Credit Summary: Adobe, Inc (AA-, stable)

Ongoing product enhancement supports Adobe's credit profile.

Morningstar Credit Ratings, LLC
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Michael Dimler, CFA
Vice President
+1 312 696-6339
michael.dimler@morningstar.com

Donald Huang, CFA
Associate Analyst
+1 312 384-3763
donald.huang@morningstar.com

Executive Summary

Morningstar Credit Ratings, LLC's AA- rating incorporates Adobe's improvement in Business Risk, supported by the company's robust revenue growth driven by solid product adoption across its Creative Cloud and Experience Cloud offerings. Expanding cash flow drives high returns on invested capital. Though we expect the recent increase in acquisition spending and a more generous share repurchase policy to push leverage slightly higher in the short term, we believe Adobe's leadership positions in cloud-based marketing and content creation services continue to support credit through ongoing margin expansion and strong free cash flow generation.

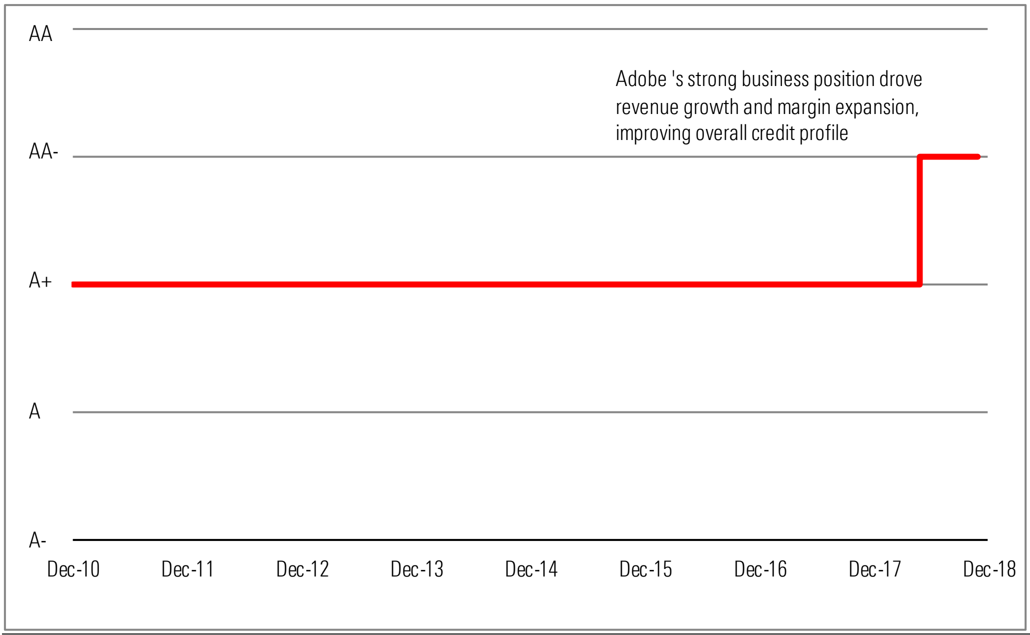
Key Takeaways

- Adobe's credit profile benefits from low Business Risk. The company's nearly monopolistic position in content creation software and leading position in the emerging digital marketing software space support sustainable competitive advantages that allow the firm to generate consistently high returns on invested capital.
- We attribute the company's strong revenue growth and margin expansion in recent years to its cloud-first business model. The seven-year transformation from on-premises software to a cloud-based distribution platform has yielded a portfolio that attracts more users to Adobe products, which increases the firm's operating leverage.
- We expect Adobe will continue to employ an acquisitive strategy to increase its market share. Adobe's digital marketing acquisitions over the past decade have resulted in its Adobe Experience Cloud, which we believe is the most comprehensive end-to-end digital marketing solution in the industry.

Credit Rating History

- We initiated coverage of Adobe Inc. in December 2010 with an A+ non-NRSRO rating. Our rating at the time incorporated Adobe's solid Business Risk from its strong competitive position and conservative balance sheet, offset by Adobe's relatively small size and high product concentrations.
- We upgraded our rating one notch to AA- in April 2018. The updated rating incorporated Adobe’s improvement in Business Risk, supported by the company’s robust revenue growth driven by solid product adoption across its Creative Cloud and Experience Cloud offerings.

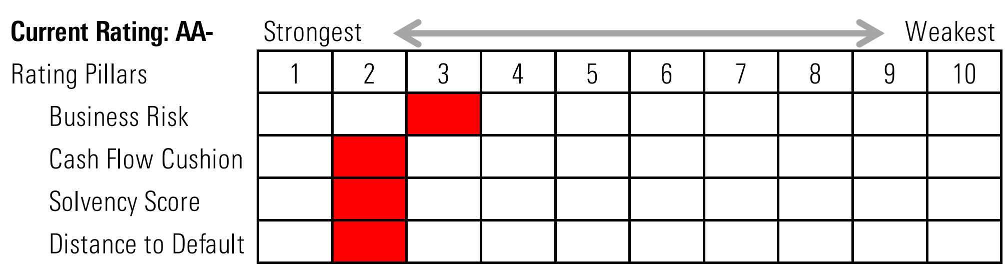
Exhibit 1 Adobe Inc. MCR Credit Rating History



Source: Morningstar Credit Ratings, LLC

Pillar Analysis

Exhibit 2 Adobe Inc. Credit Pillar Summary



Source: Morningstar Credit Ratings, LLC

Please refer to the appendix for a full description of the rating pillars.

- **Business Risk** (Low): Overall, Adobe's low Business Risk is well-supported by its rapid growth in revenue size, competitive advantage in contention creation and digital marketing software. The company's conservative balance sheet also serves to keep risk lower. However, we believe that high product concentration and above-average cyclicality are likely to constrain further improvement in Business Risk.

  - **Size** (Large) Adobe's size decile moved one notch from 2017 to 2018, supported by the company's rapid growth in the digital media and digital marketing segments. The company's revenue grew from $7.3 billion in fiscal 2017 to $8.6 billion during the past 12 months, which puts it slightly above the $7 billion threshold for the current decile. We forecast Adobe's revenue will grow at a CAGR of 17% over the next five years, likely keeping Adobe in its current size ranking.

