

Morningstar Corporate Credit Research Highlights

While Equities Hit New Highs, Corporate Credit Spreads Tighten Only Slightly

Morningstar Credit Ratings, LLC

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Credit Rating Actions

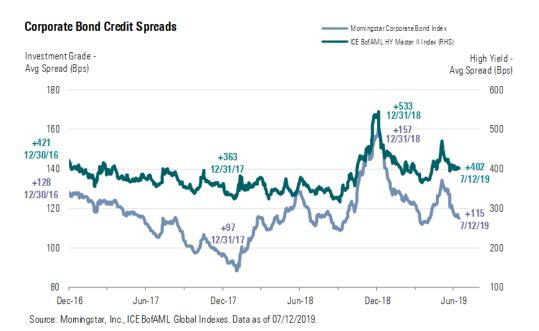
► Rating Action

 Issuer/Ticker
 Current Issuer Credit Rating
 Previous Issuer Credit Rating

 International Business Machines IBM
 A A+/UR

Credit Market Insights

While Equities Hit New Highs, Corporate Credit Spreads Tighten Only Slightly
Since the end of June, corporate credit spreads have tightened only slightly, even though U.S. stock
market indexes have hit new highs. Thus far this month, the average spread of the Morningstar
Corporate Bond Index (our proxy for the investment-grade corporate bond market) has tightened 4 basis
points to +115. In the high-yield market, the ICE BofAML High Yield Master II Index tightened 5 basis
points to +402.



Over the same period, equity markets have hit new highs. For example, the S&P 500 rose above 3,000 and increased 0.78% over the course of last week. While credit spreads typically would have tightened more in correlation to the strength in the equity markets, investors have been unwilling to pay up for corporate bonds as underlying interest rates have also risen off their lows. Month to date, the yield curve for U.S. Treasury bonds has risen between 9 and 12 basis points, with the long end of the curve rising the most.

As slowing global economic growth pressures the U.S. economy, investors would typically reallocate assets in their portfolios toward fixed-income products and away from the equity markets. The effect has historically been to boost bond prices and pressure the equity markets. However, over the past few months, global central bankers have been shifting toward easy monetary policies, which has caused the opposite effect. According to the CME FedWatch Tool, a rate cut is all but assured following the Federal Open Market Committee's July meeting. At the beginning of the year, the market was still pricing in the potential for one more rate hike in 2019; now investors expect the Federal Reserve to cut the federal-funds rate this summer and then two more times before the end of the year.

Currently there is a 76% market-implied probability of a 25-basis-point rate cut and a 24% chance of a 50-basis-point cut. Even after a rate cut in July, the market expects additional rate cuts before the year is over. The market-implied probabilities that the fed-funds rate will fall from its current range of 2.25%-2.50% to the following ranges following the December meeting are:

- ► 11% for 2.00%-2.25%
- ▶ 35% for 1.75%-2.00%
- ▶ 37% for 1.50%-1.75%
- ▶ 17% for below 1.50%

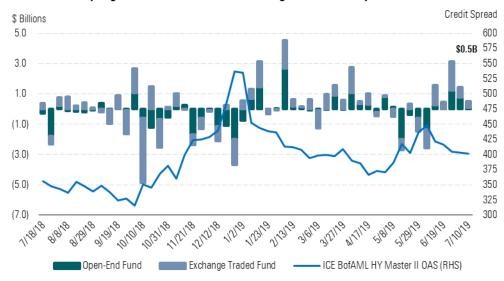
Recently released economic news and indicators have been relatively positive and indicate that while economic growth may have slowed in the second quarter, it should remain positive. For example, the increase in nonfarm payrolls in June of 224,000 was much stronger than consensus expectations, and the level of unemployment remains extremely low at 3.7%. While the low rate of inflation has long been one of the Fed's concerns, the June reading for the core constituents of the Consumer Price Index rose 0.3% in June, which pushed the annualized core CPI inflation rate up to 2.1% and the three-month annualized rate to 2.2%. In addition, the United States and China have agreed to a temporary truce and have halted the implementation of new tariffs while they return to the negotiation table. As of July 10, the GDPNow model estimate from the Federal Reserve Bank of Atlanta for the seasonally adjusted annual rate of real GDP growth in the second quarter is 1.4%. Even after accounting for these metrics, Fed Chairman Jay Powell's testimony to Congress last week was interpreted by the markets as confirming that the Fed is intent on hiking the fed-funds rate following the FOMC meeting July 30-31. Note that this meeting is not scheduled to release an updated Summary of Economic Projections. The next Summary of Economic Projections is scheduled to be released in conjunction with the Sept. 17-18 meeting.

