Moody's INVESTORS SERVICE

Instrument Information

CUSIP: 02079KAC1
Issuer: ALPHABET INC.

This section details the Moody's ratings for CUSIP 02079KAC1.

Aa2 Senior Unsecured Rating as of 05/13/2024

Investment Grade	Non-Investment Grade

Instrument Long-Term Debt Rating as of 05/13/2024
Obligations rated Aa are judged to be of high quality and are subject to very low credit risk.

Upgrade	Downgrade	Uncertain	Not on Watch

Instrument Watch Status
Moody's uses Watch Status to indicate that a rating is under review for possible change in the short-term.

Corporate Bond Information

Class	REG
Coupon	1.998
Maturity	15 Aug 2026
Rating Date	13 May 2024
Sale Date	02 Aug 2016
USD Face Value (in millions)	$2000.000
Currency	USD
Debt has Support	N

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Aa2	Stable
Long Term Rating	Moody's Rating Outlook
as of 13 May 2024	as of 13 May 2024
Not on Watch	

Moody's Opinion as of 20-May-2024

Summary

Our credit view of Alphabet Inc. (Alphabet) (Aa2 stable) reflects the company's leading market position in search (Google search), online video (YouTube), mobile operating systems (Android), and digital advertising. In 2023, 69% of global advertising dollars were spent online. We expect this percentage to increase to around 71% in 2024. Alphabet has exceptional scale, strong profitability, very conservative credit metrics, and impressive financial strength. As of March 31, 2024 Alphabet has around $108.1 billion in cash and marketable securities, and an LTM total debt-to-EBITDA ratio (inclusive of Moody's adjustments) of 0.30x. The company's significant investments in research and development and focus on innovation has led to a steady stream of new technologies and products.

Key risks over the medium term are the cyclicality of the advertising industry, the potential impact of disruptive technologies and material regulatory and legal exposures globally that could potentially have a negative impact on the company's competitive position and profitability. In the US, Alphabet faces multiple antitrust lawsuits. Closing arguments for the first lawsuit filed by the Department of Justice (DOJ) in October 2020 recently concluded on May 9, 2024. In this trial the DOJ argued that Alphabet was using monopoly power to cut off competition for internet search queries through exclusionary agreements. Furthermore, Alphabet faces regulatory risks in Europe in connection with: (i) the company's display and ranking of shopping search results, (ii) the company's Android-related distribution agreements, and (iii) contractual provisions in agreements that Google had with AdSense for Search partners. All these investigations to date have resulted in the European Commission imposing around €8.2 billion in fines, which Alphabet is appealing. The primary risk is that a potential legal/regulatory outcome could materially impact the company's profitability or business model. Moody's believes that Alphabet's scale, continued strong execution, and financial strength mitigate these risks.

For 2024 and 2025, we project Alphabet's total revenue will grow by 12.2% and 10.3%, respectively, largely driven by our expectation for continued solid growth in Google Advertising (~76% of 2024 projected revenue) and Google Cloud (11% of total revenue). For the same two year period, we expect adjusted free cash flow generation to reach more than $77 billion in 2024 and $88 billion in 2025.

Credit Strengths

- Leading market position in online search with an estimated market share of more than 90%
- Exceptional financial strength with around $108.1 billion in cash and marketable securities (as of March 31, 2024), and our expectations for around $77 billion in free cash flow in 2024
- Strong credit metrics including an LTM leverage ratio of 0.30x
- Very conservative financial policies
- Strong track record of innovation

