Corporate Credit Spread Chartbook

Industrials Sector

Morningstar Credit Ratings, LLC

25 January 2018

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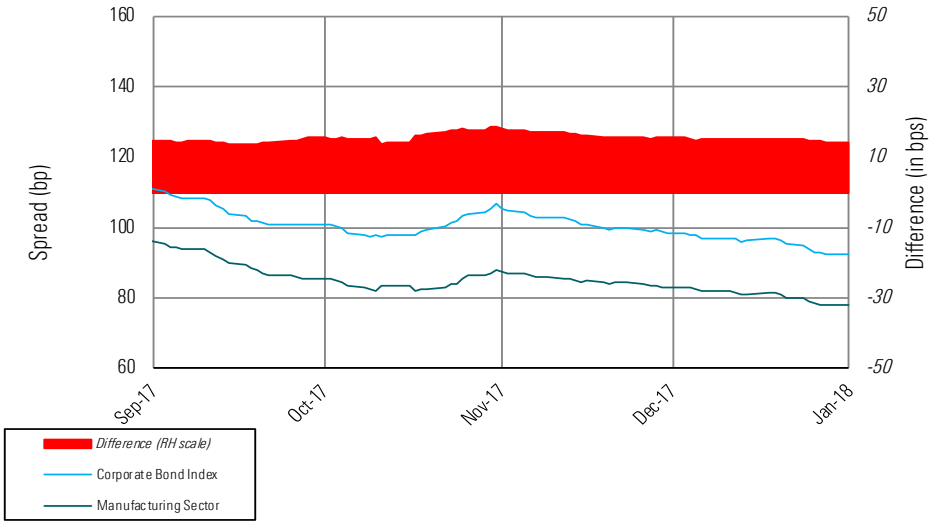
Executive Summary

On the heels of four upgrades last quarter, rating activity was nonexistent in the industrials landscape since our last publication in September. In total, we had no ratings changes among our investment-grade credits. That said, we shifted our outlooks from negative to stable on one railroad and two heavy-equipment companies, and reaffirmed another positive outlook within the diversified industrial landscape. Subsector spreads tightened during the quarter across all the subsectors, with aerospace and defense and automotive tightening greater than the overall index.

Historical Sector Spreads

The credit spreads of the Morningstar, Inc. Corporate Bond Index and the Manufacturing Sector Index again moved in tandem since our September Industrials Chartbook. The CBI tightened +19 basis points to +92, while the MSI tightened 18 basis points to +78. The MSI ended the quarter +14 basis points inside of the CBI, roughly unchanged from the start of the period. The ending differential of +14 basis points was the essentially the low differential during the month, inside of both the average of +16 basis points and the maximum of +19 basis points.

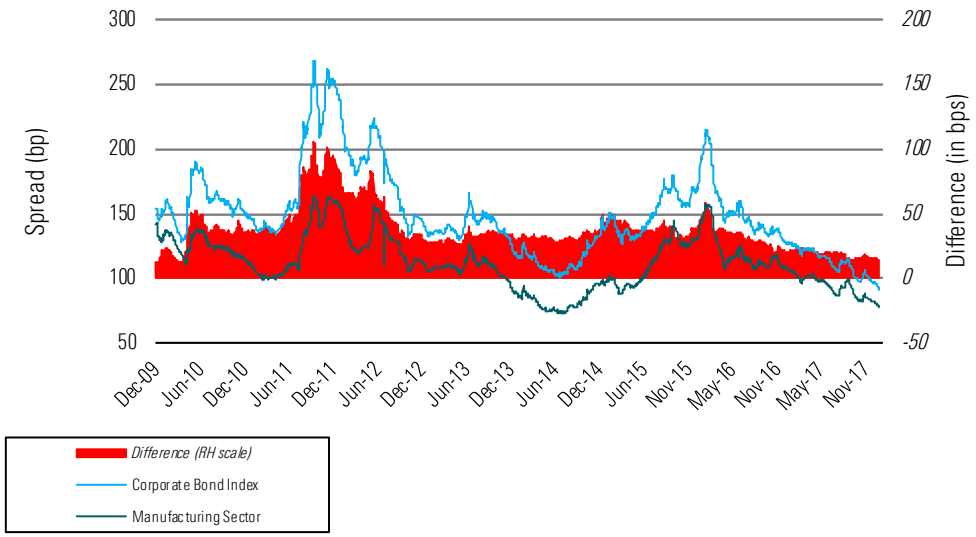
Exhibit 1 Morningstar, Inc. Corporate Bond Index Versus Manufacturing Sector (Since Sept. 16, 2017)



Source: Morningstar, Inc. Data as of Jan. 19, 2018.

