Corporate Credit Spread Chartbook
Real Estate Investment Trusts

Morningstar Credit Research
30 July 2018

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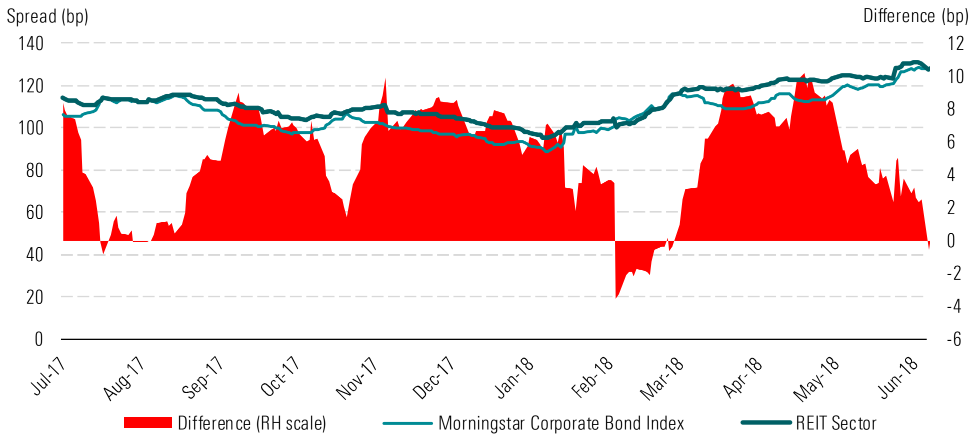
Executive Summary

Morningstar Credit Ratings, LLC maintains ratings for 23 REITs across five sectors. One REIT currently maintains a positive rating outlook, one is under review with positive implications, and all others are stable. Commercial real estate data continues to suggest we are approaching the peak of the cycle, and some sectors are experiencing a slowdown in construction as well as moderating fundamentals and earnings, with the outlier being the industrial sector, which remains in an expansionary mode. We maintain that investment-grade REITs are as well-positioned as they were entering the Great Recession, if not stronger, with superior balance sheet flexibility such that we do not expect deterioration in credit profiles or negative rating pressure.

Historical Sector Spreads

Pursuant to our most recent REIT Chartbook in February, the credit spreads of the Morningstar, Inc. Corporate Bond Index and the REIT Sector Index (average ratings A- and BBB+, respectively) continued to tighten into March, reaching a narrow difference of just over three basis points before REITs widened out again, reaching a difference of nearly 12 basis points in May and again in June. In an environment where the U.S. economy was expanding and the Fed was in position to raise interest rates, both indices drifted out from treasuries, with investors' perceptions that a rising rate environment would be relatively more unfavorable to REITs pushing their spreads wider. Since then, REITs have tightened again relative to the broader market given their relatively safer positioning should trade and tariffs impact other sectors such as consumer goods and manufacturing (Exhibit 1).

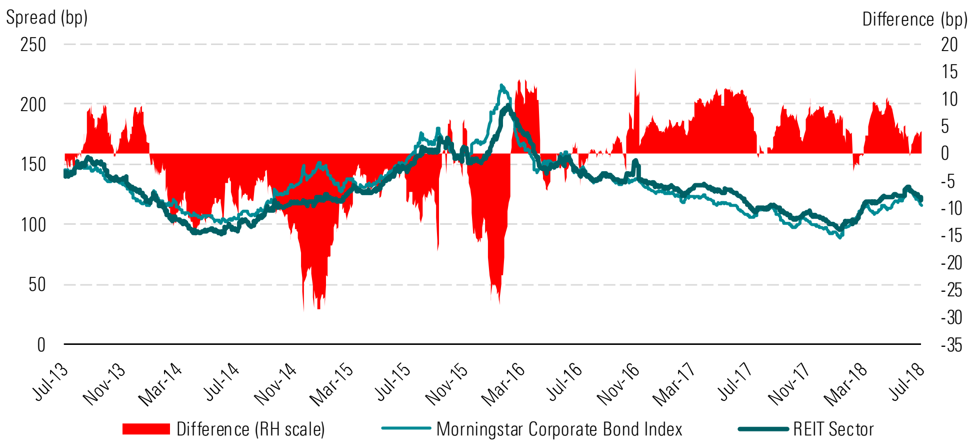
Exhibit 1 Morningstar, Inc. Corporate Bond Index vs. REIT Sector (Trailing 12 Months)



Source: Morningstar, Inc. Data as of 07/25/2018.