Strongest ←			→	**Weakest**
Very Large	**Large**	Moderate	Small	Very Small

  - **Economic Moat** (Wide): Morningstar Equity Research Group assigns Adobe a wide economic moat rating, which it attributes to the firm's "essential monopoly" in content creation and editing software as well as to high switching costs for both Adobe's content creation users and its digital marketing users because of the mission-critical nature of the software applications and a high level of training required to achieve proficiency. As Adobe continues to increase offerings to its well-diversified digital marketing portfolio, we believe that Adobe Experience Cloud will become more entrenched with its customers by offering a deeper, more comprehensive digital marketing platform.

Strongest ←	→	**Weakest**
Wide	Narrow	None

  - **Uncertainty** (Medium): We view uncertainty as medium, given Adobe's healthy revenue growth and consistent margin expansion since the company initiated its transition to a subscription-based software-as-a-service model in 2013. In our view, Adobe's transition to the cloud mitigated the biggest business risk for the company and unlocked opportunities to attract new users. Adobe's large partner ecosystem will also support healthy revenue growth and additional margin expansion. However, we remain concerned that Adobe's lack of a full suite of CRM applications may create an opportunity for competitors to lure away customers to platforms with deeper offerings in sales and marketing.

Strongest ←			→	**Weakest**
Low	**Medium**	High	Very High	Extreme

- **Product/Customer Concentration** (Concentrated): We estimate that Adobe's creative software business and digital marketing business represent 70% and 27%, respectively, of total revenue. While each category offers a wide variety of products, the applications are relevant to a narrow customer set.

Strongest				**Weakest**
Highly Diversified	Diversified	Neutral	**Concentrated**	Highly Concentrated

- **Management** (Fairly Conservative): We maintain our management score at 4 to reflect the company's prudent use of debt and conservative capital allocation policy. Management has substantially increased the total share repurchases authorization to $8.2 billion through fiscal 2021, though we believe the more aggressive capital allocation policy is still manageable, given our expectation of further expansion in operating margins and free cash flow, in addition to the company's increased flexibility to access cash flow generated outside of the United States as a result of the 2017 Tax Cuts and Jobs Act. We also expect the company to remain selectively acquisitive, seeking opportunities to fill gaps in its digital marketing, including build-out of its CRM capabilities.

Strongest				**Weakest**
Conservative	**Fairly Conservative**	Neutral	Fairly Aggressive	Aggressive

- **Dependence on Capital Markets** (Very Low Dependence): Despite an uptick in acquisition volume over the past year amid generous share repurchase activity, Adobe's dependence on external markets remains low, with cash needs still well-supported by a large balance of cash on hand and strong free cash flow generation.

Strongest				**Weakest**
Very Low Dependence	Low Dependence	Dependent	Highly Dependent	Extremely Dependent

- **Cyclicality** (Cyclical): Adobe's operating performance has exhibited above-average cyclicality. From 2007 through 2017, the standard deviation of EBITDA as a percentage of revenue was 21.1% of the average margin over the period (30.9%). Meanwhile, the standard deviation in revenue growth measures less than 200% of average growth over the same period (10.9%). For comparison, Microsoft Corp. (AA+, stable) currently has a low cyclicality score. Over the same 10-year period, its EBITDA margin and sales growth varied by 7.2% and 118% of the respective averages. Cyclical semiconductor manufacturer KLA-Tencor Corp. (BBB+, positive) varied by 36.9% and 336% of its respective average EBITDA margin and sales growth over the period.

Strongest				**Weakest**
Non-Cyclical	Mild Cyclicality	Average Cyclicality	**Cyclical**	Highly Cyclical

Cash Flow Cushion (Very Strong): Adobe's robust cash balance and strong free cash flow generation continue to support the company's Cash Flow Cushion (Exhibit 3). We forecast that Adobe will generate $14.1 billion of unleveraged free cash flow cumulatively over the next five years and issue $2.25 billion of debt to fund the Marketo acquisition. Combined with the $5.8 billion of cash and investments reported at the end of fiscal 2017, this indicates nearly $22 billion of total liquidity. We believe this should be more than sufficient to cover the company's entire $8 billion share repurchase program, which runs through the end of 2021, and its current balance of $1.9 billion of debt and debtlike obligations. Although Adobe spent $6.4 billion to acquire Magento and Marketo over the past year, we believe management will stick to midsize companies for future acquisitions and forecast $500 million in annual M&A spending beyond fiscal 2018.

Exhibit 3 Adobe Inc. Cash Flow Cushion ($millions)

Projections	Cumulative
Beginning Cash Balance	5,820
5-Year Forward Adj. Free Cash Flow	16,148
Cash and Cash Generation	21,968
Debt and Debt-like Obligations	(1,919)
Cash Flow Cushion Coverage	11.4x

Source: Morningstar Credit Ratings, LLC

- **Solvency Score** (Very Strong): Adobe's Solvency Score remains strong. xcluding the favorable impact of the 2017 Tax Cuts and Jobs Act, we found that ROIC still materially improved from last year as a result of strong revenue growth and continued margin expansion. The model also indicates improvements in both quick ratio and adjusted interest and lease expense coverage. We expect the Solvency Score to moderate in 2019 due to increased cash spending in acquisitions and share repurchases, as well as $2.25 billion of new debt to support the acquisitions. However, beyond fiscal 2019, we believe the Solvency Score should gradually return to the 2018 level as the company continues to add to its liquidity balance.

Exhibit 4 Adobe Inc. Solvency Score

Solvency Score Metrics	2018E	2019E
TL/TA	44.6%	52.7%
Quick Ratio	2.1x	1.1x
ROIC	21.3%	21.0%
EBITDAR Interest Coverage	31.2x	24.2x
Solvency Score	229.5	307.8

Source: Morningstar Credit Ratings, LLC

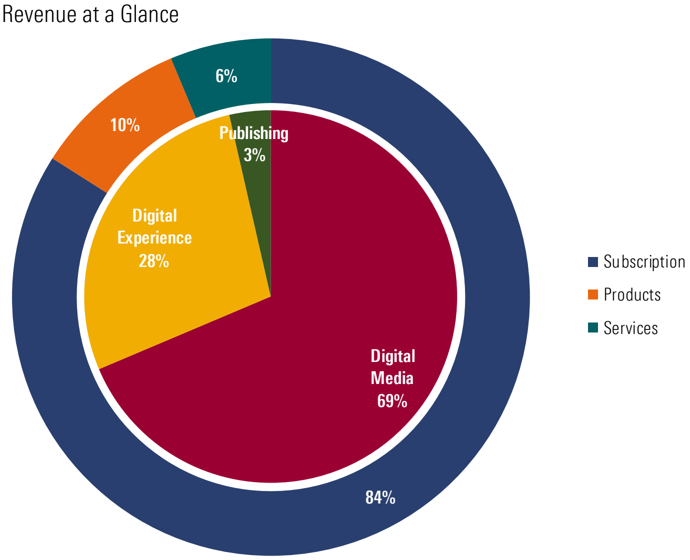
- **Distance to Default** (Very Strong): Adobe's Distance to Default score is supported by strong equity performance over the past year. According to Bloomberg data, Adobe common stock has returned 74.3% over the most recent 12 months, handily beating the S&P 500's 18.0% return over the period. Adobe's small debt size relative to its market cap keeps enterprise value/market capitalization stable at just under 1.0. Meanwhile, the common stock is trading with a 300-day historical total-return volatility of 26.2%, which is higher than the 17.5% a year ago.