At the beginning of the current economic expansion, the Manufacturing Sector Index experienced the same fluctuations as the overall Morningstar, Inc. Corporate Bond Index, but maintained its characteristic of trading inside of the CBI. The latter widened during summer 2011, which coincided with the downgrading of the United States' credit rating as well as the sovereign debt crises and contagion of Iceland, Ireland, and Greece. The index widened, related to global growth worries, leading into the end of 2015 and into 2016, which coincided with falling energy prices and the impending default risk. Nevertheless, the MSI ended the period at +14 basis points inside of the CBI, close to the low of +10 basis points and tight to the +37 basis points inside the CBI it averaged during this span.

Exhibit 2 Morningstar, Inc. Corporate Bond Index Versus Manufacturing Sector (2010–present)



Source: Morningstar, Inc. Data as of Jan. 19, 2018.

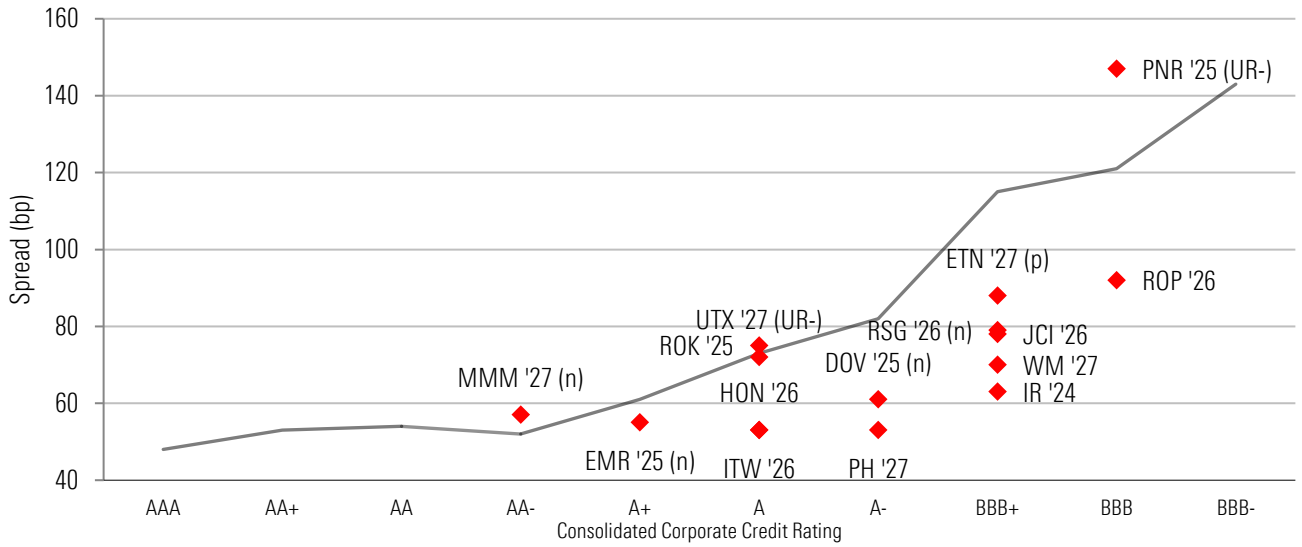
We continue to expect mostly positive signs on the horizon for the industrials sector heading into 2018. As we've discussed through most of 2017, the Institute for Supply Management Purchasing Managers' Index, a diffusion index that has properties of a leading indicator, continues to flash green. December's reading, announced in early January, was a strong 59.7, up 1.5% from last month, and the three-month rolling average was a healthy 58.9. Moreover, the year-over-year changes in government new-order data reaccelerated each month during the quarter, with the last reading boasting an impressive 7.4% increase. Tax reform looks likely to add tailwinds across Industrials, but we expect the biggest beneficiaries to be mostly domestic-focused companies because the large diversified companies already have effective tax rates below statutory levels.