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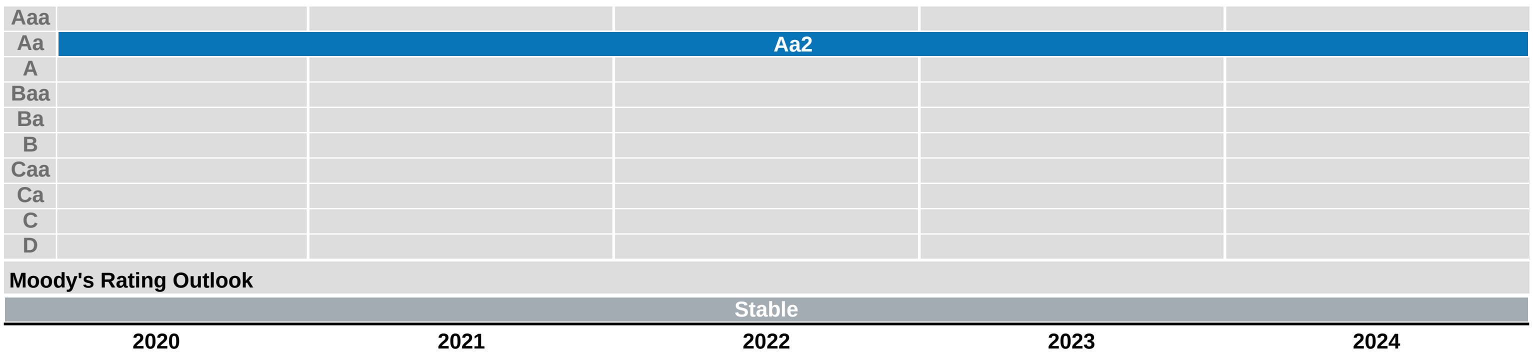
Rating History

5 Year Rating History for 02079KAC1



Credit Challenges

- Material legal and regulatory risks
- Cyclicality of the advertising market. In 2023, advertising revenue represented around 77.4% of total revenue
- Highly competitive industry
- Threat from disruptive technologies

Rating Outlook

The stable outlook reflects our expectations that Google Search will continue to maintain a leading position in search, defend its very strong market position in digital advertising, and that Alphabet will remain committed to a very conservative financial policy with exceptional liquidity and very low leverage.

Factors that Could Lead to an Upgrade

- The company maintains very conservative financial policies that are already consistent with a higher credit rating; and
- Management can navigate legal and regulatory risks such that its business models and diversity are not impaired

Factors that Could Lead to an Downgrade

- The company's core search business deteriorates and results in a material and sustained erosion in its market share position, profitability or free cash flow; or
- Management adopts more aggressive financial policies that materially weaken the company's very strong liquidity and credit metrics

Detailed credit considerations

Strong operating fundamentals support long term growth

Alphabet's business model is largely dependent on global advertising trends and in particular digital advertising spend. In 2024, we estimate that 71% of global advertising dollars will be spent online, compared to 69% in 2023 and will approach 75% in the next few years. We believe the structural shift to online from traditional media will persist and will help maintain higher growth rates for digital advertisers. For 2024 and 2025, we project digital advertising will grow at around 12% and 10%, respectively compared to 9% growth for the overall advertising industry this year, and 5% next year.

For 2024 and 2025, we project Alphabet will grow total revenue by 12% and 10%, respectively. Alphabet's total revenue consists of three major segments: (i) Google Services (~89% of Alphabet's revenue), which we project will grow by 10% and 8%, (ii) Google Cloud (~11%), which we project will grow 25% per annum over the next two years, and (iii) Other Bets, which we project will grow by 15% and 18%, respectively.

As stated above and shown in exhibit 6, for 2024 and 2025, we project Google Services will grow at 10.7% and 8.3%, respectively. This is largely driven by solid growth in Google Search and YouTube Ads, which we expect will grow in line with our expectations for the digital advertising market, and slower growth rates at Google Network, which includes sales generated by properties participating in AdMob, AdSense, and Google Ad Manager. We expect Google Cloud to grow at 25% per annum given strong underlying demand for cloud services.

Highly profitable business model with stable EBITDA margins support free cash flow predictability

For 2024 and 2025, we project free cash flow will be around $77 billion and $88 billion respectively. The improvement in free cash in 2024 and 2025, compared to

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Key indicators ALPHABET INC.