Over the past five years, REITs have traded inside of the Corporate Bond Index, or CBI, on average by just under 2 basis points, with some significant swings. The CBI traded its widest to REITs over this period in late 2014 and early 2015 at 29 basis points wide, as the swooning oil and gas prices pressured a number of sectors outside of REITs, especially energy and industrial manufacturing. The CBI moved wide again by 28 basis points relative REITs again in late 2015 and early 2016, as global growth worries increased along with the continuing weakness in energy prices led to heightening concerns for default risk. REITs benefited as investors prized the stability afforded by their ownership of hard assets that generate contractual cash flows. Starting in November 2016, when REITs traded at their widest to the CBI over the period, 16 basis points, both indexes have trended lower, with the CBI inside of REITs since with few exceptions.

Exhibit 2 Morningstar, Inc. Corporate Bond Index vs. REIT Sector (Trailing 5 Years)

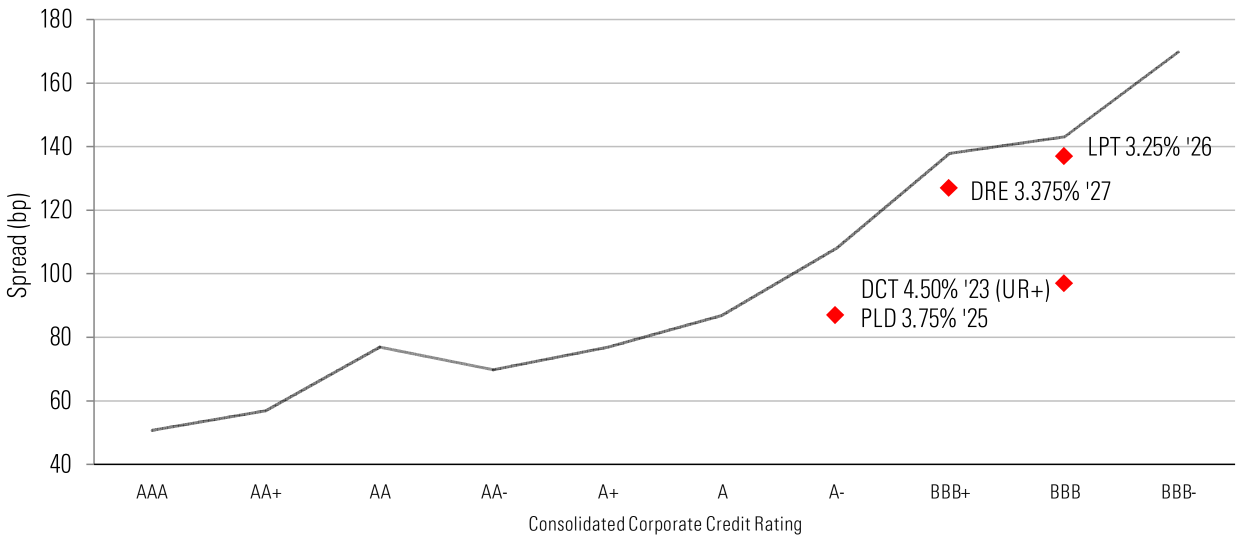


Source: Morningstar, Inc. Data as of 07/25/2018.