Adobe Inc. Overview

Company Description

Adobe has long been the market leader in the creative software industry, and many of the firm's core products have evolved to become the industry standards for creative professionals. Since its inception in 1982, the firm has been leading the innovation efforts to provide products, services, and solutions that enable individuals and enterprises to create and promote their content. Adobe's transition to the cloud platform unlocked opportunities that allow the firm to expand its network to cover the needs of a broader range of customers. Under Adobe's digital media business, the company offers its flagship product Creative Cloud, through which users can access the latest version of Adobe's creative products such as Photoshop CC, Premiere CC, Lightroom CC, and many more creative applications through desktop, web, and mobile devices. Adobe's digital media segment also includes the Document Cloud business, which is built around its Acrobat family of products that transfer people's work from paper to electronic documents. Leveraging its strength in content creation, Adobe entered the digital marketing space in 2009. After almost a decade's effort, Adobe has established itself as one of the leading players in digital marketing software, offering a platform with a wide range of solutions, including campaign management, advertising placement, customer data analytics and e-commerce solutions. The company generated $7.3 billion sales in fiscal 2017, 69% of which was contributed by digital media and 28% by digital experience.

Exhibit 5 Adobe's Revenue at a Glance

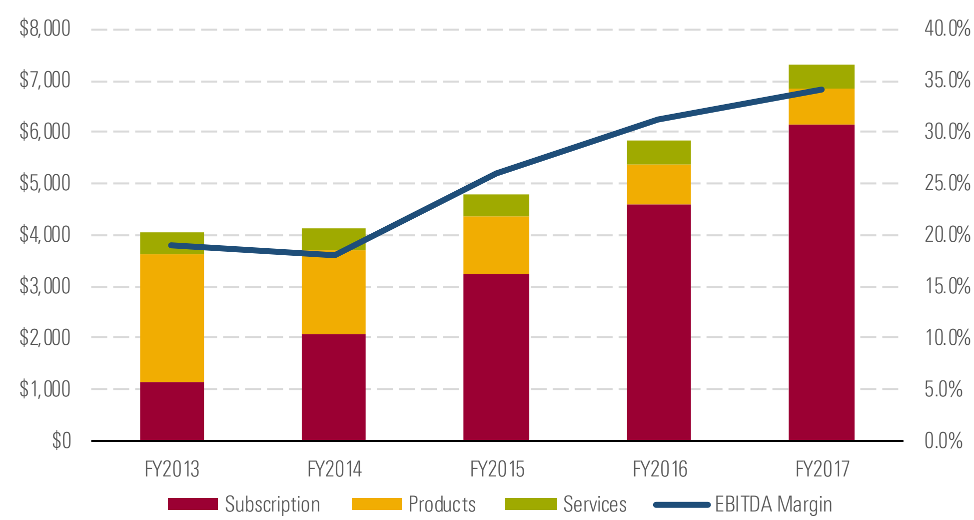


Source: Company filings

Successful Customer Migration Grows the Top and Bottom Lines

We attribute a large part of Adobe's business growth in recent years to its successful customer migration from on-premises software to its cloud platform. In 2011, the firm introduced Creative Cloud, a cloud-based substitute for its flagship product Creative Suite. Two years later, Adobe announced that all future versions of the Creative Suite would only available on the Creative Cloud. By taking a risk of losing some existing customers, Adobe positioned itself as an early adopter of the emerging SaaS sales model. The move proved successful, driving subscription revenue mix from just 28% in fiscal 2013 to 84% by fiscal 2017. During the same period, revenue grew at a CAGR of 16%, while the higher margins on its subscription platform expanded EBITDA margin from 19% to 34%. We believe several factors played roles in the success of this strategy. First, since the upgrades of Adobe's apps are only available on the cloud platform, pirate users were forced to either pay the subscription fee or choose substitute products. Second, the more-appealing price points and offering users the flexibility to only pay for apps that they need attracted users who previously had hesitated to use Adobe's products because of the high upfront cost of an initial license. Third, the automatic upgrades with no additional charges allow users to access the latest features offered by Adobe products. Finally, the cloud platform provides users access to an ecosystem, enabling users to access to Adobe's products on multiple devices, cooperating with other users in real time, and transferring work from one Adobe product to another easily. We expect the firm to continue to convert users from the legacy products over the next five years, pushing subscription revenue mix to 95% by the end of 2022.

