

<b>Company:</b> Alphabet Inc-C Equity	<b>Ticker:</b> GOOG	<b>Current Price:</b> \$ 797.87	<b>Sector:</b> Information Technology	<b>Industry:</b> Internet software & service
<b>Target Price:</b> \$ 932.55	<b>CY P/E:</b> 30.08		<b>Beta:</b> 1.09	<b>Market Cap:</b> \$554,793.6M
<b>Stop Loss:</b> \$ 678.19	<b>Forward P/E:</b> 23.77		<b>Credit Rating:</b> Aa2	<b>Avg Vol:</b> 1.3M
<b>52 Week High / Low:</b> \$663.06 / \$815.18	<b>EPS:</b> \$ 26.36		<b>Rating Outlook:</b> Aa2	<b>Dividend Yield:</b> 0.00%

#### Company Background:

Alphabet Inc. is a holding company. The Company holds interests in Google Inc. (Google). The Company's segments include Google and Other Bets. Google segment includes Internet products, such as Search, Ads, Commerce, Maps, YouTube, Apps, Cloud, Android, Chrome, Google Play, and hardware products, including Chromecast, Chromebooks and Nexus, which are sold by the Company. Its technical infrastructure and Virtual Reality are also included in Google segment. Google segment is engaged in advertising, sales of digital content, applications and cloud services, as well as sale of Google branded hardware. The Other Bets segment consists of various operating segments and includes businesses, such as Access/Google Fiber, Calico, Nest, Verily, GV, Google Capital, X and other initiatives. Other Bets segment is engaged in the sale of Nest hardware products, Internet and television services through Google Fiber, and licensing and research and development (R&D) services through Verily.

#### Industry Outlook:

The fundamental outlook for the Internet Software & Services sub-industry for the next 12 months is positive. U.S. online advertising revenues rose 17% in 2013, 16% in 2014 and 20% in 2015, and CFRA estimates increases of 17% for 2016 and 16% for 2017. Corporations are committing larger percentages of advertising budgets to digital formats as people spend more time online and on mobile devices, especially as compared with consumption of other media. Moreover, Internet and mobile marketing offers notable targeting and data-focused return-on-investment capabilities. Mobile has also been driving volumes, and more recently revenues, and we it accounted for over \$20 billion in U.S. advertising sales in 2015.

#### Investment Thesis:

- 1) Alphabet dominates the online search market with Google's global market share of above 80%, via which it generates strong revenue growth and cash flow. We expect continuing growth in the company's cash flow as we remain confident that Google will maintain its leadership in the search market. In addition, we view the investment of some of that cash in futuristic projects (or moonshots) as attractive. Whether those investments will generate positive returns remains to be seen, but they do present significant upside.
- 2) The Google ecosystem strengthens as its products are adopted by more users, making Google's online advertising services more attractive to advertisers and publishers, resulting in increased online ad revenue. The company utilizes technological innovation to improve the user experience in nearly all of its Google offerings, while making the sale and purchase of ads efficient for publishers and advertisers.
- 3) Adoption of mobile devices has been increasing, as has usage time on these devices. The online advertising market has taken notice and is following its target audience onto the mobile platform. We have seen Google partake in this on the back of its Android mobile operating system's growing market share, helping it drive revenue growth and maintain its leadership in the space. Also iPhone revenue is slowing down, and Samsung Note 7 has big security issue. Google released the new smartphone - Pixel, which received good market feedback. Maybe it's the new revenue source for Google.
- 4) Among the firm's investment areas, we particularly applaud the efforts to gain a stronger foothold in the public cloud market, which is expected to grow more than 25% annually through 2020. In a short period of time, Google has leveraged the technological expertise it applied to creating and maintaining its private cloud platform to increase its market share in this space, driving additional revenue growth, creating more operating leverage, and expanding its operating margin, which we expect will continue.
- 5) As regards Alphabet's more futuristic projects, although most are not yet generating revenue, if they succeed, the upside is attractive, as the company is targeting newer markets. Alphabet's self-driving-car technology project is a good example: Based on various studies, it may tap into a market valued in the tens of billions of dollars within the next 10-15 years.

#### Investment Risks:

- 1) Alphabet's investments in moonshot projects such as Google glass, self-driving cars have yet to generate positive returns. Given the lack of any sustainable competitive advantages in those businesses, continuing investments in them could affect the company's overall return on invested capital, or ROIC, adversely.
- 2) Alphabet highly relies on the online advertising business, about 87% of the revenue comes from online advertising, a big downturn in online ad spending could have a negative impact on Alphabet's revenue and cash flow, resulting in a significantly lower fair value estimate.
- 3) Rapid adoption rate of additional online ad platforms, such as Facebook's social network, could lower Alphabet's revenue growth, eliminating operating leverage and creating pressure on operating margin.
- 4) Alphabet's Google faces various claims and investigations brought on by different companies and regulatory agencies regarding search bias.

