Morningstar Corporate Credit Research Highlights

Escalating Trade War Rhetoric Weighs on Corporate Bond Market

Morningstar Credit Ratings, LLC
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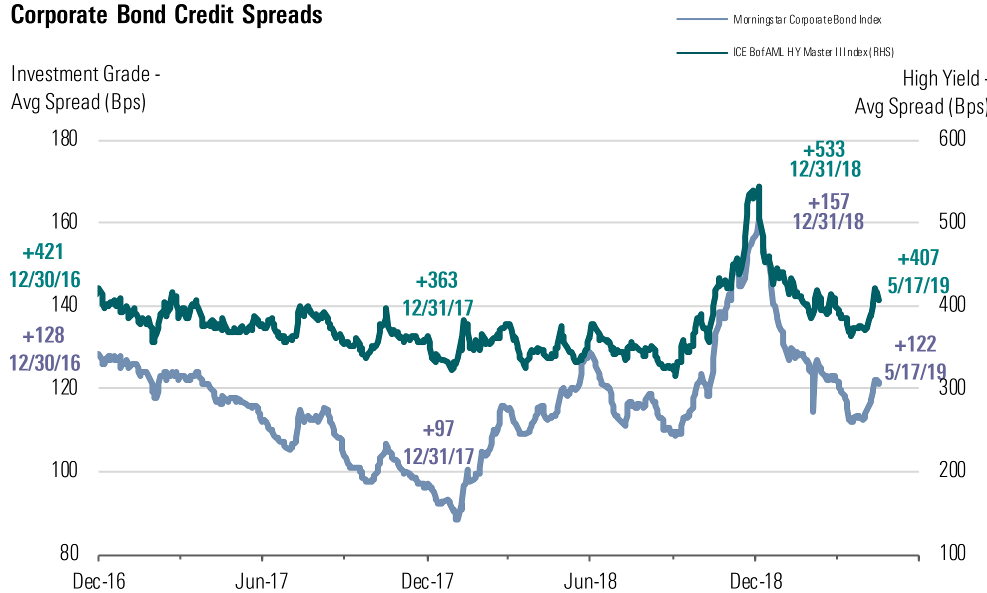
Issuer/Ticker	Current Issuer Credit Rating	Previous Issuer Credit Rating
Mallinckrodt **MNK**	B+	B+

Credit Market Insights

Escalating Trade War Rhetoric Weighs on Corporate Bond Market

The corporate bond market was hit relatively hard last Monday as the rhetoric between the United States and China escalated. Each party is exploiting the media and social media in an attempt to bolster its respective position while trade negotiations play out. Credit spreads widened significantly last Monday, but the corporate bond market attempted to recover much of the losses by Friday's close. In the investment-grade market, the average credit spread of the Morningstar Corporate Bond Index (our proxy for the investment-grade corporate bond market) ended the week 2 basis points wider at +122 basis points. In the high-yield market, the ICE BofAML High Yield Master II Index ended the week only 6 basis points wider at +407. It was a similar story in the U.S. equity market, where the S&P 500 fell hard on Monday and then clawed back a significant amount of the loss over the course of the week. For the week, the S&P 500 declined 0.74%; in China, the Shanghai Index dropped 1.94%.

Corporate Bond Credit Spreads



Source: Morningstar, Inc., ICE BofAML Global Indexes. Data as of 05/17/2019

Trade negotiations will continue to be an overhang on the corporate bond market for the near term as investors closely monitor how each side is publicly posturing before the G-20 meeting next month. Each party has shown a willingness to use the media and Twitter to advocate its positions and use the market's and the public's reactions to pressure the other side. Furthermore, each side has ramped up tariffs on imported goods from the other to use as bargaining chips during the negotiations. In addition to the broader set of tariffs, the Trump administration implemented trade restrictions on Huawei, a Chinese company that sells communication hardware and software. Following this pronouncement, the price on Huawei's 4% notes due 2027 dropped 3 3/8 points to 94 1/8, driving the yield on the notes up over 50 basis points to 4.92% with a resulting credit spread of +253 basis points.

While the Trump administration plays hardball with China, it is attempting to blunt the impact of the tariffs on Chinese imports by agreeing to lift tariffs on steel imports from Canada and Mexico. The administration has also decided to put off any decision on whether to implement tariffs on automobiles from Europe and Japan.