Spread Charts by Manufacturing Subsector

In the pages that follow, we discuss individual credit trends for the different manufacturing subsectors and major headlines from the period.

Diversified Industrials

Exhibit 3 Diversified Industrial Sector Versus Morningstar, Inc. Industrials Index



Source: Morningstar Credit Ratings, LLC, Morningstar, Inc., and Interactive Data as of Jan. 19, 2018.
(UR) = rating under review/(p) = positive outlook/(n) = negative outlook

Credit Trends

On average, bond spreads in this subsector tightened +16 basis points since our last publication versus the CBI, which tightened 19 basis points. Many companies produced solid calendar third-quarter earnings. Industrial companies reported solid low- to mid-single-digit quarterly organic growth rates, with the continued resurgence in the energy patch further fueling top-line growth in housing, consumer, and aerospace end markets. M&A activity was again front and center, although no large deal was consummated. Still, many management teams of large industrials have commented that tax reform could create a catalyst using their overseas cash balances for acquisitions.

Issuer Highlights

- We affirmed our corporate credit rating on Emerson Electric Co. (A+, negative) in December. Our rating incorporates Emerson's competitive position offset by the potential risk from mergers and acquisitions. Emerson's financial results are beginning to improve after years of low energy activity roiled its prospects. However, the company's aggressive M&A strategy gives us pause because the failed bid to

acquire Rockwell Automation Inc. (A, stable) was meaningfully above its stated guidance. We still maintained our negative outlook, as we think a potential deal would result in a downgrade.

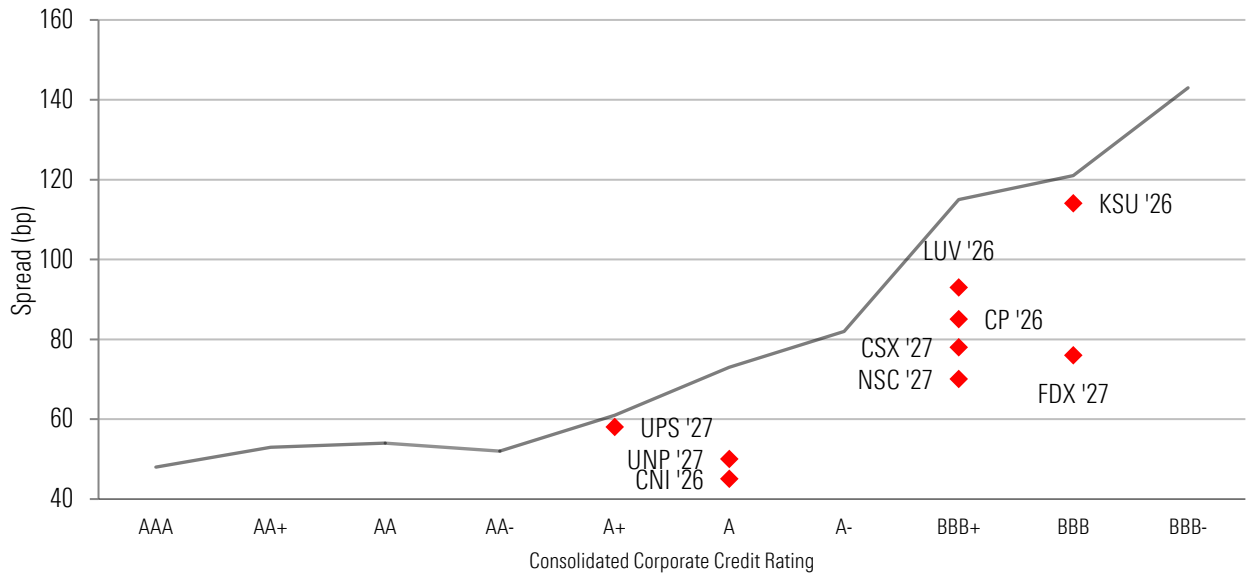
- We affirmed out corporate credit rating on Eaton Corp. PLC (BBB+, positive) in December. Eaton's fortunes have improved since we last reviewed our rating, but we want to see a sustained improvement in profitability and further deleveraging before we upgrade it. We still see a pathway for a ratings upgrade in the near future and retained our positive outlook.