Spread Charts by REIT Sector

Industrial

Exhibit 3 Industrial REITs vs. Morningstar Corporate Bond Index



Source: Morningstar Credit Ratings, LLC, Morningstar, Inc., and Interactive Data as of July 27, 2018.
(UR) = rating under review / (p) = positive outlook / (n) = negative outlook

Sector Trends

Trends driving strong demand for warehouse space—primarily the growth of e-commerce and an expanding manufacturing sector—continue to drive low availability of space and encourage developers to build more. According to CBRE, the availability rate for the U.S. has fallen to the lowest level since 2000, registering 7.3% and 7.2% in the first and second quarters of this year, respectively. Given the strong demand and low vacancies, industrial REITs reported first-quarter average same-store net operating income of 5.9% as they were able easily increase rental rates. The primary threats to these positive trends are a drop off in manufacturing activity, perhaps as a result of an escalation in tariffs leading to an outright trade war, or a deceleration in e-commerce trends, which we consider very unlikely. The silver lining in those potential rain clouds for this sector, however, is that it has demonstrated in the downside of previous cycles that it can turn off the new supply spigot relatively quickly, allowing supply and demand to more rapidly return to equilibrium.

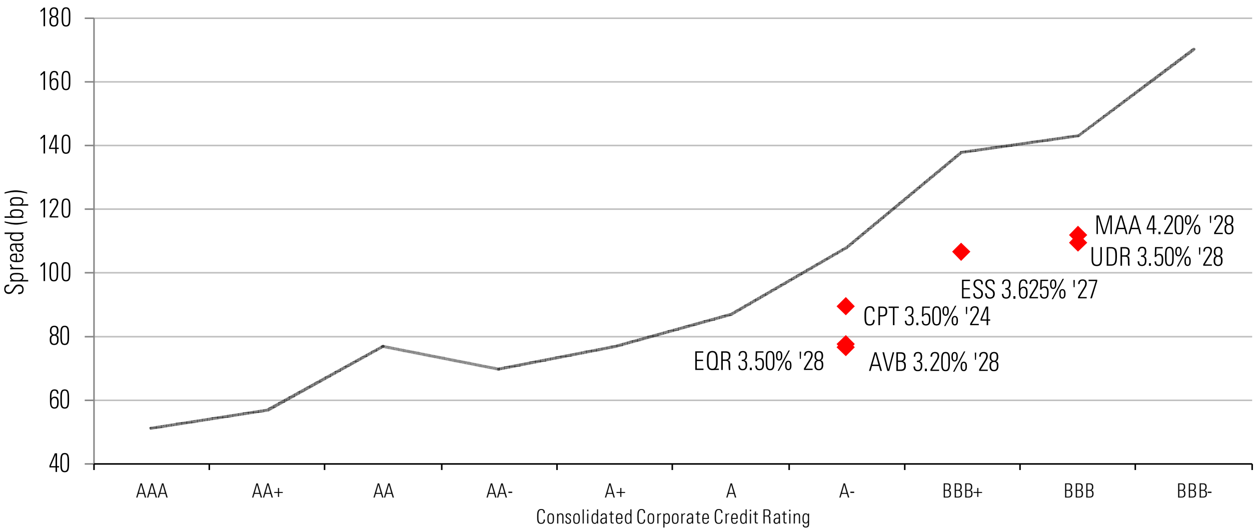
Issuer Highlights

- In April, Prologis, Inc. (A-, stable) and DCT Industrial Trust Inc. (BBB, UR+) announced that the companies entered into a merger agreement in which Prologis will purchase DCT in a leverage-neutral all-stock transaction valued at $8.4 billion. Prologis will add DCT's 71 million square feet to its portfolio, and also will gain 410 acres of land in predevelopment, under contract or option. The transaction is expected to provide savings of $80 million in expenses and an additional $40 million in enhanced revenue potential from development and other sources. We believe that the portfolio composition DCT is adding to Prologis is highly complementary, as the large market presences in key distribution hubs enjoyed by Prologis will be expanded in most cases, especially in the Atlanta market. As well, the DCT portfolio will also add about 500 new customers to Prologis' existing customer base of about 5,000. Prologis' rating was unchanged, and we placed DCT's rating under review with positive implications.