The European Central Bank has also signaled its intentions to further ease its monetary policy. The ECB is reportedly considering cutting its already negative short-term interest rate, instituting additional bond-buying programs, and/or providing enhanced guidance that it could leave its short-term interest rate at a negative yield for even longer.

Weekly High-Yield Fund Flows

High-yield inflows are on a roll, posting their fifth consecutive weekly inflow. For the week ended July 10, high-yield inflows registered \$0.5 billion. Inflows were weighted toward exchange-traded funds as net unit creation among high-yield ETFs rose \$0.4 billion, while high-yield open-end mutual funds realized inflows of only \$0.1 billion. For the week ended July 3, high-yield inflows registered \$1.5 billion and were balanced between ETFs and open-end funds. Year to date, inflows into the high-yield asset class total \$16.4 billion, consisting of \$10.8 billion of net unit creation among high-yield ETFs and \$5.5 billion of inflows across high-yield open-end mutual funds.

Estimated Weekly High-Yield Bond Fund Flows and High Yield Credit Spreads



Source: Morningstar, Inc. and ICE BofAML Global Indexes.

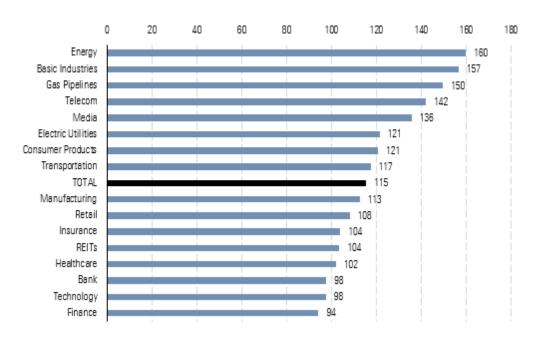
Exhibit 1 Morningstar Corporate Bond Index Sector Summary

	Average	Number of	Modified	Spread	MTD Spread	YTD Spread	MTD Total	YTD Total
Sector	Rating	Issues	Duration	(bps)	Chg (bps)	Chg (bps)	Return (%)	Return (%)
TOTAL	A-	5,265	7.1	115	(3)	(41)	(0.38)	9.15
FINANCIAL	A-	1,454	5.4	98	(2)	(43)	(0.29)	7.79
Bank	A-	864	4.7	98	(2)	(45)	(0.28)	7.50
Finance	A-	251	5.2	94	(2)	(41)	(0.22)	7.52
Insurance	Α	232	8.7	104	(4)	(34)	(0.44)	9.65
REITs	BBB+	98	5.9	104	(3)	(45)	(0.24)	8.21
INDUSTRIAL	A-	3,094	7.8	123	(3)	(40)	(0.44)	9.72
Basic Industries	BBB	269	7.6	157	(7)	(41)	(0.20)	10.19
Consumer Products	BBB+	335	8.0	121	(3)	(39)	(0.49)	10.64
Energy	A-	383	7.5	160	(3)	(36)	(0.24)	9.69
Healthcare	A-	447	8.0	102	(3)	(34)	(0.45)	8.96
Manufacturing	A-	486	6.2	113	(4)	(48)	(0.32)	8.74
Media	BBB+	177	9.0	136	(1)	(42)	(0.72)	11.22
Retail	A-	209	8.2	108	(3)	(35)	(0.37)	8.90
Technology	Α	368	7.3	98	(1)	(30)	(0.52)	8.58
Telecom	BBB+	156	9.7	142	(3)	(49)	(0.86)	12.69
Transportation	BBB+	192	8.9	117	(3)	(39)	(0.50)	10.17
UTILITY	BBB+	658	8.8	134	(8)	(51)	(0.24)	10.60
Electric Utilities	A-	369	9.6	121	(6)	(48)	(0.18)	10.26
Gas Pipelines	BBB	269	7.8	150	(11)	(58)	(0.30)	11.17
Rating Bucket								
AAA Bucket		126	7.4	46	(1)	(13)	(0.60)	6.80
AA Bucket		489	6.1	62	(3)	(23)	(0.34)	6.56
A Bucket		1,942	7.1	88	(3)	(36)	(0.40)	8.26
BBB Bucket		2,708	7.3	150	(4)	(53)	(0.35)	10.47
Term Bucket								
1-4	A-	1,734	2.3	69	(3)	(31)	(0.02)	4.10
4-7	A-	1,191	4.7	102	(2)	(53)	(0.21)	8.00
7-10	BBB+	850	6.9	128	(4)	(51)	(0.35)	10.47
10PLUS	A-	1,490	13.9	165	(4)	(44)	(0.86)	14.98

Data as of 07/12/2019

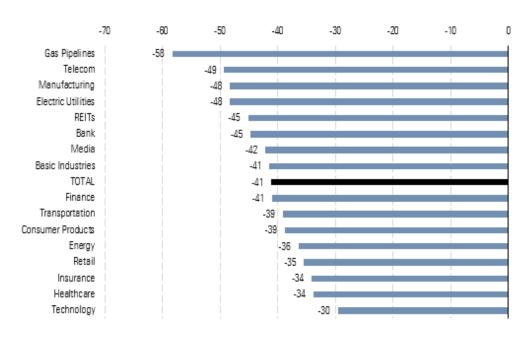
Source: Morningstar, Inc.