While corporate credit spreads widened out and equity markets sold off, Treasury bonds and high-quality sovereign bonds played their typical safe-haven role and traded higher as investors looked to escape the volatility in risk assets. In the U.S., interest rates dropped 6-9 basis points across the yield curve, with the 2-, 5-, 10-, and 30-year bonds dropping to 2.20%, 2.17%, 2.39%, and 2.83%, respectively, as bond prices rose. In Europe, negative interest rates were not enough to dissuade investors from flocking to Germany's sovereign bonds as prices rose enough to push the 5-year bond to an even greater negative yield of 0.51% while the yield on the 10-year bond declined to negative 0.10%. Germany's 5-year bond is trading at its most negative yield since April 2017. For context, the most negative yield at which Germany's 5-year has traded was negative 0.62% in July 2016. Germany's 10-year yield hit its most negative yield of 0.19% in July 2016 and is currently its lowest since September 2016. While investors flocked to German bonds, Italian sovereign bonds weakened after Italy's Deputy Prime Minister Matteo Salvini said he is willing to breach the European Union's deficit limits to prop up the Italian economy. The credit spread between Italy's 10-year bonds and Germany's 10-year bonds widened out to +276 basis points, the widest level since December last year.

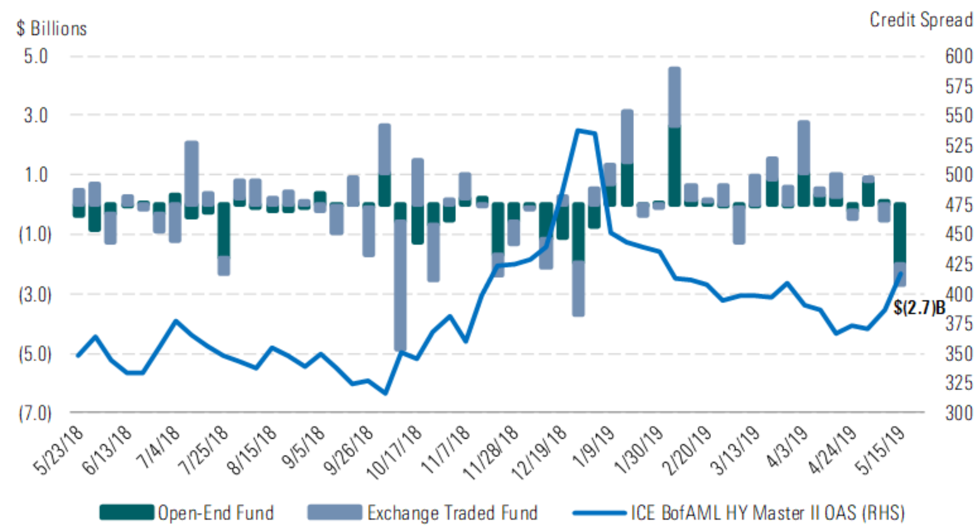
While news headlines have concentrated on the trade dispute between the U.S. and China, negative undercurrents have been flowing in some emerging markets over the past two months. For example, the price on Argentina's 10-year bonds has dropped 10 points since mid-March. Argentina's 7 7/8% notes due 2017 have fallen to 65 5/8, which equates to a 16.05% yield and a credit spread of +1,365 basis points over equivalent-maturity U.S. Treasury bonds. While the prices on Turkey's 10-year bonds have not fallen quite as much or as low, they have also begun to show signs of stress. Since mid-March, Turkey's 7 5/8% notes due 2029 have fallen 6 5/8 points to 97 3/8, which equates to an 8.00% yield and a credit spread of +560 basis points over equivalent-maturity U.S. Treasury bonds. Both of those countries' currencies have been under significant pressure. Argentina's peso has devalued 16% against the U.S. dollar thus far this year, and the value of the Turkish lira has declined almost 13%.

Weekly High-Yield Fund Flows

For the week ended May 15, investors withdrew $2.7 billion from the high-yield asset class. This was the third-greatest weekly outflow of the past 52 weeks and sixth-largest outflow of the past two years. Based on the composition of the outflows, it appears that individual investors have been more rattled by the rhetoric surrounding the trade negotiations than institutional investors. About two thirds of last week's outflows were concentrated in high-yield open-end funds, which suffered $2.0 billion of withdrawals. Open-end mutual funds are historically seen as a proxy for individual investors, whereas exchange-traded funds are typically viewed as a proxy for institutional investor demand. Among high-yield ETFs, net unit redemptions totaled $0.7 billion.