Exhibit 6 Increasing Subscription Adoption Drove Adobe's Top and Bottom Lines



Source: Company filings, Morningstar Credit Ratings, LLC

Creative Cloud Continues to Serve as Backbone to Support Adobe's Growth

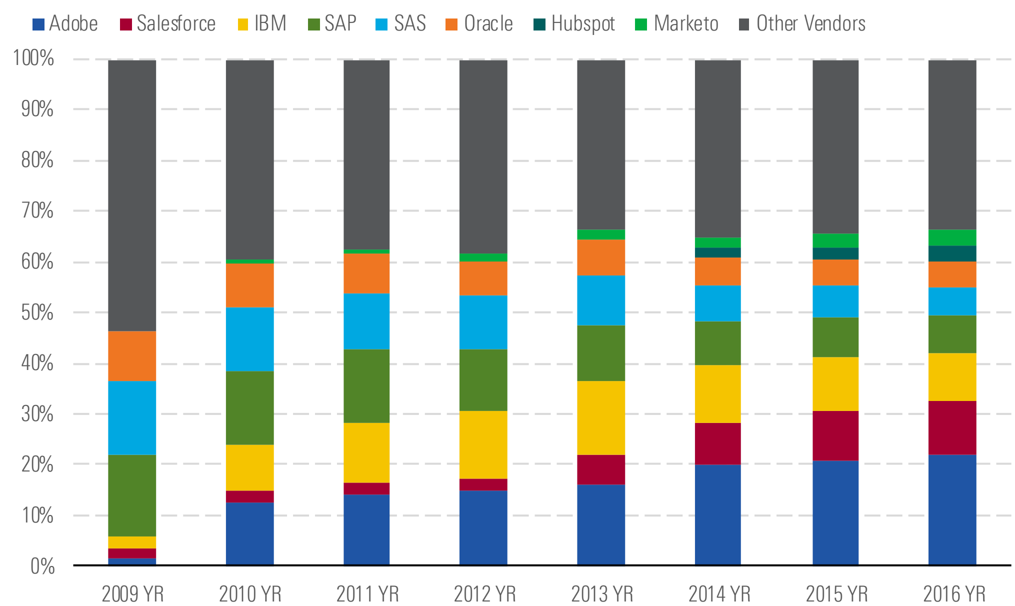
Adobe has occupied its leadership position in creative software for a decade, maintaining a 60% share of the market for graphic and image editing and more than 45% of the digital video authoring market. Although alternatives for some of Adobe’s design products are available from Microsoft, Corel, Apple, and others, we do not believe they have the same level of functionality to effectively challenge Adobe’s leadership in content creation. In addition to its core creative software, Adobe consults with the creative community to design new products and features to directly address customers’ evolving needs. For example, Adobe released Spark in 2016 to meet a growing demand for content sharing from mobile devices. To further strengthen the Creative Cloud, Adobe also introduced Adobe Stock (content libraries) and Adobe Sensei (artificial intelligence) to enable customers to work more efficiently. We believe the expanding creative ecosystem that Adobe has been building has kept it attractive to new users and encourages additional spending for existing users, supporting Adobe's sustainable competitive advantage and our robust revenue growth forecasts over the next few years. Management estimates that the total addressable market for the digital media segment will grow to $36.7 billion by 2021, driven by growing consumption of image and video content across different devices. The company also reported that its rate of annual recurring revenue from digital media reached $6.4 billion as of the end of the August quarter, or 107% of trailing 12-month digital media revenue, an indicator for strong revenue growth over the next year.

Growth Through Acquisition: Adobe's Experience Cloud

Over the past decade, Adobe has expanded its digital marketing capacity, building a market share of at least 20% amid stiff competition from major rivals, including Salesforce (not rated), International Business Machines (A+/UR-), SAP (not rated), and Oracle (AA-, stable). Although the marketing software industry is fragmented and highly competitive, Adobe has been able to compete and expand market share by offering a broad set of services. Adobe’s primary brand in this segment is its Experience Cloud, an integrated platform for clients that links applications such as campaign management, data analytics, advanced advertising, and e-commerce. The firm scored highly in Gartner’s 2018 Magic Quadrant for its multichannel marketing management platform, based on its focus on the cloud and its ability to incorporate content creation and data analytics into its digital marketing products. Since 2009, the firm has completed or announced more than $10.2 billion on acquisitions to expand functionalities of its digital marketing portfolio, including Magento and Marketo in 2018. We consider the Magento Commerce Cloud an important addition to Experience Cloud’s already diversified portfolio, as e-commerce is an important way to sell goods and services. Despite rapid growth over the past decade, e-commerce sales as a percentage of total retail sales in the United States are still below 10%, according to the U.S. Census Bureau. We believe this presents a large opportunity for marketing software vendors as e-commerce continues to evolve into a more critical component of the economy. In addition, Adobe's acquisition of Marketo indicates management's focus on narrowing its gap with major competitors in the business-to-business space.

The addition of Marketo will not only enhance Adobe Experience Cloud's capacities in account-based marketing, but also bring in over 5,000 enterprise customers, pushing Adobe forward in B2B marketing. However, we believe Adobe continues to lack the depth in customer relationship management to fully compete in B2B in the way it is able to compete in other product segments. While Adobe's recent partnership with Microsoft should mitigate this weakness, Adobe may struggle to add B2B market share in the near term. We anticipate Adobe will continue to be acquisitive over the next a few years to meet its long-term goal to make Adobe Experience Cloud the one-stop digital marketing platform for all marketers. Given management's history of focusing on small or midsize targets, we expect acquisition spending to remain modest.

Exhibit 7 Marketing Software Is a Fragmented Space



Source: Gartner, Morningstar Equity Research Group

Exhibit 8 Adobe's Major Acquisitions to Expand Its Experience Cloud Offerings

Company Acquired	Date	Price Paid($,mm)	Price/ Revenue	Functionality
Omniture	10/23/2009	1,800	5.4x	Web Analytics
Day Software	10/29/2010	240	5.7x	Web-Content Management
Auditude	11/1/2011	120	NA	Video Ad Management
Efficient Frontier	12/16/2011	400	NA	Search & Display Ad Optimization
Neolane	6/27/2013	600	16.3x	Cross-Channel Management
TubeMogul	12/19/2016	560	2.6x	Demand-side video ad platform
Magento	5/21/2018	1,680	11.2x	E-Commerce Platform
Marketo	9/20/2018	4,750	12.4x	B2B Marketing Engagement Platform
Total		10,150		

Source: Company filings, PitchBook

We believe the market for digital marketing software will remain competitive, but believe the market should continue to grow fast enough to allow multiple winners in the space as digital continues to expand its share of total advertising spending. Market research firm eMarketer forecasts that total digital marketing spending will grow at a CAGR of 13% to reach $427 billion by 2022, or 54% of total advertising spending. Based on eMarketer's forecast, we estimate the total addressable market for digital marketing software to be roughly $22 billion. In this context, we believe that Adobe will be able to maintain its leadership position, supported by growth in total digital advertising spending as the company continues to increase capacities of Experience Cloud to position it as a one-stop solution for marketers. Based on this assumption, we anticipate Adobe’s digital marketing business could generate more than $4 billion of revenue by fiscal 2022.