Spread Charts by REIT Sector

Multifamily

Exhibit 4 Multifamily REITs vs. Morningstar Corporate Bond Index



Source: Morningstar Credit Ratings, LLC, Morningstar, Inc., and Interactive Data as of July 27, 2018.
(UR) = rating under review / (p) = positive outlook / (n) = negative outlook

Sector Trends

Owners of apartment rentals are still enjoying beneficial dynamics which have persisted since the end of the last recession, with strong employment conditions and an economy that favors renting over homeownership. Unemployment is low and labor force participation is high, while home prices and mortgage rates continue to rise despite declining existing home sales, such that apartment owners are not facing difficulties in finding tenants to keep their properties fully occupied and, on average, steadily raising rents. Conditions have been cooling, however, and certain markets are beginning to experience supply levels in excess of demand. We expect multifamily REITs with greater exposure to the more challenging markets in and around New York City and Washington to see slower rent growth and possibly higher vacancies during the next year or two. For the first quarter, multifamily REITs reported average same-store net operating income, or NOI, of 2.5%, in line with the second half of 2017, though below the 3.5% averaged in the first half. Nonetheless, we do not anticipate any meaningful deterioration in their ability to generate solid net operating income and meet their financial obligations given meaningfully diverse regional portfolio distribution, historically solid balance sheets, and strong management teams.

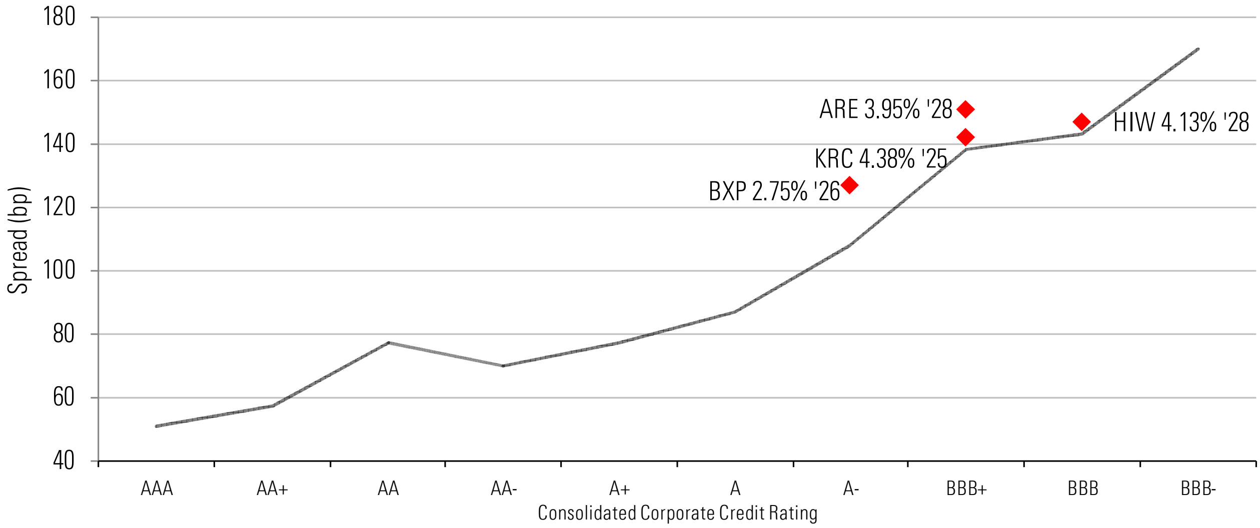
Issuer Highlights

- In March, AvalonBay Communities issued new $300 million 30-year unsecured notes with a somewhat looser covenant package than those under which it has issued in the past. Specifically, the unencumbered asset test was lowered to 125% of unsecured debt from 150%, and total asset value determining the overall leverage test was changed to property EBITDA capitalized at a rate of 6.75% from undepreciated book value. We believe AvalonBay made these changes to bring their covenants more in line with those of certain higher-rated REITs, and while this has no impact on our rating for the company, it does signal management's slightly more aggressive capital strategy.