Recent Headlines

- Honeywell International Inc. (A, stable), which was initially prodded by an activist investor earlier in 2017 to consider spinning off its aerospace business, concluded in October that it would spin off two units with around $7.5 billion in annual revenue to focus on its core business.
- In November 2017, Rockwell Automation Inc. confirmed it had rejected an unsolicited acquisition proposal, and Emerson subsequently withdrew the bid. Still, the final $29 billion enterprise-value offer was Emerson's third, as Rockwell Automation noted that it shunned a $26 billion overture in early August. These acquisition attempts follow portfolio changes at Emerson meant to reposition the company on automation.

Transports

Exhibit 4 Transports Versus Morningstar, Inc. Industrials Index



Source: Morningstar Credit Ratings, LLC, Morningstar, Inc., and Interactive Data as of Jan. 19, 2018.
(UR) = rating under review/(p) = positive outlook/(n) = negative outlook

Credit Trends

On average, bond spreads in this subsector tightened +15 basis points since our last publication versus the CBI, which tightened +19 basis points. Looking to the transportation sector, the class-I rails reported solid quarterly earnings. Carload volume grew, although the effects from the devastating hurricanes created some headwinds. Still, profitability and free cash flow generation generally improved, as core pricing power and operating efficiencies mitigated the impact of overall rail inflation. Management teams provided a tempered, albeit encouraging, outlook for the remainder of the year and early hints for 2018. They expect strength in intermodal and chemical commodities likely to be offset by a weakening automotive environment. So long as the manufacturing economy continues to run on high gear, we expect the rails to keep chugging along.

Issuer Highlights

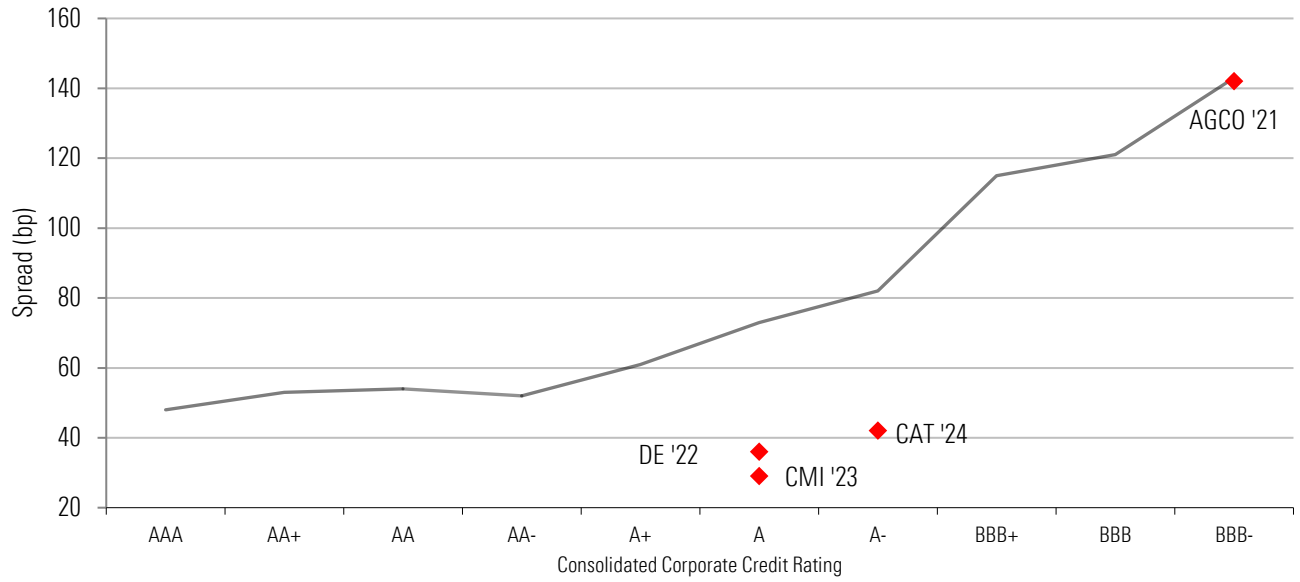
- We affirmed our BBB+ credit rating on Norfolk Southern Corp. (BBB+, stable) and moved our outlook to stable from negative. Norfolk Southern has improved profitability meaningfully so far in 2017, and we now believe the credit profile boost removed the likelihood of an imminent downgrade.