US Millions	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	LTM (Mar-24)	2024 Proj.	2025 Proj.	2026 Proj.
Revenue	$161,857	$182,527	$257,637	$282,836	$307,394	$318,146	$344,896	$380,420	$415,419
EBITA Margin %	23%	23%	30%	27%	27%	29%	31%	31%	31%
Debt / EBITDA	0.5x	0.6x	0.4x	0.4x	0.3x	0.3x	0.3x	0.2x	0.2x
EBITA / Interest Expense	64x	61x	95x	84x	87x	94x	112x	124x	137x
RCF / Net Debt	1114%	742%	679%	691%	1081%	1453%	>1000%	> 1000%	> 1000%

[1] All figures and ratios are calculated using Moody's estimates and standard adjustments.
[2] Periods are Financial Year-End unless indicated. LTM = Last Twelve Months.
[3] Moody's Forecasts (f) or Projections (proj.) are Moody's opinion and do not represent the views of the issuer.

Detailed credit considerations *Continued from Page 2*

2023 and 2022, is largely driven by higher sales and slightly higher EBITDA margins due to continued cost savings initiatives. Since 2012, despite periods of economic and market volatility, Alphabet has consistently grown its revenue, achieved attractive EBITDA margins and improved its free cash flow generation. We project these operating and financial trends to continue due to the structural shift in advertising spend to online away from analog, strong execution, and continued re-investments in the business enabling the company to create new verticals/businesses like Google Cloud and expand existing ones like YouTube.

Ultra strong credit metrics and very conservative financial policies provide substantial financial flexibility

Over the years, Alphabet has maintained a very conservative approach to balance sheet and liquidity management. As of March 31, 2024, Alphabet's credit metrics were exceptionally strong. With 0.30x total debt-to-EBITDA (including Moody's adjustments), 217% free cash flow-to-debt, around $108.1 billion in cash and marketable securities, and our expectations for around $124.5 billion in EBITDA and about $77 billion in free cash flow (implying a 66% free cash flow conversion), the company enjoys significant operating, strategic and financial flexibility. Although these metrics could materially deteriorate after an unexpected severe economic shock, or from future regulations or actions imposed on the company impairing its business model and profitability, they nevertheless provide an exceptional cushion to mitigate these event risks.

At March 31, 2024, Alphabet had approximately $32.6 billion in long term debt (including Moody's adjustments, which accounts for $13.8 billion in operating leases, and $4.2 billion in adjustments, including tax repatriation liabilities). The tax liability is the result of changes in the US tax law in 2017, associated with overseas accumulated earnings. For 2024 and 2025, we project Alphabet's total debt-to-EBITDA to be 0.3x and 0.2x, respectively.

Although, under our base case, we assume no incremental debt offerings going forward, our credit view incorporates some flexibility for Alphabet to increase leverage and reduce cash balances should the company decide to do so and remain well positioned in the Aa2 rating category. As a result, our upper end of the leverage guidance enables the company to increase its financial leverage to 1.0x total-debt-EBITDA (inclusive of Moody's adjustments). Separately, our base case assumes that Alphabet will use the majority of its free cash flow from 2024 and 2025 to repurchase shares and pay dividends.

In April 2023, the Board authorized the repurchase up to $70.0 billion of stock, under which as of March 31, 2024, $20.4 billion remained available. In addition, in April 2024, the Board authorized the repurchase of an additional $70.0 billion of stock and instituted a quarterly dividend of $0.20 per share.

Extensive investment in R&D and capex fuel innovation, limit competitive threats and increase revenue diversification

The company is very committed to advancing innovation across an array of industries, while at the same time enhancing features of its existing platform. Over the years, Alphabet has re-invested significant resources back into the business as measured by the amount of research and development (R&D) and capex the company incurred on an annual basis. Just in the past 5 years, Alphabet has re-invested about $304 billion back in the business ($170 billion in R&D alone and $134 billion in capex) keeping innovation a core focus. These efforts have enabled the company to maintain a leading market position in search, and successfully develop multiple businesses and successfully diversify away from advertising revenue.