Exhibit 2 Morningstar Corporate Bond Index Spread by Sector



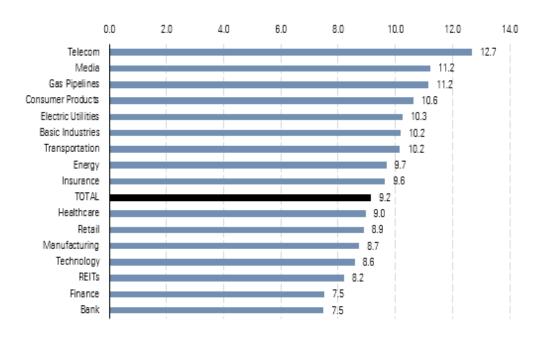
Source: Morningstar, Inc.

Exhibit 3 Morningstar Corporate Bond Index YTD Spread Change



Source: Morningstar, Inc.

Exhibit 4 Morningstar Corporate Bond Index YTD Return



Source: Morningstar, Inc.

Credit Rating Actions

► Rating Action

Issuer/Ticker	Current Issuer Credit Rating	Previous Issuer Credit Rating
International Business Machines IBM	A-	A+/UR

Morningstar Credit Ratings Releases Updated Ratings for IBM (July 12)

Morningstar Credit Ratings, LLC is downgrading International Business Machines' corporate credit rating to A- from A+ and initiating a stable outlook. This action concludes our credit review initiated in October 2018 following the announcement of an agreement to acquire software developer Red Hat for \$34 billion in cash. The transaction closed July 9. Although the merger appears neutral for Business Risk, the additional debt incurred to finance the acquisition has weakened IBM's Cash Flow Cushion and Solvency Score pillars.

Morningstar's Equity Research Group continues to assign IBM a narrow economic moat rating supported by an extensive base of intellectual property and high customer switching costs, which support Business Risk. However, core sales have declined at a rate of 1%-2% in recent years due to secular declines in IBM's legacy portfolio, which we estimate still represents close to half of its revenue base. IBM believes Red Hat's popular Linux operating system technology will allow it to offer customers more flexibility in migrating workloads across different public cloud vendors as well as hybrid and on-premises environments. We estimate that cloud will represent about 30% of revenue pro forma for Red Hat, compared with 25% of total revenue in the first quarter. By 2024, we project Red Hat's direct contribution to expand through organic revenue growth from 5% toward 10% of combined revenue. In recognition of Red Hat's productive corporate culture, IBM plans to manage Red Hat as an independent subsidiary within IBM.

At the end of the March quarter, IBM reported \$18.1 billion of consolidated cash and investments supporting \$50 billion in consolidated debt. Debt includes \$29.5 billion related to IBM's equipment financing business, supported by \$37 billion of finance-related cash and receivables. We calculate that net debt ended the latest quarter at 1.8 times trailing 12-month EBITDA from 2.1 times a year ago. Excluding IBM's equipment financing debt, we estimate that net corporate debt remained flat year over year at 0.3 times EBITDA. In May, IBM issued \$20 billion of new senior notes to fund Red Hat. Pro forma for the acquisition, we project total consolidated net debt to increase to 2.5 times EBITDA and net corporate debt (excluding financing-related obligations) increasing to around 1 times. Management has indicated it is targeting a leverage profile consistent with a mid- to high single A rating, though it has not provided specific leverage guidance. To support liquidity and rebuild cash, IBM has suspended its share-repurchase program until 2022, when our forecast indicates net debt to be just below 2 times.

Our rating assumes that IBM's revenue growth will average 2%-3% over the next five years as its revenue mix continues to shift toward higher-growth areas and a 200-basis-point expansion in operating margin to reflect the higher growth and profitability of Red Hat. Our forecast also assumes that IBM can generate at least \$6 billion of annual cash flow after dividends to absorb debt repayments or be retained

as cash. We may consider an upgrade to the rating if revenue growth and profitability trend meaningfully above our base forecast and management executes on its promise to reduce debt. We may consider a downgrade if operating performance trends materially lower than our base forecast for a prolonged period.

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