Exhibit 9 We Expect Digital Advertising Spending to Continue to Drive Growth in Digital Marketing Applications

$billions	CY2016	CY2017	CY2018E	CY2019E	CY2020E	CY2021E	CY2022E
Global Advertising Spending	$ 546	$ 585	$ 628	$ 673	$ 716	$ 755	$ 793
YoY Growth		7.2%	7.4%	7.2%	6.4%	5.5%	5.0%
Digital Advertising Spending	$ 192	$ 232	$ 273	$ 316	$ 357	$ 394	$ 427
YoY Growth		20.9%	17.7%	15.8%	12.9%	10.1%	8.6%
As % of Total Spending	35.2%	39.7%	43.5%	47.0%	49.9%	52.1%	53.9%
Technology Platform Spending	$ 52	$ 51	$ 60	$ 70	$ 79	$ 87	$ 94
YoY Growth		-1.5%	17.7%	15.8%	12.9%	10.1%	8.6%
As % of Digital Spending	27.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%
MCR Estimated Software Spending	$ 8	$ 9	$ 11	$ 14	$ 17	$ 19	$ 22
YoY Growth		12.7%	28.8%	21.9%	18.6%	15.4%	13.5%
As % of Tech Platform Spending	15.2%	17.4%	19.0%	20.0%	21.0%	22.0%	23.0%
As % of Digital Spending	1.4%	1.5%	1.8%	2.1%	2.3%	2.5%	2.7%

Source: eMarketer, Gartner, Morningstar Credit Ratings, LLC

Capital Structure and Liquidity Analysis

We continue to view Adobe’s financial health as strong. At the end of August, the firm reported total debt of $1.9 billion, supported by $4.9 billion in cash and short-term investments. In addition to cash on hand, the company’s short-term liquidity includes an undrawn $1 billion revolving credit facility due in October 2023. Adobe’s maturity schedule remains fairly long-dated, with only $900 million of maturities due in 2020 within the next five years. Over the most recent 12 months, free cash flow grew 36% to $3.5 billion, supported by 24% revenue growth and a 248-basis-point increase in EBITDA margin over the period. We project annual free cash flow to double to $6 billion by fiscal 2022, based on our assumptions of moderating growth offset by further operating margin expansion. Adobe completed its $4.75 billion acquisition of marketing automation company Marketo for on Oct. 31. We are incorporating $2.25 billion of new debt to fund this acquisition, which we estimate will increase debt to 1.0 times pro forma EBITDA in fiscal 2019 from 0.6 times for the trailing 12-month period ended Aug. 31.

However, we continue to expect Adobe's rich cash position and strong free cash flow generation to keep the firm's debt position manageable. Adobe's board approved an $8 billion share repurchase program expiring in 2021, bringing Adobe's repurchase authorization to $8.2 billion as of the end of the August quarter. We believe this level of share repurchases is manageable given the company's robust internal cash flow generation. Over the most recent 12 months, payout of dividends and net share repurchases collectively represented 54% of free cash flow. Although the combination of acquisitions and share repurchases positions the company's capital allocation policy more aggressively than before, we believe management will remain prudent in balancing free cash flow between investment in growth and shareholder compensation while keeping leverage low. We anticipate Adobe will continue to explore strategic acquisitions to further its already-broad product portfolio, particularly as it builds out its digital marketing and CRM platforms, but we expect management to remain focused on small to midsize targets.

Exhibit 10 Adobe Inc. Capital Structure

$millions		**Amount Outstanding**	**Debt/EBITDA**
4.75% Senior Unsecured Notes due in Feb. 2020	$	900	
3.25% Senior Unsecured Notes due in Feb, 2025	$	1,000	
$1 billion revolving credit facility due in Oct. 2023	$	-	
Total Debt	$	1,900	0.6x
Total Cash and Equivalents	$	4,944	
Net Debt	$	(3,044)	-1.0x
LTM EBITDA	$	3,090	

Source: Morningstar Credit Ratings, LLC, company reports

Financial Projections

Our base operating forecast (exhibit 11) for Adobe assumes that it can continue to convert users from its legacy products to its cloud platforms while consistently attracting new subscribers. We expect average revenue per user to eventually improve as more subscribers upgrade from individual applications to the full Creative Suite. Our forecast also assumes that Adobe will maintain its leadership position in digital marketing by developing additional products built around its core Creative Cloud and Experience Cloud brands to stay ahead of increasing competition. In our base scenario, we expect revenue to grow at a compound rate of 17% over the next five years and operating margin to expand from 30% in 2017 to 36% in 2022. We believe Adobe's margin will benefit from its robust partner ecosystem as it can offload low-margin consulting services work to these partners while effectively managing its investments in sales and marketing headcount. Based on these assumptions, we project annual free cash flow to more than double from $2.7 billion in 2017 to $6.1 billion in 2022.