Ten years ago (2013), Alphabet's business model was almost entirely dependent on digital advertising revenue, and in particular on revenue generated from Google, its search engine. While advertising sales remain the largest driver for total revenue and growth, Alphabet has been successful in developing and growing other businesses to diversify away from advertising and search. At year end 2023, 77.4% of total revenue came from advertising compared to more than 90% back in 2013. For 2024 and 2025, we project, this declining trend to continue and expect advertising revenue to represent 76% and 75% of total sales. Having said that, the company's profitability is still very dependent on its advertising business, from which Alphabet still generates most of its EBITDA.

The risk of Artificial intelligence and the threat of disintermediation

Artificial Intelligence (AI) and heightened competitive threats from large companies and well funded start ups pose a threat to Google's online search dominance. Companies like Microsoft (Aaa stable) have already launched their AI-powered Bing search and Edge browser (copilot for the web), in collaboration with OpenAI (creator of ChatGPT). Other large deep pocketed competitors such as Apple (Aaa stable) are expected to enter the AI race, by launching a Safari based AI tool

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with their IOS 18 update in late 2024; as well as Meta Platforms (Aa3 stable) which is on another iteration of its AI chatbox and search engine, "Meta AI", that spans across their major applications (Facebook, Instagram, WhatApp, Threads). Smaller scale companies such as Snap (unrated) are also stepping into the AI scene, by releasing their own AI chatbox and search engine dubbed "My AI", that further enhances the Snapchat experience by not only being able to answer questions, but also analyze photographs and videos. The emergence of these threats pose a threat to Google Search and Chrome as users can now search or ask questions within their favorite applications, without having to jump to Google's platforms so there is a risk of declining utilization of Google Search and Chrome, which could pressure advertising revenue. Furthermore, newer search products developed by competitors may not rely on an advertising revenue model which could pressure Google's revenue model.

While the risk of disintermediation is real, for years Alphabet has faced many other challenges / threats from disruptive technologies to its business model and has defended its business models well. For example, to list a few, Alphabet has and continues to face threats from Amazon and Microsoft in search, TikTok and Meta in short form video, and Apple in Maps and Music. Despite competitive threats that loomed for many years, Alphabet has grown sales, maintained strong margins, and meaningfully expanded free cash flows. In addition, Alphabet has been investing and developing AI capabilities since 2017. As a result, we expect Alphabet will leverage its own AI capabilities to protect and enhance its competitive positions.

Significant regulatory and legal risks are partially mitigated by the company's exceptional liquidity, very low leverage, and strong profitability

Alphabet's credit profile is constrained by significant regulatory and legal risks that could have a material impact on the company's business model, damage its brand equity and lead to material fines. These risks are partially mitigated by Alphabet's exceptional liquidity of around $108 billion in cash and marketable securities at the end of Q1 2024, very low LTM leverage of 0.30x total debt-to-EBITDA (including Moody's adjustments), and our expectation of more than $77 billion in free cash flow this year alone and more than $88 billion in 2025. These regulatory and legal risks include the following:

» Multiple antitrust lawsuits (the latest filed by the DOJ on January 24, 2023) and regulatory investigations initiated against the company by the US Justice Department (DOJ), many states' attorneys general and several countries outside of the US (Europe in particular). Our primary concern is that of a potential outcome that could materially impact the company's profitability or business model. We believe that the potential for adverse legal/regulatory outcomes remains uncertain and could take years to materialize. Below we list some of these lawsuits/investigations:
- The first antitrust lawsuit by the DOJ was filed in October 2020 and alleged that Alphabet was using monopoly power to cut off competition for internet search queries through exclusionary agreements. The trial for this case began on September 12, 2023 and closing arguments concluded on May 4, 2024. In this trial, the government argued that Google used anti-competitive tactics to maintain and extend monopolies in general search services, search advertising, and general search text advertising limiting publishers' and advertisers' ability to choose other platforms. According to news reports a ruling is expected to be issued by this summer or early fall.
- On January 24, 2023, the DOJ filed a separate antitrust lawsuit focusing on the company's digital display advertising businesses. In this lawsuit the DOJ contends that the company has too much power on all sides of the advertising market, stifling competition for other market participants and stakeholders. The complaint also alleges that the company made acquisitions to enhance its power in the ad market over time. The states of California, Colorado, Connecticut, New Jersey, New York, Rhode Island, Tennessee and Virginia joined the DOJ in the latest lawsuit. This trial is scheduled to go to trial on September 9, 2024.
- In June 2023, the EU Commission opened a formal antitrust investigation to assess whether Google has violated EU competition rules favoring its own online display advertising technology services to the detriment of competing providers of advertising technology services, advertisers, and online publishers. The investigation focuses on display advertising where Google offers a number of services both to advertisers and publishers in order to display ads on web-sites or mobile phones.
- On March 20, 2019, the EC announced its decision that certain contractual provisions in agreements that Google had with AdSense for Search partners infringed European competition law. The EC decision imposed a fine of €1.5 billion ($1.7 billion as of March 20, 2019) and directed actions related to AdSense for Search partners' agreements, which we implemented prior to the decision. On June 4, 2019, the company appealed the EC decision. No decision has been rendered yet.
- In July 2018, the EC announced its decision that certain provisions in Google's Android-related distribution agreements infringed European competition law. The EC decision imposed a €4.3 billion ($5.1 billion as of June 30, 2018) fine and directed the termination of the conduct at issue. On October 9, 2018, the company appealed the EC decision, and on October 29, 2018, implemented changes to certain of its Android distribution practices. On September 14, 2022, the General Court reduced the fine from €4.3 billion to €4.1 billion. Subsequently the company filed an appeal with the European Court of Justice. No decision has been rendered yet.
- In June 2017, the European Commission (EC) announced its decision that certain actions taken by Google regarding its display and ranking of shopping search results and ads infringed European competition law. The European Commission fined Google a €2.4 billion ($2.7 billion as of June 27, 2017). On November 10, 2021, the General Court rejected the company's appeal, and Alphabet subsequently filed an appeal with the European Court of Justice on January 20, 2022. No decision has been rendered yet.

» Data privacy regulations. Alphabet faces investigations / scrutiny from regulators globally over its data practices. If successful, these regulations could (i) make it more difficult for Alphabet to collect and use data, and/or (ii) lead to material fines.
- To date, some regulatory measures have been enacted in Europe and in California to limit Alphabet's ability to collect and use data. For example, the EU implemented regulations in May 2018 called General Data Protection Regulation (GDPR), which regulates data protection and privacy for all individuals within the European Union and the European Economic Area. In 2020, California passed the Consumer Privacy Act, to protect consumer privacy rights for its residents.
- Recently, on March 7, 2024, the European Commission enacted the Digital Markets Act (DMA). This law imposes restrictions and requirements on designated companies. It prohibits companies like Alphabet (a designated gatekeeper) from combining data across services without user consent. Under the DMA,

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Detailed credit considerations *Continued from Page 4*

twenty-two services across six companies were deemed gatekeepers. The six companies are Alphabet, Amazon, Apple, ByteDance, Meta, and Microsoft.

» Legal challenges to the statutory safe harbors set forth in Section 230 of the Communications Decency Act in the United States and the e-commerce directive in Europe against liability for content posted on the company's services. Section 230 of the Communications Decency Act is a law that provides immunity to online platforms like Google, including social media companies, from liability for user-generated content posted on their platforms. The law shields Google, YouTube and others like Meta from being held responsible for the content posted by its users, as long as the company acts in good faith to remove illegal or harmful content.
- Currently there are a number of lawsuits and legislative proposals trying to reduce this safe harbor protection, which if successful could negatively affect the company. Two such lawsuits made their way to the US Supreme Court in 2023. In each of these cases, the US Supreme Court declined to address Section 230 in its decisions.
- Without the legal protections provided by Section 230, online platforms and social media companies could face a flood of lawsuits related to user-generated content, which could be costly and time-consuming to defend against. As it is, these challenges, investigations and social pressures have already prompted these companies to better monitor and moderate content on their platforms.