Recent Headlines

- CSX (BBB+, stable announced in late December that its CEO Hunter Harrison died. Harrison was appointed CEO earlier in March with an edict to bring his precision railroad philosophy to improve CSX's profitability. COO Jim Foote took over as CEO and named Ed Harris, another former CN executive who also has ties to Harrison, COO, as CSX looks to implement the changes commenced under Harrison while improving service levels.

Heavy Equipment

Exhibit 5 Heavy Equipment Versus Morningstar, Inc. Industrials Index



Source: Morningstar Credit Ratings, LLC, Morningstar, Inc., and Interactive Data as of Jan. 19, 2018.
(UR) = rating under review/(p) = positive outlook/(n) = negative outlook

Credit Trends

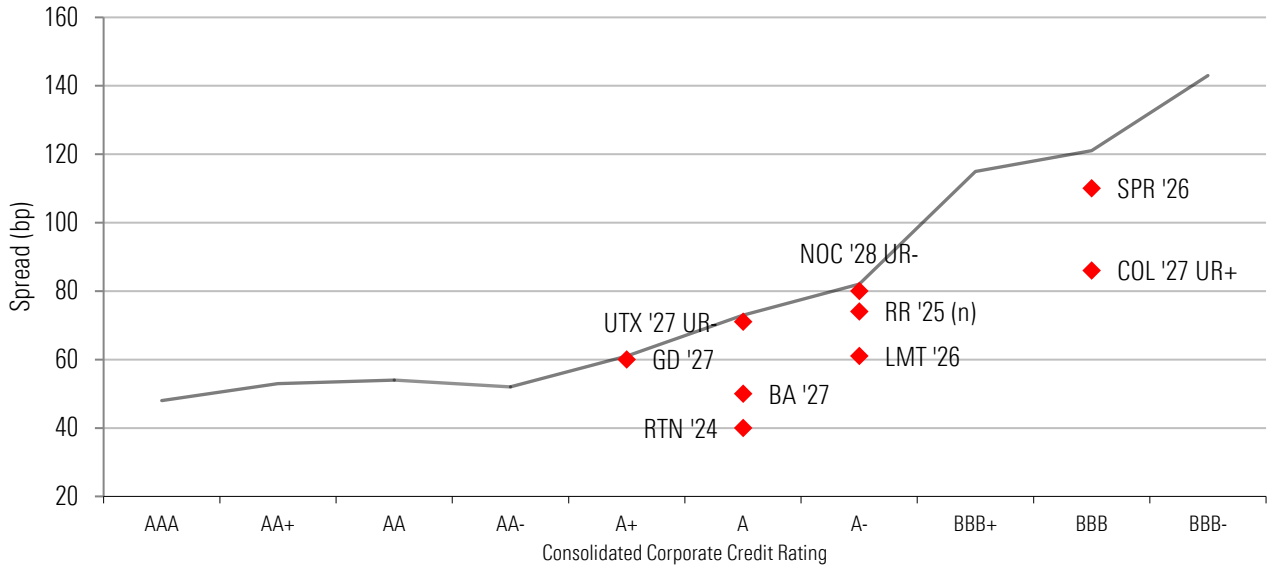
On average, bond spreads in this subsector tightened 11 basis points since our last publication versus the CBI, which tightened 19 basis points. The heavy equipment subsector continues to hum along. The construction equipment market continues to grow, and recent talk of government infrastructure spending could create further fodder, although we expect any final bill will be mired in political gridlock for years. The North American heavy-duty truck and farming markets are also much improved, and with U.S. farming cash income projected to turn positive in 2017 for the first time in three years. Specifically, we expect domestic farmers to benefit from the new tax reform, and we anticipate that the positive trends will persist over coming quarters.