Spread Charts by REIT Sector

Office

Exhibit 5 Office REITs vs. Morningstar Corporate Bond Index



Source: Morningstar Credit Ratings, LLC, Morningstar, Inc., and Interactive Data as of July 27, 2018.
(UR) = rating under review / (p) = positive outlook / (n) = negative outlook

Sector Trends

The office sector appears to be reaching peak of the cycle in most markets, with vacancies ticking up, decelerating growth in rental rates, and new construction tapering off. According to CBRE Research, national vacancy rate in the first quarter was 13.3%, up from 13.1% at year-end and 12.9% one year earlier, and average gross asking rent increased by only 1.4% from last year's first quarter. As well, Cushman & Wakefield projects 54.7 million square feet of deliveries next year, versus 68.4 million square feet this year. Some of this is a result of higher development costs, with construction workers' wages rising and increasing costs of construction materials, the latter impacted by tariffs enacted by the current administration. Office REITs' credit metrics nonetheless have been improving, as the average EBITDA coverage of interest for the four office REITs rated by MCR improved to 6.7 times in the first quarter of 2018 from 5.5 times a year earlier, and up from a prior three-year average of 5.3 times.

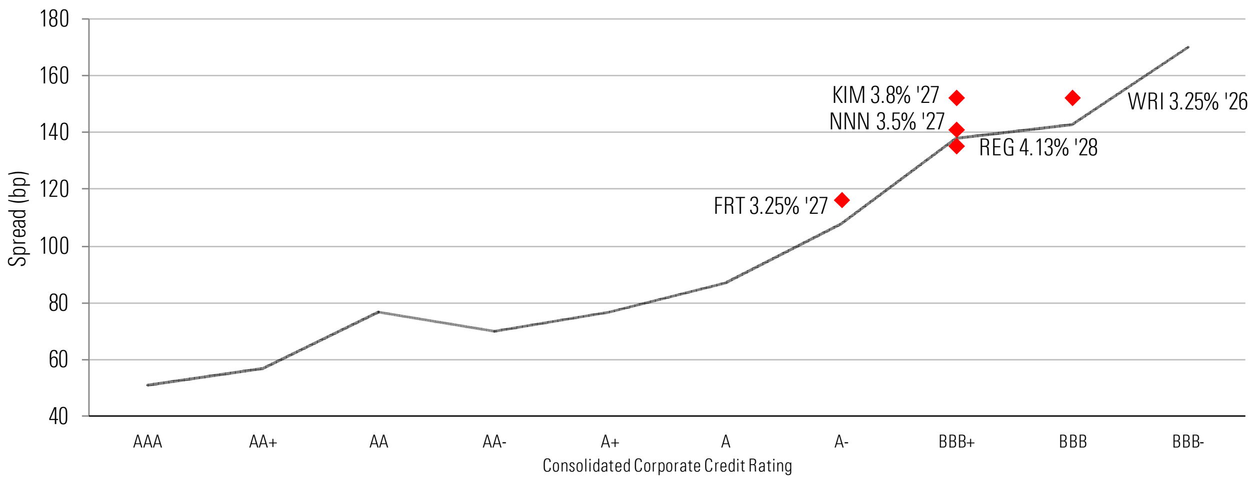
Issuer Highlights

- In February, we initiated credit coverage and assigned a rating for Alexandria Real Estate Equities Inc. of BBB+ with a stable outlook. We view Alexandria's Business Risk as moderate, supported by a high-quality and well-located portfolio of biotechnology and biomedical properties in life science clusters and campuses, with a large number of investment-grade tenants and little tenant concentration. Additionally, it benefits from adequate interest coverage and leverage metrics and a highly experienced management team. The rating also considers Alexandria's moderate Cash Flow Cushion and somewhat weak Solvency Score compared with higher-rated peers. We expect leverage to improve to the mid-6.0 times range and interest coverage to settle in the mid-5.0 times range.