Liquidity Analysis

We expect Alphabet will continue to maintain an exceptionally liquid balance sheet based on (i) the company's long standing conservative financial philosophy, (ii) emphasis on maintaining significant financial flexibility to ensure its ability to address potential challenges, and (iii) significant and steady free cash generation.

Corporate Profile

Headquartered in Mountain View, CA, and founded in 1998, Alphabet Inc. (Alphabet) is a collection of businesses, the largest of which is Google, the world's leading search engine and digital advertising facilitator. The company reports in two main segments, Google Services and Google Cloud, and also reports all non-Google businesses collectively as Other Bets. For the fiscal year ending December 31, 2023, Alphabet generated about 77.4% of its revenue from advertising.

Alphabet is a publicly traded company on the NASDAQ with the ticker symbols GOOG and GOOGL. In October 2015, Alphabet implemented a holding company reorganization and became the parent company of Google.

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Rating Definitions

Long-Term Obligation Ratings

Moody's long-term obligation ratings are opinions of the relative credit risk of fixed-income obligations with an original maturity of one year or more. They address the possibility that a financial obligation will not be honored as promised. Such ratings reflect both the likelihood of default and any financial loss suffered in the event of default.

Aaa Obligations rated Aaa are judged to be of the highest quality, with minimal credit risk.

Aa Obligations rated Aa are judged to be of high quality and are subject to very low credit risk.

A Obligations rated A are considered upper-medium grade and are subject to low credit risk.

Baa Obligations rated Baa are subject to moderate credit risk. They are considered medium-grade and as such may possess certain speculative characteristics.

Ba Obligations rated Ba are judged to have speculative elements and are subject to substantial credit risk.

B Obligations rated B are considered speculative and are subject to high credit risk.

Caa Obligations rated Caa are judged to be of poor standing and are subject to very high credit risk.

Ca Obligations rated Ca are highly speculative and are likely in, or very near, default, with some prospect of recovery of principal and interest.

C Obligations rated C are the lowest rated class of bonds and are typically in default, with little prospect for recovery of principal or interest.

Note: Moody's appends numerical modifiers 1, 2, and 3 to each generic rating classification from Aa through Caa. The modifier 1 indicates that the obligation ranks in the higher end of its generic rating category; the modifier 2 indicates a mid-range ranking; and the modifier 3 indicates a ranking in the lower end of that generic rating category.

Rating Outlooks

A Moody's rating outlook is an opinion regarding the likely direction of a rating over the medium term. Where assigned, rating outlooks fall into the following four categories: Positive (POS), Negative (NEG), Stable (STA), and Developing (DEV -- contingent upon an event). In the few instances where an issuer has multiple outlooks of differing directions, an “(m)” modifier (indicating multiple, differing outlooks) will be displayed, and Moody's written research will describe any differences and provide the rationale for these differences. A RUR (Rating(s) Under Review) designation indicates that the issuer has one or more ratings under review for possible change, and thus overrides the outlook designation. When an outlook has not been assigned to an eligible entity, NOO (No Outlook) may be displayed.

Watchlist

Moody's uses the Watchlist to indicate that a rating is under review for possible change in the short-term. A rating can be placed on review for possible upgrade (UPG), on review for possible downgrade (DNG), or more rarely with direction uncertain (UNC). A credit is removed from the Watchlist when the rating is upgraded, downgraded or confirmed.

Provisional Ratings

As a service to the market and typically at the request of an issuer, Moody's will assign a provisional rating when it is highly likely that the rating will become final after all documents are received, or an obligation is issued into the market. A provisional rating is denoted by placing a (P) in front of the rating. Such ratings may also be assigned to shelf registrations under SEC rule 415.

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