Issuer Highlights

- We affirmed our corporate credit rating on Caterpillar Inc. (A-, stable) in November. Caterpillar's end markets and fortunes have improved drastically since our previous update when we assigned it a negative outlook. Since then, the firm has meaningfully increased its 2017 revenue guidance, and its cost reductions have paid off. As such, we moved our outlook to stable.
- We affirmed our corporate credit rating on Deere & Co. (A, stable) in November. The farming economy is showing strong signs of life, and we think that Deere's profitability should improve such that it will stave off a possible ratings downgrade in the next year or so. We thus lifted our outlook to stable.

Aerospace and Defense

Exhibit 6 Aerospace and Defense Versus Morningstar, Inc. Industrials Index



Source: Morningstar Credit Ratings, LLC, Morningstar, Inc., and Interactive Data as of Jan. 19, 2018.
(UR) = rating under review/(p) = positive outlook/(n) = negative outlook

Credit Trends

On average, bond spreads in this subsector tightened by 23 basis points since our last publication, which compares with 19 basis points of tightening in the CBI. Spread tightening was fairly consistent across our list of names. We continue to view fundamentals in the aerospace/defense industry as generally positive, driven by higher defense budgets and global economic strength. However, we affirmed our ratings and stable outlook on each of General Dynamics (A+), Raytheon (A), Boeing (A), and Lockheed (A-) in November as good fundamentals are balanced by capital allocation policies that tend to favor shareholders. We remain Under Review Negative on Northrop (A-/UR-) as it approaches the closing of its Orbital ATK acquisition, while Rockwell Collins (BBB/UR+) remains Under Review Positive as it prepares to get bought by UTX (A/UR-).

Recent Headlines

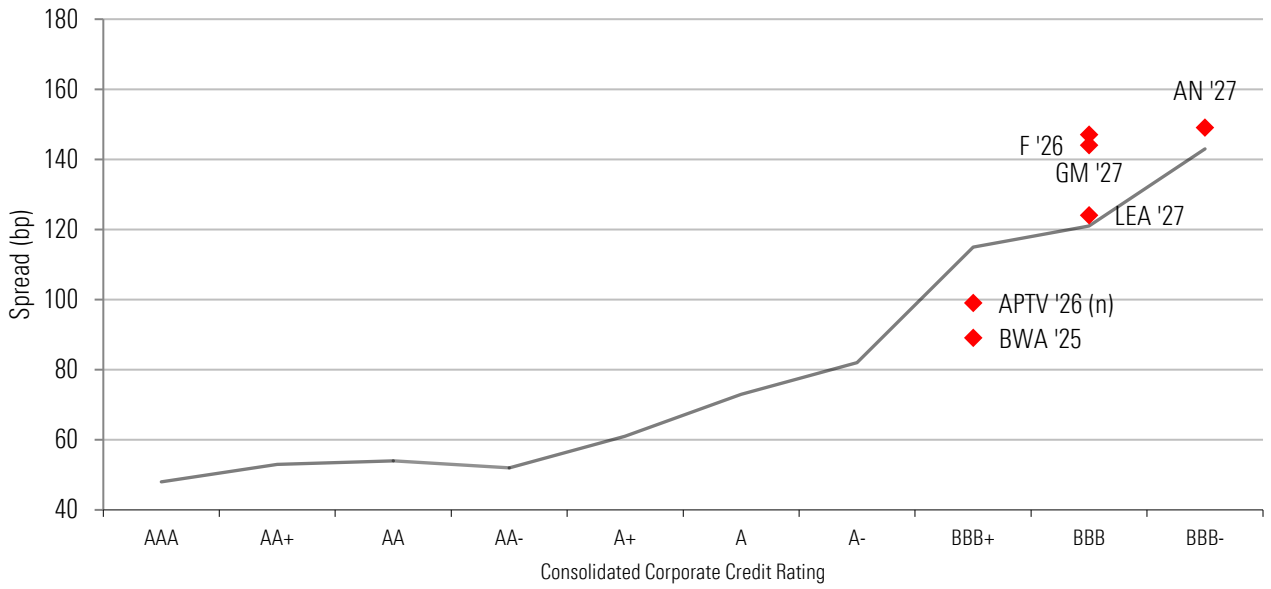
- On Jan. 17, Rolls-Royce Holdings PLC (A-, negative) announced a new round of simplification actions that includes the strategic review of its commercial marine operation. This business felt the brunt of the energy downturn, delivering a GBP 27 million loss on GBP 1.1 billion in revenue in 2016. Management expects the review to continue through the second half of 2018.

