	Baa2
thyssenkrupp AG	B1	B2	Ba3

CDS Implied Rating Declines	CDS Implied Ratings		
Issuer	Jan. 15	Jan. 8	Senior Ratings
Spain, Government of	A2	A1	Baa1
Barclays Bank PLC	A3	A2	A2
Lloyds Bank plc	A1	Aa3	Aa3
HSBC Holdings plc	A3	A2	A2
Erste Group Bank AG	A3	A2	A2
Santander UK plc	A3	A2	Aa3
Standard Chartered PLC	A3	A2	A2
Landesbank Hessen-Thueringen GZ	A2	A1	Aa3
Commerzbank AG	A1	Aa3	A1
Bayerische Landesbank	A1	Aa3	Aa3

CDS Spread Increases		CDS Spreads		
Issuer	Senior Ratings	Jan. 15	Jan. 8	Spread Diff
Matalan Finance plc	Caa1	745	678	67
Novafives S.A.S.	Caa2	704	653	51
Iceland Bondco plc	Caa2	639	594	45
Atlantia S.p.A.	Ba2	262	236	26
Altice Finco S.A.	Caa1	235	213	22
Marks & Spencer p.l.c.	Baa3	173	155	19
Stena AB	B3	442	428	14
TUI AG	Ba3	299	291	9
Permanent tsb p.l.c.	Baa2	218	214	5
Greece, Government of	B1	114	111	3

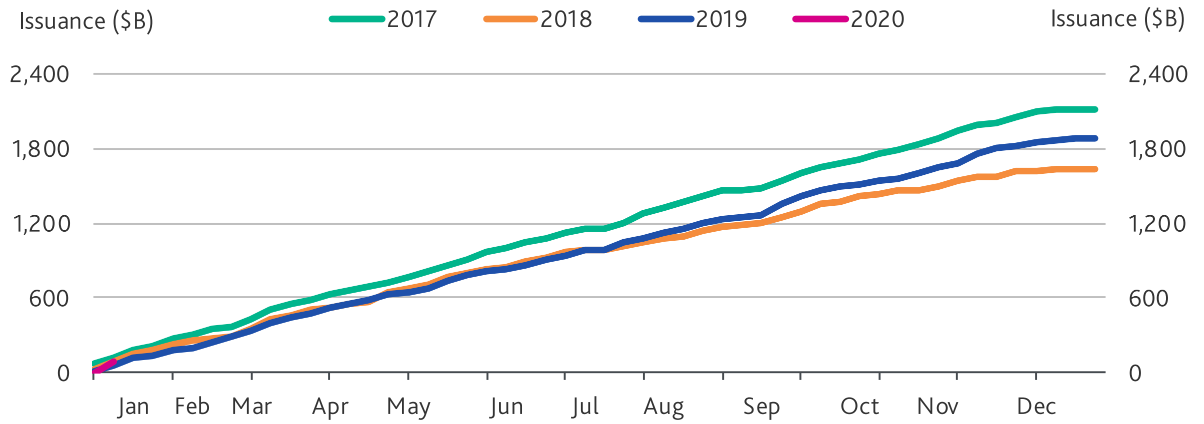
CDS Spread Decreases		CDS Spreads		
Issuer	Senior Ratings	Jan. 15	Jan. 8	Spread Diff
PizzaExpress Financing 1 plc	Ca	5,055	5,995	-940
CMA CGM S.A.	Caa1	980	1,106	-126
Boparan Finance plc	Caa1	1,129	1,239	-110
Casino Guichard-Perrachon SA	B3	624	669	-46
Jaguar Land Rover Automotive Plc	B1	434	475	-41
thyssenkrupp AG	Ba3	180	205	-24
Banca Monte dei Paschi di Siena S.p.A.	Caa1	255	275	-21
Bankia, S.A.	Baa3	50	63	-13
METRO Finance B.V.	Ba1	110	121	-11
Sappi Papier Holding GmbH	Ba1	295	305	-10