Exhibit 11 Financial Projections

All values (except per share amounts) in: USD Thousands	2015	2016	2017	Forecast 2018	2019	2020	2021	2022
Income Statement								
Revenue	4,795,511	5,854,430	7,301,505	8,879,596	10,635,716	12,382,345	14,267,657	16,113,381
Gross Profit	4,051,194	5,034,522	6,291,014	7,718,909	9,296,145	10,865,402	12,559,944	14,219,562
Operating Income	904,654	1,492,094	2,168,095	2,854,679	3,620,487	4,304,671	5,052,227	5,796,718
Adjusted EBITDA	1,244,127	1,823,629	2,494,092	3,180,676	3,946,484	4,676,141	5,480,257	6,280,119
Net Income	629,551	1,168,782	1,693,954	2,508,200	3,064,154	3,659,394	4,317,703	4,965,410
Balance Sheet								
Cash + Investments	3,988,084	4,761,300	5,819,774	2,567,861	2,739,868	3,542,562	4,133,442	6,344,804
Total Debt	1,907,231	1,892,200	1,881,421	3,881,421	3,881,421	3,881,421	2,981,421	2,981,421
Total Adjusted Debt	2,650,431	2,635,400	2,624,621	4,624,621	4,624,621	4,624,621	3,724,621	3,724,621
Cash Flow Statement								
Cash Flow From Operations	1,148,701	2,199,728	2,912,853	4,524,705	4,173,508	4,943,142	5,769,980	6,609,680
Capital Expenditures	(184,936)	(203,805)	(178,122)	(310,786)	(372,250)	(421,000)	(470,833)	(515,628)
Free Cash Flow (CFO-Capex)	963,765	1,995,923	2,734,731	4,213,919	3,801,258	4,522,142	5,299,147	6,094,052
Free Cash Flow / Sales	20.1%	34.1%	37.5%	47.5%	35.7%	36.5%	37.1%	37.8%
Growth (% YoY)								
Revenue	15.6%	22.1%	24.7%	21.6%	19.8%	16.4%	15.2%	12.9%
Gross Profit	14.9%	24.3%	25.0%	22.7%	20.4%	16.9%	15.6%	13.2%
Operating Income	109.1%	64.9%	45.3%	31.7%	26.8%	18.9%	17.4%	14.7%
Adjusted EBITDA	66.7%	46.6%	36.8%	27.5%	24.1%	18.5%	17.2%	14.6%
Profitability (%)								
Gross Margin	84.5%	86.0%	86.2%	86.9%	87.4%	87.7%	88.0%	88.2%
Operating Margin	18.9%	25.5%	29.7%	32.1%	34.0%	34.8%	35.4%	36.0%
Adjusted EBITDA Margin	25.9%	31.1%	34.2%	35.8%	37.1%	37.8%	38.4%	39.0%
Net Margin	13.1%	20.0%	23.2%	28.2%	28.8%	29.6%	30.3%	30.8%
Adjusted ROIC	7.4%	13.1%	19.0%	21.3%	21.0%	22.8%	24.1%	24.4%
Adjusted RONIC	-160.8%	599.1%	142.6%	136.1%	62.6%	42.4%	50.9%	22.1%
Coverage / Cash Flow								
Adjusted EBITDA / Interest Expense	19.7	25.3	37.3	43.1	29.1	34.4	52.5	60.2
(Adj. EBITDA-CapEx) / Int. Exp.	16.8	22.5	34.6	38.9	26.3	31.3	48.0	55.2
Adj. EBITDAR / (Int. Exp. + 1/3 Rents)	14.2	18.6	26.5	31.2	24.2	28.6	41.2	47.1
Dividends / FCF	0%	0%	0%	0%	0%	0%	0%	0%
Share repurchase (issuance) / FCF	48%	47%	34%	59%	66%	55%	47%	41%
Leverage								
Total Debt / Adj. EBITDA	1.5	1.0	0.8	1.2	1.0	0.8	0.5	0.5
Net Debt / Adj. EBITDA	(1.7)	(1.6)	(1.6)	0.4	0.3	0.1	(0.2)	(0.5)
Total Adj. Debt / Adj. EBITDAR	2.0	1.4	1.0	1.4	1.1	1.0	0.7	0.6
EV /Adj. EBITDA	36.6	27.5	34.9	32.5	-	-	-	-
Debt / Capital	21%	20%	18%	31%	30%	28%	20%	17%
FCF / Total Debt	51%	105%	145%	109%	98%	117%	178%	204%

Source: Morningstar Credit Ratings, LLC

Exhibit 12 Comparable Pillar Analysis

	GOOG	ADBE	ORCL	CSCO
Morningstar Rating	**AA**	**AA-**	**AA-**	**AA-**
Rating Outlook	Stable	Stable	Stable	Negative
PILLARS (1=Very Good; 10=Very Poor)				
Business Risk	3	3	3	4
Moat	Wide	Wide	Wide	Narrow
Moat Trend	Stable	Stable	Negative	Stable
Uncertainty	High	Medium	Medium	Medium
Size	10	8	10	10
Concentration	2	2	2	2
Management	4	4	3	3
Dependence	5	5	5	5
Cyclicality	3	2	3	4
Cash Flow Cushion	1	2	4	4
CFC Calculation	48.0	17.0	3.6	2.7
Solvency Score	1	2	2	2
TL/TA	13	31	58	40
Quick Ratio	7	24	15	15
ROIC	11	13	16	21
EBITDA/Interest	17	23	39	33
Raw Score	129	222	324	288
Distance to Default	2	2	2	1
Raw Score	38	44	50	59
Model Rating	AA	AA	AA-	AA-

Source: Morningstar Credit Ratings, LLC

Exhibit 13 Peer Financial Summary

	GOOG	ADBE	ORCL	CSCO
Morningstar Rating	**AA**	**AA-**	**AA-**	**AA-**
Rating Outlook	Stable	Stable	Stable	Negative
COMPANY METRICS				
LTM as of Date	9/30/2018	8/31/2018	8/31/2018	7/31/2018
Revenue	129,866	8,572	39,836	49,330
Growth	24.2%	24.2%	4.0%	2.8%
EBITDA	37,151	3,090	17,054	14,892
EBITDA %	28.6%	36.1%	42.8%	30.2%
Capital Spending	22,347	242	1,646	834
% of Sales	17%	3%	4%	2%
CREDIT METRICS				
Total Debt	3,986	1,875	58,129	25,569
Cash & Investments	106,416	4,944	60,094	46,548
Net Debt (Net Cash)	(102,430)	(3,070)	(1,965)	(20,979)
Interest Expense	102	80	2,084	943
Average Rate	2.6%	4.3%	3.6%	3.7%
Gross Debt/EBITDA	0.1x	0.6x	3.4x	1.7x
Net Debt/EBITDA	-2.8x	-1.0x	-0.1x	-1.4x
EBITDA/GAAP Interest	364.2x	38.6x	8.2x	15.8x
Free Cash Flow	22,905	3,513	14,096	12,832
FCF/Sales	18%	41%	35%	26%
TTM Dividends	0	0	3,060	5,968
/Free Cash Flow	0%	0%	22%	47%
TTM Repurchases	13,533	1,907	19,133	17,245
/Free Cash Flow	59%	54%	136%	134%
EQUITY METRICS				
Market Cap (Millions)	734,188	116,908	186,041	209,521
Enterprise Value (Millions)	631,758	113,838	184,076	188,542
Enterprise Value/EBITDA	17.0x	36.8x	10.8x	12.7x

Source: Morningstar Credit Ratings, LLC

Appendix

Adobe Inc. Moat and Trend

The following description comes directly from Morningstar's Equity Research Group:

"We assert that Adobe Systems earns a wide economic moat based on switching costs around its industry-leading software and, to a lesser extent, a network effect for Adobe Creative Cloud between the creative community and employers. The firm's primarily software-as-a-service-based products are bucketed into three segments, digital media, digital experience, and publishing, with the former two segments serving as the growth engine of the business. Digital media houses Adobe's creative software for web designers, application developers, photographers, animators, and video editors, among others. We believe Adobe possesses an effective monopoly in the creative software market, which creates durable switching costs. Concurrently, we believe a network effect exists in the firm's digital media offerings. The education system for creative minds relies heavily on Adobe's products, which propagates a platform that is widely understood and used within the design community. Thus, enterprises have incentives to adopt Adobe's products, creating a flywheel, where designers, videographers, and photographers learn to use Adobe's creative products, which become critical to their day-to-day work. Adobe's second large segment, digital experience, once known as digital marketing, is widely regarded as the industry leader. We believe Adobe benefits from a wide moat in this area, as well, benefiting from switching costs. Adobe's final segment, publishing is largely composed of legacy services, such as high-end printing, e-learning products, web conferencing, and Adobe's LiveCycle, and we do not believe these services possess a competitive advantage. However, publishing composes a minority of revenue, and we do not believe this segment detracts from the firm's overall wide moat.