- On Jan. 16, Boeing announced a joint venture with seat-maker Adient, called Adient Aerospace and controlled by Adient, to make seating for aircraft. This will be another leg of Boeing's vertical integration strategy that is attempting to bring higher margin businesses in house.

- On Oct. 10, Northrop Grumman priced $8.25 billion in new bonds across tranches ranging from three to 30 years to finance its purchases of Orbital ATK. The $2 billion 3.25% senior notes due Jan. 15, 2028 were issued at a spread of +90 basis points over Treasuries and recently traded at +80 basis points. We have added this bond to the chart, replacing the 3.20% senior notes due Feb. 1, 2027, which are indicated at a spread of +71 basis points over the nearest Treasury.

Automotive

Exhibit 7 Automotive Versus Morningstar, Inc. Industrials Index



Source: Morningstar Credit Ratings, LLC, Morningstar, Inc., and Interactive Data as of Jan. 19, 2018.
(UR) = rating under review/(p) = positive outlook/(n) = negative outlook

Credit Trends

On average, bond spreads in this subsector tightened by 24 basis points since our last publication, which compares with 19 basis points of tightening in the CBI. Credit trends broadly remain mixed in the sector. OEMs Ford (BBB, stable) and GM (BBB, stable) continue to benefit from a shift toward light trucks and away from cars and are adjusting their portfolios accordingly. A declining domestic SAAR is offsetting this positive mix shift. Sales peaked in 2016 at 17.55 million units and are estimated to come in at 17.25 million units for 2017. We expect continued low-single-digit annual declines combined with rising used cars coming off lease to sustain pressure on pricing. Other trends facing the OEMs are increasing investments in electrification and autonomous vehicles and strategies around each. GM appears to currently have a clearer strategy than Ford and provided a stronger outlook at the recent Detroit Auto Show. Still, these trends will take years to play out and drive revenue even while costs are incurred today. The suppliers generally look likely to benefit from each of these trends along with the global regulatory environment, as we have previously noted. Recently updated guidance provided by BorgWarner (BBB+, stable) and Lear (BBB, stable) was particularly strong.

Issuer Highlights

- Delphi Automotive completed its spinoff of Delphi Technologies (not rated) and became Aptiv (BBB+, negative) in early December. Our negative outlook on Aptiv reflects the higher gross leverage and more narrow business mix after the spin, although we expect clearer leverage targets and capital allocation strategies to be revealed in the upcoming earnings call.
- On Dec. 20 we affirmed our BBB- rating and stable outlook on AutoNation. The company's growing stable of brands and diversification into parts and stand-alone used cars should provide some offset to a declining new car market and any shift towards car sharing or ride hailing services. AutoNation also partnered with Waymo to service its autonomous fleet, an opportunity for AutoNation to benefit if transportation as a service takes hold.

Recent Headlines

- On Nov. 7, AutoNation priced $750 million across 7- and 10-year maturities to refinance commercial paper. This includes the $300 million 3.80% senior notes due Nov. 15. 2027, issued at a spread of +150 basis points over Treasuries and currently indicated at the same level. We have added this bond to the chart, replacing the 4.50% senior notes due 2025.