Source: Moody's, CMA

Market Data

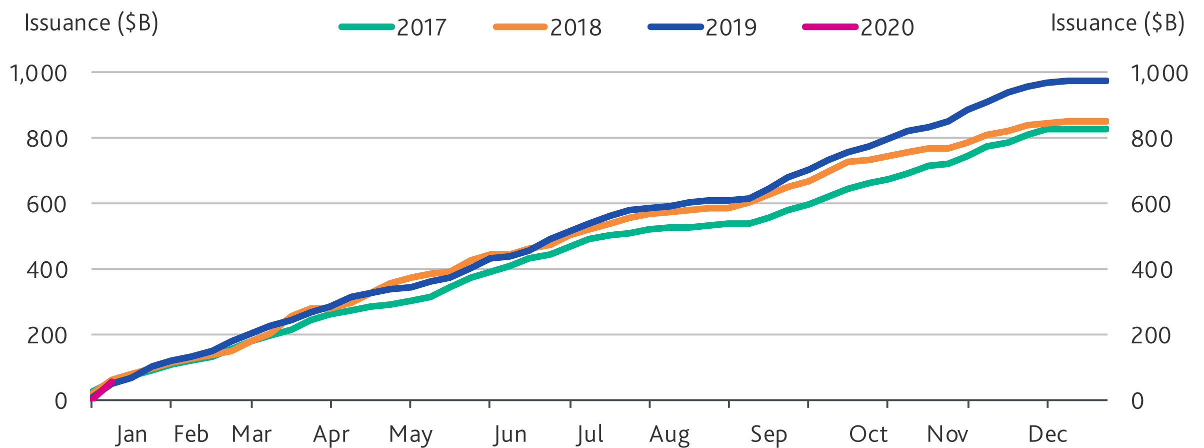
Issuance

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



Source: Moody's / Dealogic

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



Source: Moody's / Dealogic

Market Data

Figure 7. Issuance: Corporate & Financial Institutions

	USD Denominated		
	Investment-Grade	High-Yield	Total*
	Amount $B	Amount $B	Amount $B
Weekly	64.974	24.025	92.306
Year-to-Date	64.974	24.025	92.306

	Euro Denominated		
	Investment-Grade	High-Yield	Total*
	Amount $B	Amount $B	Amount $B
Weekly	45.518	4.994	55.812
Year-to-Date	45.961	4.994	56.591

* Difference represents issuance with pending ratings.

Source: Moody's/ Dealogic

Moody's Capital Markets Research recent publications

Overvalued Equities Increase Corporate Credit's Downside Risk (Capital Markets Research)

High-Yield Rating Changes Say High-Yield Bond Spread Is Too Thin (Capital Markets Research)

Return of Christmas Past Does Not Impend (Capital Markets Research)

Next Plunge by Profits to Drive Leverage Up to 2009 High (Capital Markets Research)

Corporate Bond Issuance Reflects Business Activity's Heightened Sensitivity to Rates (Capital Markets Research)

Equities Advanced for 95% of the Yearly Declines by High-Yield Bond Spread (Capital Markets Research)

Improved Market Sentiment Is Mostly Speculative (Capital Markets Research)

Loans Impart an Upward Bias to High-Yield Downgrade per Upgrade Ratio (Capital Markets Research)

VIX, EDF and National Activity Index Go Far at Explaining the High-Yield Spread (Capital Markets Research)

Worsened Fundamentals Lift Downgrades Well Above Upgrades (Capital Markets Research)

Next Recession May Lower 10-year Treasury Yield to Range of 0.5% to 1% (Capital Markets Research)

Abundant Liquidity Suppresses Defaults (Capital Markets Research)

Cheap Money in Action (Capital Markets Research)

Bond Implied Ratings Hint of More Fallen-Angel Downgrades (Capital Markets Research)

Leading Credit-Risk Indicator Signals A Rising Default Rate (Capital Markets Research)

Upon Further review, Aggregate Financial Metrics Worsen (Capital Markets Research)

Faster Loan Growth Would Bode Poorly for Corporate Credit Quality (Capital Markets Research)

Likelihood of a 1.88% Fed Funds Rate by End of July Soars (Capital Markets Research)

Market Implied Ratings Differ on the Likely Direction of Baa3 Ratings (Capital Markets Research)

Below-Trend Spreads Bank on Profits Growth, Lower Rates and Healthy Equities (Capital Markets Research)

Global Collapse by Bond Yields Stems from Worldwide Slowdown (Capital Markets Research)

Borrowing Restraint Likely Despite Lower Interest Rates (Capital Markets Research)

The Fed Cured 1998's Yield Curve Inversion (Capital Markets Research)

Extended Yield Curve Inversion Would Presage Wide Spreads and Many Defaults (Capital Markets Research)

Business Debt's Mild Rise Differs Drastically from 2002-2007's Mortgage Surge (Capital Markets Research)

Earnings Slump Would Unmask Dangers of High Leverage (Capital Markets Research)

Credit May Again Outshine Equities at Divining Markets' Near-Term Path (Capital Markets Research)

Not Even the Great Depression Could Push the Baa Default Rate Above 2% (Capital Markets Research)

Benign Default Outlook Implies Profits Will Outrun Corporate Debt (Capital Markets Research)

Upside Risks to the U.S. Economy (Capital Markets Research)

Outstandings and Rating Changes Supply Radically Different Default Outlooks (Capital Markets Research)

High Leverage Offset by Ample Coverage of Net Interest Expense (Capital Markets Research)

Subdued Outlook for Revenues and Profits Portend Lower Interest Rates (Capital Markets Research)

Fed Will Cut Rates If 10-Year Yield Breaks Under 2.4% (Capital Markets Research)

Riskier Outlook May Slow Corporate Debt Growth in 2019 (Capital Markets Research)

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

Report Number: 1210744

Editor
Reid Kanaley
help@economy.com

Contact Us

Americas:	1.212.553.4399
Europe:	+44 (0) 20.7772.5588
Asia:	813.5408.4131

© 2020 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 INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MOODY'S PUBLICATIONS MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. 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 MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S 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. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS AND MOODY'S 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 OR MOODY'S 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.

CREDIT RATINGS AND MOODY'S 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 the Moody's 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 OR 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 rating, agreed to pay to Moody's Investors Service, Inc. for ratings opinions and services rendered by it fees ranging from $1,000 to approximately $2,700,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS 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 rating, agreed to pay to MJKK or MSFJ (as applicable) for ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY250,000,000.

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