"Adobe's digital media segment is dominated by Creative Cloud, the firm's flagship creative SaaS product, which possesses both switching costs and a network effect, in our view. Within Creative Cloud is a cornucopia of offerings, some developed internally over decades, while others integrated through mergers and acquisitions, such as Macromedia, which Adobe acquired for $3.4 billion in 2005. We believe this strategy has ensured Adobe is the premier vendor for creative professionals due to product breadth and depth. Creative Cloud contains an abundance of applications, such as Photoshop (for digital imaging), Lightroom (for editing, organizing, storing, and sharing photos), Illustrator (for digital graphics and illustrations), Adobe XD (user experience and interface products for designing websites and mobile apps), InDesign (page layout for print and digital publishing), Adobe Premiere Pro (video editing), Adobe

Dimension (graphic design for photorealistic 3D images), and After Effects (animation and compositing product for motion graphics and visual effects). The list of Adobe's products continues, but the litany of offerings for creative professionals under one umbrella is unparalleled in the industry. While Adobe faces point-product competitors, we believe there are advantages of a cohesive offering.

"We believe durable switching costs exist for Adobe, because there are negligible comprehensive competing products, which provides Creative Cloud with monopolistic qualities. First, these monopolistic qualities manifest in pricing power within the creative tools market, something substantiated by Gartner. Moreover, we also think 'freemium' products, such as Adobe's Spark, inhibit churn and help assimilate new users into Adobe's ecosystem. Second, we sustain that Adobe benefits from switching costs due to the training costs associated with its products. Both enterprise and commercial users must spend time becoming well-versed in Adobe's offerings, meaning it is often inefficient to relearn how to use a competitor's tools. Lastly, Adobe is set to benefit from the secular tailwind of enterprises investing in digital creative content to magnify the customer experience.

"For decades, Adobe subsisted as an on-premises software application vendor, but we believe the shift to recurring revenue enhanced the firm's moat. In the past, individuals and enterprises could purchase Photoshop when it was released and there would only be a catalyst to repurchase a future version of the software during a subsequent release with better features. This led to a degree of cyclicality in Adobe's offerings, where revenue and earnings would be susceptible to new product releases. However, Adobe Creative Cloud was released in 2011, serving as a subscription version of the similar one-time-purchase, on-premises Adobe Creative Suite. In 2013, Adobe announced that future versions of its software would only be available as Creative Cloud. Across our cloud coverage, we believe SaaS applications are more conducive to creating switching costs than on-premises competitors, particularly since they represent a better value proposition from a total cost of ownership perspective. Customers could avoid the large, up-front licensing costs associated with purchasing Adobe's software and sunk costs continue to exist in the form of employee training, implementation, and integration. Since customers do not have up-front costs or product cycles, we believe Adobe benefits from no end date or catalyst to switch to a competing offering under a subscription business model. Essentially, we believe that because there is no juncture to switch to a competing offering, staying the course with a SaaS vendor such as Adobe is typically the least disruptive choice. At the same time, Adobe's cloud products present more options to customers at various prices, which aid user growth and inhibit customer churn. We think our view in increased switching costs is substantiated by Adobe's increasing lifetime value to the cost of customer acquisition ratio, or LTV/CAC. Adobe's metrics have trickled upwards over the last several years after transitioning to a subscription model.

"We believe Adobe possesses a network effect, as Creative Cloud is the gold standard in a variety of end markets, such as graphic design, web development, video editing, and photography. Within our network effect framework, we would label Adobe a "platform network effect," in that the two sides have very different sets of users, in this case, creative professionals on one side and employers on the other. These creative professionals are cultivated to rely on Adobe's Creative Cloud at the university level, and in some cases, much earlier, as Adobe has made strides into introducing their creative software to kindergarten through eighth-grade students. This system propagates Creative Cloud as the platform of choice among designers. In general, as additional students enter the workforce with knowledge of Creative Cloud, more employers make Creative Cloud their software of choice, which leads to a flywheel of greater training among students. In some respects, Adobe's Creative Cloud becomes almost a code that professionals need to understand to work in creative careers. Employers benefit from this network effect, because having a standardized software for creative jobs means that they can hire professionals who already know the product, reducing the need to invest time or money in additional training. It also ensures employers can draw upon the largest base of employees and not be hindered by a workforce split among several competing software solutions. On the other side of the network effect, photographers, videographers, and graphic designers benefit from being widely employable by having to understand one platform for creative solutions that these individuals can work to master over several years, rather than multiple software solutions.

"Adobe digital experience products have durable switching costs that possess a wide economic moat independently of the digital media offerings. In an era where multichannel marketing as become increasingly important, Adobe is viewed as a leader against Salesforce.com, Oracle, and SAP. Adobe's digital experience segment, with the flagship offering being Adobe Experience Cloud, allows customers to build personalized marketing campaigns. Digital marketing, in contrast to other segments under the customer relationship management umbrella, is seen as the most fluid space, in our opinion. Given that social media and smartphone growth are only decades-old trends, digital channels are still defining themselves. Adobe's Experience Cloud consists of three separate products: Marketing Cloud, Analytics Cloud, and Advertising Cloud. Many of Adobe's offerings were built through M&A, following the $1.8 billion-dollar acquisition of Omniture in 2009. The Omniture deal was met with a modest degree of skepticism in our view, as Adobe was still a creative software company and had minimal financial synergies with Omniture's ability to measure user patterns and website traffic. Adobe's strategic plan, was to leverage its relationships with corporate CMOs at the largest retailers and brands, given that they were already purchasing Adobe's creative software, to cross-sell them marketing software. The move once appeared risky, but with its market share and corporate leadership in a mission-critical space, Adobe has established itself in another wide-moat space over the past decade. Personalized customer engagement has quickly become a critical business function in the digital era, ensuring Adobe's Experience offerings are mission-critical for its users.