#### Discounted Cash Flow Analysis

(Millions)	2017	2018	2019	2020
Free Cash Flow	25,045.00	29,450.00	34,764.00	39,437.00
Terminal value				576,171.77
Total flows	25,045.00	29,450.00	34,764.00	615,608.77
PV of flows	22,757.84	24,316.73	26,083.12	419,705.45
Enterprise value	492,863.15			
Current outstanding debt	4,203.00		WACC	10.05%
Equity value	488,660.15		Growth rate	3.00%
Current shares outstanding	343.60			
Equity value per share	1,422.18			

#### Past performance



#### Competitors GOOG

Name	Price	% Chg	TTM Sales \$ mil
Alphabet Inc C	\$813.11	1.72 ↑	81,761
Alphabet Inc A	\$835.74	1.42 ↑	81,761
Facebook Inc A	\$133.28	0.92 ↑	22,160
Tencent Holdings Ltd ADR	\$27.76	0.49 ↑	18,451
Tencent Holdings Ltd	\$27.77	0.62 ↑	18,451
Naspers Ltd ADR	\$17.28	2.04 ↑	5,930

#### Financial Performance

(\$millions)	2012	2013	2014	2015	Est 2016	Est 2017
Revenue	\$ 50,175.00	\$ 55,519.00	\$ 66,001.00	\$ 74,989.00	\$ 72,246.00	\$ 83,811.90
EBIT	\$ 15,409.00	\$ 17,234.00	\$ 20,775.00	\$ 24,563.00	\$ 30,071.20	\$ 35,524.20
EBITDA	\$ 16,298.00	\$ 19,483.00	\$ 21,856.00	\$ 24,423.00	\$ 35,961.90	\$ 41,909.00
Net Income	\$ 10,856.90	\$ 13,373.00	\$ 13,614.00	\$ 16,073.00	\$ 23,628.50	\$ 28,210.10
Revenue Growth %	32.40%	10.70%	18.90%	13.60%	-3.70%	16.00%
EBITDA%	32.50%	35.10%	33.10%	32.60%	49.80%	50.00%
Operating Profit %	25.43%	27.74%	24.99%	25.82%	41.62%	42.27%
Net Income Margin	22%	24.10%	20.60%	21.40%	32.70%	33.70%
Total Debt/Equity	7.72	6.01	5.04	4.34	NM	NM
EPS	\$16.33	\$19.74	\$19.81	\$23.17	\$34.22	\$40.49
PE Ratio	21.65	28.39	26.78	33.57	24.24	20.49
Current Ratio	4.22%	4.58%	4.69%	4.67%	NM	NM
ROE	16.54%	16.25%	14.79%	14.12%	14.66%	14.60%
ROA	12.91%	12.62%	11.77%	11.82%	13.41%	13.43%
Dividend Per share	0.00	0.00	0.00	0.00	0.00	0.00
FCF	\$ 13,346.00	\$ 11,301.00	\$ 11,417.00	\$ 16,109.00	\$ 22,705.50	\$ 25,367.70

#### Discounted Cash Flow

	2010-2015	2016-2020
Avg Revenue growth	21.48%	10.64%
Avg EBITDA Margin	35.12%	50%
Avg Net Income growth	23.77%	34%
Cost of Debt (Moody's 10 Year Corp yield)		4.62%
Tax Rate		20.30%
Cost of Equity (CAPM)		10.44%
Average D/E ratio		5.78%
WACC		10.05%
Perpetuity growth rate		3.00%

**Analyst Opinion:**  
 Buy: 9      Hold: 2      Sell: 0  
 Rating: Target  
 Moody's: Aa2  
 S&P Net Advantage: Strong Buy      \$900 in 12 month  
 Value Line: Timeliness:3      \$885-\$1200

#### Relative Valuation

	Alphabest Inv	Yahoo! Inc	Baidu Incv	Netflex	Industry Avg.*
Forward 12M P / E	21.65	70.02	27.74	104.8	35.58
P/B	3.78	1.18	4.48	16.72	5.12
Dividend Yield	0.00%	0.00%	0.00%	0.00%	1.40%
PEG Ratio	1.37	13.29	1.96	5.10	3.70
TTM EPS	\$26.36	\$0.10	\$7.20	\$0.38	\$3.40
Revn Grth	13.62%	7.58%	35.33%	23.16%	16.80%
EBITDA Grth	23.09%	-4.46%	-5.79%	34.29%	105.84%
Operating Margin	27.76%	-4.01%	15.69%	4.63%	8.65%
Debt / Equity	3.29%	3.68%	43.62%	93.87%	36.67%
Market Cap	560.4B	40.46B	61.16B	54.61B	78.42B
Revenue TTM	81.76B	4.97B	11.05B	8.18B	11.84B
Price /Sales	5.91	8.22	5.35	5.16	5.16
Price / Cash Flow	16.55	36.32	19.05		87.08

#### Total Return

	Alphabet Inc	Industry	S&P 500
YTD	6.43%	10.98%	5.89%
1 Year	15.05%	15.93%	7.38%
Last 3 Years			8.83%
Last 5 Years			13.87%

Prepared by Donglin Jia (Oct 25, 2016) using Bloomberg, Value Line, S&P Net Advantage, Capital IQ, Morning Star, Yahoo Finance

\*Industry Avg. includes companies listed and Sina, Xing AG and other 3 companies