Year to date, total inflows into the high-yield asset class have fallen $13.3 billion, consisting of $7.8 billion worth of net unit creation among high-yield exchange-traded funds and $5.5 billion of inflows across high-yield open-end mutual funds. However, the amount of inflows year to date has still not been enough to offset the amount of outflows this asset class suffered during the fourth quarter of 2018. Over the past 52 weeks, total outflows equaled $4.2 billion, driven by $6.6 billion of withdrawals across open-end mutual funds as ETFs have recuperated their outflows and more and have seen a total of $2.4 billion in new unit creation.

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



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

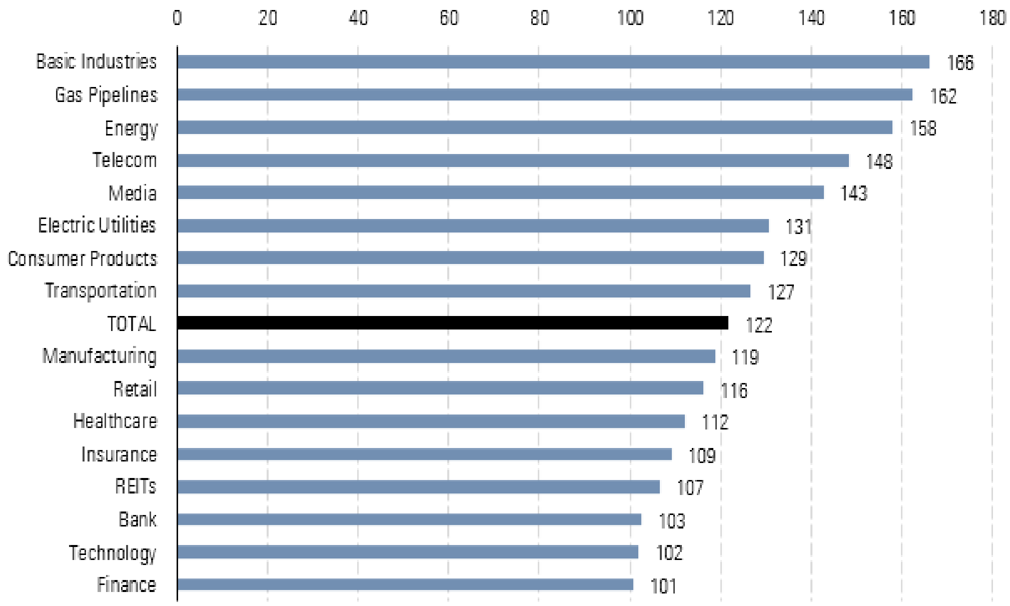
Exhibit 1 Morningstar Corporate Bond Index Sector Summary

Sector	Average Rating	Number of Issues	Modified Duration	Spread (bps)	MTD Spread Chg (bps)	YTD Spread Chg (bps)	MTD Total Return (%)	YTD Total Return (%)
TOTAL	**A-**	**5,238**	**7.0**	**122**	**9**	**(35)**	**0.33**	**6.02**
FINANCIAL	**A-**	**1,459**	**5.3**	**103**	**7**	**(38)**	**0.37**	**5.29**
Bank	A-	887	4.7	103	7	(40)	0.29	5.15
Finance	A-	244	5.1	101	9	(35)	0.39	4.99
Insurance	A	225	8.5	109	6	(29)	0.67	6.24
REITs	BBB+	94	5.7	107	5	(42)	0.51	5.71
INDUSTRIAL	**A-**	**3,095**	**7.6**	**129**	**9**	**(33)**	**0.32**	**6.35**
Basic Industries	BBB	261	7.5	166	13	(32)	0.07	6.43
Consumer Products	BBB+	341	7.9	129	8	(30)	0.63	6.93
Energy	A-	409	7.4	158	13	(38)	(0.10)	6.86
Healthcare	A-	439	7.8	112	8	(24)	0.48	5.34
Manufacturing	A-	477	6.1	119	9	(42)	0.33	5.98
Media	BBB+	179	8.8	143	9	(35)	0.35	7.36
Retail	A-	209	7.8	116	4	(27)	0.55	5.19
Technology	A	360	7.2	102	12	(25)	0.29	5.48
Telecom	BBB+	161	9.6	148	10	(43)	0.29	8.93
Transportation	BBB+	188	8.8	127	10	(30)	0.36	6.42
UTILITY	**BBB+**	**626**	**8.8**	**144**	**10**	**(41)**	**0.22**	**6.74**
Electric Utilities	A-	357	9.4	131	9	(39)	0.33	6.17
Gas Pipelines	BBB	251	7.9	162	12	(46)	0.08	7.60
Rating Bucket								
AAA Bucket		124	7.4	49	4	(9)	0.51	3.93
AA Bucket		492	5.9	66	6	(19)	0.42	4.04
A Bucket		1,917	6.9	93	7	(31)	0.37	5.22
BBB Bucket		2,705	7.2	157	10	(46)	0.27	7.13
Term Bucket								
1-4	A-	1,732	2.3	71	7	(30)	0.21	2.81
4-7	A-	1,180	4.7	109	8	(46)	0.37	5.52
7-10	BBB+	859	6.9	138	10	(41)	0.40	6.96
10PLUS	A-	1,467	13.7	176	10	(33)	0.38	9.47