Spread Charts by REIT Sector

Retail

Exhibit 6 Retail REITs vs. Morningstar Corporate Bond Index



Source: Morningstar Credit Ratings, LLC, Morningstar, Inc., and Interactive Data as of July 27, 2018.
(UR) = rating under review / (p) = positive outlook / (n) = negative outlook

Sector Trends

Retail REITs rated by MCR are performing well through proactive and capable management of their portfolios. Retail properties owned and operated by investment-grade REITs are typically better located, have stronger tenants, and are of higher quality than average retail assets. Most investment-grade retail REITs are well-capitalized and have the talent and resources to maintain properties at a relatively higher competitive level. As a result, we currently do not foresee any threats to their investment-grade status despite the secular challenges facing brick-and-mortar retail. While achieving high occupancy and rent growth has become more challenging in this sector, some tenant bankruptcies have created opportunities for owners to reconfigure space and bring in replacement tenants with better offerings at higher rents. For instance, REITs with exposure to Toys 'R' Us are working aggressively, often successfully, to lease these typically big box locations to retailers with low susceptibility to e-commerce, such as grocers, off-price, gyms, furniture, and arts and crafts.

Issuer Highlights

- We initiated rating coverage on National Retail Properties, Inc. with a BBB+ rating and a stable outlook in June. National Retail exhibits moderate Business Risk, supported by high-quality portfolio of single-tenant net lease properties in a wide range of markets in 48 states, with more than 400 tenants in 37 lines of trade, good interest coverage and leverage metrics, and highly experienced management team. The rating also considers National Retail's moderate Cash Flow Cushion and Solvency Score, which are both likely to remain steady between now and 2020 despite a modest net increase in debt. We expect leverage remain at or slightly above 5 times and interest coverage to remain in the area of mid-4 times.

Exhibit 7 Morningstar Credit Ratings Sector Coverage — Real Estate Investment Trusts

REIT	Ticker	Credit Rating	Rating Outlook	Analyst
Industrial				
Prologis Inc	PLD	A-	Stable	Magerman
Duke Realty Corp	DRE	BBB+	Stable	Wimmer
Liberty Property Trust	LPT	BBB	Stable	Wimmer
DCT Industrial Trust Inc.	DCT	BBB	UR+	Wimmer
First Industrial Realty Trust, Inc.	FR	BBB	Stable	Magerman
Multifamily				
AvalonBay Communities Inc	AVB	A-	Stable	Magerman
Camden Property Trust	CPT	A-	Stable	Magerman
Equity Residential	EQR	A-	Stable	Wimmer
Essex Property Trust Inc	ESS	BBB+	Stable	Wimmer
Mid-America Apartment Communities	MAA	BBB	Stable	Wimmer
UDR	UDR	BBB	Stable	Magerman
Office				
Boston Properties, Inc.	BXP	A-	Stable	Wimmer
Alexandria Real Estate Equities, Inc.	ARE	BBB+	Stable	Magerman
Kilroy Realty Corporation	KRC	BBB+	Stable	Magerman
Highwoods Properties, Inc.	HIW	BBB	Stable	Wimmer
Retail				
Federal Realty Investment Trust	FRT	A-	Stable	Wimmer
Kimco Realty Corp	KIM	BBB+	Stable	Magerman
National Retail Properties, Inc.	NNN	BBB+	Stable	Magerman
Regency Centers	REG	BBB+	Stable	Wimmer
Weingarten Realty Investors	WRI	BBB	Stable	Magerman
Cell Tower				
American Tower Corporation	AMT	BBB	Stable	Wimmer
Crown Castle International Corp.	CCI	BBB-	Positive	Wimmer
SBA Communications Corporation	SBAC	BB+	Stable	Wimmer

Source: Morningstar Credit Ratings, LLC as of 07/27/2018.

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