"Marketing software is tied directly to the revenue-generating capabilities of the customers, creating durable switching costs, in our view. After the Omniture acquisition, Adobe acquired Day Software, Auditude, Efficient Frontier, and Neolane over the ensuing several years. In 2016, Adobe acquired TubeMogul, a leader in the video demand-side platform space, these platforms are used by advertisers to buy display, video, social, and search advertisements. These solutions have been rolled into Adobe

Marketing Cloud, Analytics Cloud, and Advertising Cloud, the three major clouds that encompass Experience Cloud. We believe that ad dollars have increasingly moved away from legacy channels, such as print, billboard, radio, and even television, toward channels where tangible data can be collected and analyzed. Major enterprises, such as a McDonald's or Coca-Cola, would once use television advertisements primarily, but today, they're using Adobe's marketing measurements and segmentation technology to track what customers they are reaching and engaging. If a user searches for clothing on Google, Adobe's goal is that the clothing website that the user clicks on can deliver a personalized experience, immediately promoting clothes based on the user's geography and demography. Major brand, both nascent and mature, have incentives to use Adobe's tools to gain insights into the customer experience and the effectiveness of individual marketing campaigns.

"In terms of the products within Experience Cloud, first, Marketing Cloud contains its own subsegments, with Adobe Campaign, Adobe Target, and Adobe Primetime. Campaign allows customers to develop multichannel marketing campaigns across web, mobile, social, email, TV, and offline channels. We find it important that Adobe's tools can enable rules-based execution, through loyalty rewards programs, retargeting, or making a next best offer. Adobe Target allows users to attract customers through omnichannel personalization, while Primetime is a multiscreen TV platform to help media companies create and monetize personalized viewing experiences. Second, Analytics Cloud, allows Adobe customers to gain business intelligence insights based on data from online and offline channels. This allows customers to gain insights into audience building and campaign performance measurement. Third, Advertising Cloud leverages DSP for planning, executing, and analyzing TV campaigns, search marketing management, and creative management. In totality, the litany of Adobe's offerings delivers insights to users around what customers they are reaching and targeting. We view these tools as mission-critical today because advertising campaigns need to be coordinated across a variety of channels, and users consume content from multiple sources.

"Adobe underwent two large acquisitions in calendar 2018 to bolster its digital experience segment against competitors. We believe these enhance switching costs, particularly as Adobe's already comprehensive marketing portfolio, coupled with these two acquisitions, will allow the firm to have end-to-end functionality. We believe this discouraged customer from leaving for a competing product. In May 2018, Adobe agreed to acquire Magento, which offers digital commerce capabilities, for $1.68 billion. We believe this is similar to Salesforce's 2016 acquisition of Demandware in that there are advantages from tying together marketing and e-commerce capabilities. In September 2018, Adobe agreed to acquire Marketo for $4.75 billion. Marketo's specialty is lead management, which helps identify qualified sales leads in the business-to-business marketing sales process. Adobe Campaign once offered a stand-alone lead management module, but it was discontinued in March 2017. Acquiring Marketo bolsters Adobe's business-to-consumer capabilities with Marketo's expertise in B2B. Essentially, we believe the purchase helps fill a gap in Adobe's product portfolio as it increasingly competes with the likes of Salesforce.

"Under the umbrella of digital experience, is Adobe Document Cloud, where Acrobat, Adobe's PDF editor, and Adobe Sign exist. Adobe essentially invented the PDF, and businesses are continually shifting from physical paper files to digital documents. While Adobe largely uses a freemium model to propagate the PDF platform, it monetizes it through other means, such as editors and signature software. We think the moat is weaker here than Experience Cloud, but we think Adobe Document Cloud benefits from a network effect, in that professionals, namely lawyers, bankers, etc., use PDFs for contracts, reports, or forms, which can be an incentive for others to use Adobe's monetizable tools.

"Adobe's final segment is publishing, which includes an amalgamation of legacy software, as well as slower-growth products relegated to this segment from digital experience. Publishing products include Adobe PostScript, Adobe PDF printing technologies, Adobe Connect, the firm's web conferencing application, and Adobe LiveCycle. We do not believe these products possess a competitive advantage, equating to a no-moat rating for the segment, but we do not believe these products detract from Adobe's overall wide moat. Publishing accounts for a small minority of total revenue for Adobe, and the projected revenue growth rate sits below both digital media and digital experience."

Exhibit 14 Descriptors for Pillar Analysis

Descriptors for Pillar Analysis

		Rating Pillars			
Score Range		**Business Risk**	**Cash Flow Cushion**	**Solvency Score**	**Distance to Default**
Strongest	1-2	Minimal	Very Strong	Very Strong	Very Strong
	3-4	Low	Strong	Strong	Strong
	5-6	Moderate	Moderate	Moderate	Moderate
	7-8	High	Weak	Weak	Weak
Weakest	9-10	Very High	Very Weak	Very Weak	Very Weak

Business Risk Pillar Components

Country Risk (10% of Business Risk Score)

Weakest	Very High Risk
	High Risk
	Moderate Risk
Strongest	Low Risk

Company Risk (90% of Business Risk Score)

	Size	**Economic Moat**	**or Sustainable Competitive Advantage**	**Uncertainty**
Weakest	Very Small	None	None	Extreme
	Small			Very High
	Moderate	Narrow	Moderate	High
	Large			Medium
Strongest	Very Large	Wide	Substantial	Low

	Product/Customer Concentration	**Management**	**Dependence on Capital Markets**	**Cyclicality**
Weakest	Highly Concentrated	Aggressive	Extremely Dependent	Highly Cyclical
	Concentrated	Fairly Aggressive	Highly Dependent	Cyclical
	Neutral	Neutral	Dependent	Average Cyclicality
	Diversified	Fairly Conservative	Low Dependence	Mild Cyclicality
Strongest	Highly Diversified	Conservative	Very Low Dependence	Non-Cyclical

Source: Morningstar Credit Ratings, LLC
Economic Moat provided by Morningstar's Equity Research Group

Morningstar® Credit Research

For More Information
Greg Hiltebrand
+1 312 244-7353
greg.hiltebrand@morningstar.com

Todd Serpico
+1 312 384-5488
todd.serpico@morningstar.com

22 West Washington Street
Chicago, IL 60602 USA