Data as of 05/17/2019

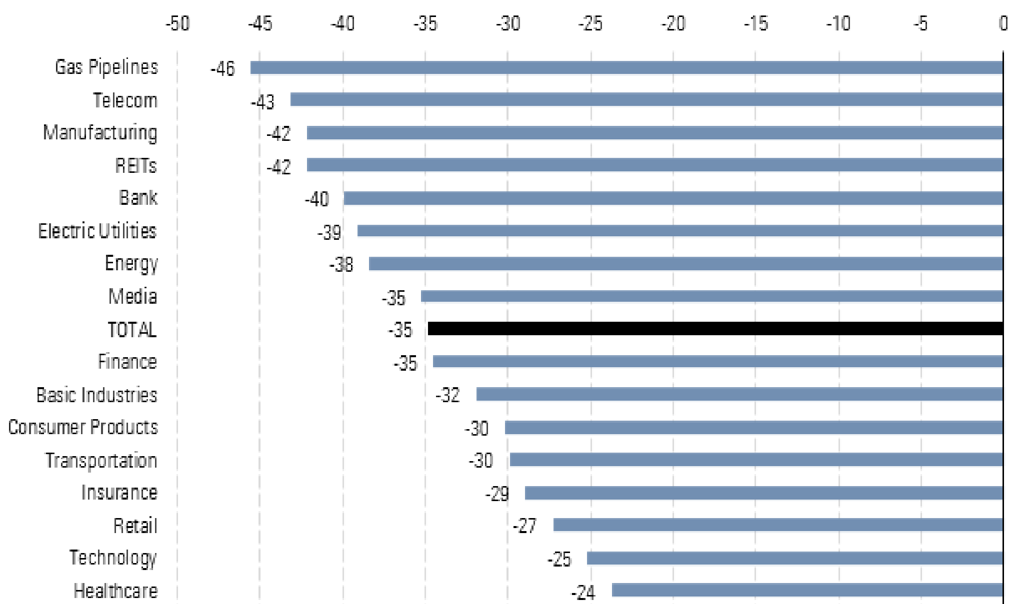
Source: Morningstar, Inc.

Exhibit 2 Morningstar Corporate Bond Index Spread by Sector



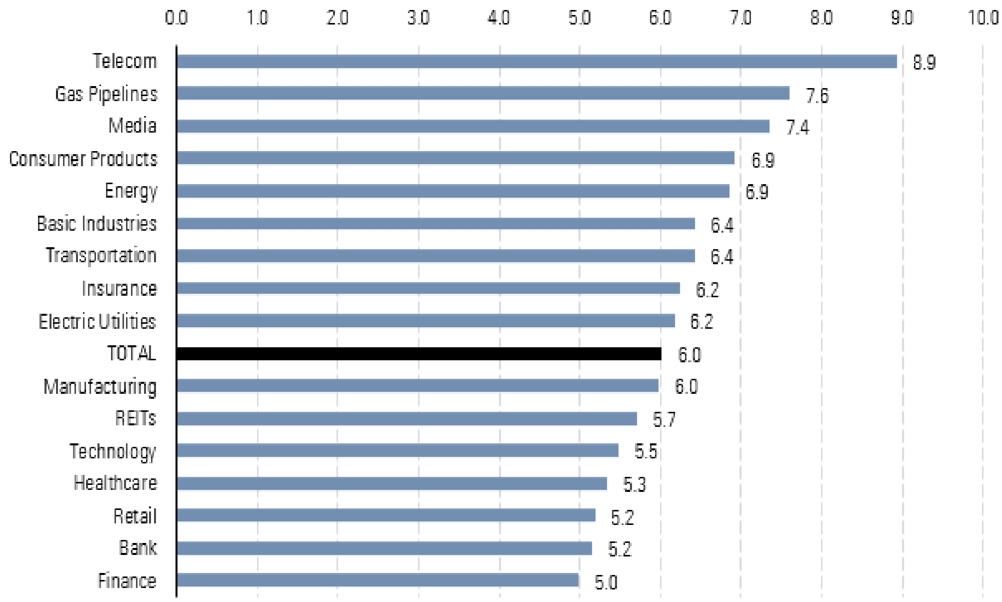
Source: Morningstar, Inc.