Exhibit 8 Morningstar Credit Ratings Sector Coverage—Industrials

Issuer	Ticker	Corporate Rating	Rating Outlook	Analyst
Aerospace/Defense				
General Dynamics Corp	GD	A+	Stable	Tauber
Raytheon Co	RTN	A	Stable	Tauber
Boeing Co	BA	A	Stable	Tauber
Lockheed Martin Corp	LMT	A-	Stable	Tauber
Northrop Grumman Corp	NOC	A-/UR-	N/A	Tauber
Rolls-Royce Holdings PLC	RR.	A-	Negative	Alukos
Rockwell Collins Inc	COL	BBB/UR+	N/A	Tauber
Spirit AeroSystems Holdings Inc	SPR	BBB	Stable	Tauber
Bombardier Inc	BBD.B	B-	Positive	Tauber
Automotive				
BorgWarner Inc	BWA	BBB+	Stable	Tauber
Aptiv PLC	APTV	BBB+	Negative	Tauber
Ford Motor Co	F	BBB	Stable	Tauber
General Motors Co	GM	BBB	Stable	Tauber
Lear Corp	LEA	BBB	Stable	Tauber
AutoNation Inc	AN	BBB-	Stable	Tauber
Asbury Automotive Group Inc	ABG	BB+	Stable	Tauber
Tenneco Inc	TEN	BB+	Positive	Tauber
Group 1 Automotive Inc	GPI	BB	Stable	Tauber
Penske Automotive Group Inc	PAG	BB	Stable	Tauber
Sonic Automotive Inc	SAH	B+	Stable	Tauber
Diversified Industrial				
3M Co	MMM	AA-	Negative	Alukos
Emerson Electric Co	EMR	A+	Negative	Alukos
ABB Ltd	ABB	A	Stable	Alukos
Honeywell International Inc	HON	A	Stable	Alukos
Illinois Tool Works Inc	ITW	A	Stable	Alukos
Rockwell Automation Inc	ROK	A	Stable	Alukos
United Technologies Corp	UTX	A/UR-	N/A	Alukos
Dover Corp	DOV	A-	Negative	Alukos

Source: Morningstar Credit Ratings, LLC

Exhibit 9 Morningstar Credit Ratings Sector Coverage—Industrials

Issuer	Ticker	Corporate Rating	Rating Outlook	Analyst
Diversified Industrial				
Parker Hannifin Corp	PH	A-	Stable	Alukos
Eaton Corp PLC	ETN	BBB+	Positive	Alukos
Johnson Controls International PLC	JCI	BBB+	Stable	Alukos
Republic Services Inc	RSG	BBB+	Negative	Alukos
Waste Management Inc	WM	BBB+	Stable	Alukos
Ingersoll-Rand PLC	IR	BBB+	Stable	Alukos
Pentair PLC	PNR	BBB/UR-	N/A	Alukos
Roper Technologies Inc	ROP	BBB	Stable	Alukos
Anixter International Inc	AXE	BB	Positive	Tauber
WESCO International Inc	WCC	BB	Positive	Tauber
Heavy Equipment				
Cummins Inc	CMI	A	Stable	Alukos
Deere & Co	DE	A	Stable	Alukos
Caterpillar Inc	CAT	A-	Stable	Alukos
AGCO Corp	AGCO	BBB-	Stable	Alukos
Terex Corp	TEX	BB	Stable	Tauber
Homebuilding/Materials				
Masco Corp	MAS	BBB	Stable	Tauber
D.R. Horton Inc	DHI	BBB-	Positive	Tauber
Toll Brothers Inc	TOL	BBB-	Stable	Tauber
Lennar Corp	LEN	BB+	Positive	Tauber
USG Corp	USG	BB+	Stable	Tauber
Transportation				
United Parcel Service Inc	UPS	A+	Stable	Alukos
Canadian National Railway Co	CNI	A	Stable	Alukos
Union Pacific Corp	UNP	A	Stable	Alukos
Canadian Pacific Railway Ltd	CP	BBB+	Stable	Alukos
CSX Corp	CSX	BBB+	Stable	Alukos
Norfolk Southern Corp	NSC	BBB+	Stable	Alukos
Southwest Airlines Co	LUV	BBB+	Stable	Alukos
FedEx Corp	FDX	BBB	Stable	Alukos
Kansas City Southern	KSU	BBB	Stable	Alukos
United Continental Holdings Inc	UAL	BB	Positive	Alukos

Source: Morningstar Credit Ratings, LLC

Morningstar® Credit Research

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