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## **Alphabet Inc. Class A (GOOGL-US)**

Internet Software & Services

- We reiterate our Strong Buy rating on GOOGL as it continues to report strong revenue growth across key business lines, and further develops new growth initiatives.
- Gains in advertising and cloud revenue continue to drive accelerating Business Performance.
- Ongoing investment in Search innovation continues to assure GOOGL's dominant search position and continues to drive advertising revenue growth.
- GOOGL recently launched its Stadia on-demand game streaming service.
- GOOGL plans to roll out a checking account service tied to its Google Pay App.
- GOOGL continues to make strategic acquisitions to extend its product lines and strengthen its service offerings.
- GOOGL's strong balance sheet and cash flow enable the ongoing funding of key growth initiatives and strategic acquisitions, enhancing shareholder returns via ongoing share repurchases.
- GOOGL is on our Research Focus List and in our Focus Opportunity Portfolio.

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**Company Note**
**Alphabet Inc. Class A (GOOGL-US)**

Internet Software &amp; Services

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**Research Action:**

Reiterate rating

**Rating:** Strong Buy

**Prior Rating:** Strong Buy

**Price 11/21/2019:** \$1,300.14

**52 Week High / Low:** \$1,333.92 / \$977.66

**Key Data: (TTM as of Sep-19)**
**Excess Cash per Share:** \$180.06

**Annual Dividend:** \$0.00

**Dividend Yield:** 0.00%

**Avg. Volume (30 Day):** 1.5M

**Shares Outstanding:** 643.2M

**Float:** 299.0M

**Short Interest:** 2.7M

**SI % / Float** 0.90%

**Equity MV:** \$836,222.8M

**Sales TTM:** \$154,569.0M

**Beta:** 0.99

**EBITDAR:** \$74,403.6M

**NOPAT:** \$31,225.2M

**Total Invested Capital:** \$204,982.8M

**Return on Capital:** 17.11%

**Cost of Capital:** 6.14%

**Economic Profit:** \$20,018.7M

**Market Value Added:** \$654,270.4M

**Current Operations Value:** \$508,570.1M

**Future Growth Value:** \$350,683.1M

- We reiterate our Strong Buy rating on GOOGL as it continues to report strong revenue growth across key business lines, and further develops new growth initiatives.** GOOGL reported another strong quarter with Q3 revenue increasing 20% Q/Q and up over 18% Y/Y, driven by major search and computing innovations. GOOGL continues to invest in its cloud infrastructure and machine learning, which will be the future driver of its growth. GOOGL continues to invest in the buildout of data centers, along with the hiring of salespeople and engineers, to support its cloud services platform. GOOGL is also investing in new technologies, including its cutting-edge neural network-based natural language search processing. GOOGL recently announced the acquisition of Fitbit (FIT-US, Non-Rated) as it continues to innovate and develop further hardware products, looking to increase its penetration into smart wearables along with further increases in home automation and mobile connectivity. GOOGL continues to leverage key strengths and expand into new product and service offerings, including the recently announced Stadia on-demand gaming streaming platform, and its newly announced financial service partnership with Citigroup (C-US, Non-Rated) offers checking accounts tied to Google Pay. GOOGL's leadership positions across all key service offerings as ongoing innovation will continue to drive increasing Economic Profit growth and greater shareholder value creation. We believe significant upside exists from current levels and continue to recommend purchase.
- Gains in advertising and cloud revenue continue to drive accelerating Business Performance.** For the 12 months ending September 2019, Net Sales Revenue increased 18.60% Y/Y from \$130.33 billion to \$154.57 billion. We forecast a further increase of 18.75% to \$183.55 billion over the NTM. Economic Operating Cash Flow (EBITDAR) increased 19.76% Y/Y from \$62.13 billion to \$74.41 billion over the LTM. We forecast a further increase of 20.27% to \$89.49 billion over the NTM. Net Operating Profit After Tax (NOPAT) increased 41.85% Y/Y from \$22.01 billion to \$31.23 billion over the LTM. We forecast a further increase of 19.78% to \$37.40 billion over the NTM. Return on Capital (ROC) increased from 13.52% to 17.11% over the LTM. We forecast a further increase to 17.31% over the NTM. Economic Profit (EP) increased 102.49% Y/Y from \$9.89 billion to \$20.02 billion over the LTM. We forecast a further increase of 18.69% to \$23.76 billion over the NTM. GOOGL's ongoing investment in technology and platform development will drive a higher future Return on Capital, increasing Economic Profit, and greater shareholder value creation.