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 Affirmation

Issuer/Ticker	Current Issuer Credit Rating	Previous Issuer Credit Rating
Mallinckrodt **MNK**	B+	B+

Morningstar Credit Ratings Releases Updated Ratings for Mallinckrodt (May 16)
Morningstar Credit Ratings, LLC is affirming Mallinckrodt's B+ rating and maintaining a stable outlook to reflect significant uncertainty related to the company's transformation into an innovative brand-name specialty medicine firm, heavy reliance on bestseller Acthar Gel, and high financial leverage.

Mallinckrodt's sizable corporate pruning over the past few years, culminating with the planned spin-off of the specialty generics and Amitiza businesses in 2019, leaves branded specialty drugs as the lone source of profitability. Sales concentration will be exacerbated on 19 disease states, accounting for more than 40% of total revenue after the spin-off. Acthar along with top-selling medicines Inomax (respiratory failure) and Ofirmev (acute pain) may together represent 86% of all sales. This concentration and the firm's smaller size contribute to very high Business Risk. We think market uncertainty about the ultimate corporate structure and demand pressure on Acthar has reduced Mallinckrodt's equity cushion, keeping Distance to Default in very weak territory. The firm is establishing evidence of clinical efficacy via postmarketing studies to improve growth prospects for Acthar, including data for the treatment of rheumatoid arthritis to be published in the near term. The most advanced novel research projects are terlipressin (hepatorenal syndrome) and StrataGraft (regenerative skin tissue), which are both expected to be filed to regulators early next year and launched in late 2020, depending on positive clinical data. With limited uptake of these new treatments given proximity to the potential patent loss of Ofirmev in 2021, we forecast revenue and EBITDA to fall double digits compounded annually in 2020-23 for the remaining brand business after the spin-out of the specialty generics segment in 2019. With limited near-term internal opportunities, the firm may seek external assets to expand its brand-name specialty drug portfolio. If substantial, these activities could stretch the balance sheet and pressure our moderate Cash Flow Cushion and weak Solvency Score pillars.

Mallinckrodt has quickly repaired its balance sheet since acquiring Sucampo for $1.2 billion in February 2018 by reducing its debt load to $5.8 billion on March 29, 2019 ($1.9 billion of secured term loans due in 2024 and 2025, $405 million of secured revolver borrowings, $250 million of receivables securitization, and about $3.3 billion of unsecured notes), from $6.8 billion on March 31, 2018 (shortly after the Sucampo financing). Total debt leverage was 5.4 times EBITDA for the trailing 12 months ended March 29, and net leverage was 5.2 times considering $226 million of cash on hand. The firm is committed to reducing its net debt by $1 billion in association with the spin-off of its specialty generics and Amitiza businesses in the second half. The firm set a longer-term target of net leverage between 3.5 times and 4 times. The next significant debt maturities are $700 million of 4.88% unsecured notes due in April 2020, $835 million of 5.75% unsecured notes due in August 2022, $490 million of 4.75% unsecured notes due in April 2023, and $721 million of 5.63% notes due in October 2023. The firm may have trouble satisfying these maturities, given annual free cash flow that we see averaging about $500 million through 2023.

The firm will receive proceeds upon the spin-out and has access to additional liquidity with its $900 million five-year revolving credit facility maturing February 2022 and $250 million receivables securitization program due July 2020. The lone financial covenant in the bank agreements is a maximum net leverage metric (5 times or below) applicable to its revolver only. We think the firm will need to direct most free cash flow to easing its debt load to hold its credit position due to the EBITDA loss from the spin-off. However, we are cautious of near-term asset purchasing and share buybacks that could jeopardize debt reduction over the next year or so.

If Mallinckrodt can successfully execute its operating strategy of building strength as a specialty drug innovator while maintaining strong margins, such that our Cash Flow Cushion strengthens, then a ratings upgrade may be warranted. At the same time, the firm will need to better its financial position, which should ease the present strain on our Solvency Score and Distance to Default pillars. On the other hand, significant underperformance from key specialty drugs—Acthar Gel, Inomax, and Ofirmev—such that our Cash Flow Cushion erodes, could lead to a downgrade. Also, sizable debt-funded business development that stretches the balance sheet may pressure our Cash Flow Cushion and Solvency Score pillars such that a downgrade may be appropriate.

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