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- **Ongoing investment in Search innovation continues to assure GOOGL's dominant search position and continues to drive advertising revenue growth.** GOOGL recently introduced a neural network-based natural language processing capability called BERT (Bidirectional Encoder Representations from Transformers), enabling a better understanding of search than ever before. BERT helps Google Search better understand subtle patterns in language and questions to provide more relevant search results. The implementation of this new technology will continue to assure GOOGL's all-important search leadership. GOOGL continues to be the dominant search engine with almost 93% of desktop search market share and almost 94% of the more important mobile search market share. Able to offer advertisers greater insight by studying mobile searches from its huge database, GOOGL can pick up strong intent to buy signals, creating opportunities for direct response marketers to better target potential buyers. The ability to further incorporate location-based advertising into Search will also further drive GOOGL's mobile advertising revenue. GOOGL also incorporates Search into its Google Home voice-activated interface that utilizes GOOGL's AI-driven Google Assistant, which is also used in mobile devices as well. GOOGL's dominant search engine continues to drive its dominance in digital advertising and is also the engine that powers Google Assistant and GOOGL's Smart Speakers.
- **GOOGL recently launched its Stadia on-demand game streaming service.** Stadia lets gamers play Top-rated titles in the cloud, like Red Dead Redemption 2, starting at \$10 a month. The service, announced in June, became available last week in select countries, including the U.S., which offers hosted subscription gaming on any device without the need for a gaming console. For \$10 a month, gamers will be able to stream games in 4K resolution and HDR quality on any connected device, including smartphones, smart TVs, laptops, tablets, and desktop computers. In addition, there is a premium Stadia Founders Addition Kit which includes a limited-edition Night Blue Stadia controller, Chromecast Ultra, three months of Stadia Pro, an exclusive stadia username, and a buddy pass for friends to try Stadia Pro for three months and the full Destiny 2 game addition with updates. Initially, over 20 of the most popular game titles will be available with additional games expected. While the initial functionality will be somewhat limited, the concept of streaming gaming will continue to grow as new technologies, including advancements in Edge Computing and 5G, continue to improve the online gaming experience. Stadia is a significant new entry into streaming games that will continue to drive GOOGL's consumer-related services. The launch of Stadia also illustrates how GOOGL remains at the forefront of every secular technology trend, including cloud services, mobile, Search, advertising, home automation, along with health and fitness monitoring.

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- **GOOGL plans to roll out a checking account service tied to its Google Pay App.** GOOGL is partnering with Citigroup to let Google Pay App users access bank accounts beginning next year as GOOGL further expands into financial services. GOOGL is exploring how it can partner with banks and other financial institutions to incorporate access to financial accounts, providing benefits and useful insights through GOOGL's applications. Banks are increasingly willing to work with technology companies to avoid getting left out of the ongoing progress in the integration of financial services and technology to provide convenience and new services. GOOGL has spent many years building out its payment capabilities, including offering consumers the ability to make online purchases through Google Pay along with peer to peer payment services to send money to friends and other service providers such as babysitters and tutors. Ideally, linking a checking account where consumers receive direct deposit paychecks and providing the ability to make payments through Google Pay for discretionary and recurring services will further GOOGL's e-commerce ecosystem. The genesis for the partnership was most likely inspired by the launch of Apple's (AAPL-US, Strong Buy Rated) Apple Card in partnership with Goldman Sachs (GS-US, Non-Rated) and other tech companies including Alibaba's (BABA-US, Buy Rated) AliPay, WeChat Pay, and Facebook's (FB-US, Buy Rated) recently announced Facebook Pay and upcoming Libra/Calibra cryptocurrency initiative where money transfers could flow through digital systems without the need for banks.
- **GOOGL continues to make strategic acquisitions to extend its product lines and strengthen its service offerings.** GOOGL just announced the acquisition of privately held CloudSimple, expanding its ability to move applications, data, and other systems from in-house data centers to the public cloud. CloudSimple specializes in integrating VMware's (VMW-US, Strong Buy Rated) virtualization software on cloud-hosted servers. GOOGL recently announced the acquisition of fitness tracking company Fitbit (FIT-US, Non-Rated) for \$2.1 billion, expanding its hardware product offerings, focusing on fitness tracking and health data. In June of this year, GOOGL announced the acquisition of business intelligence platform Looker for \$2.6 billion in an all-cash transaction and will become an integral part of its cloud platform. The addition of Looker will provide Google Cloud customers with a comprehensive set of analytics solutions from ingesting and integrating data to gain insights into embedded analytics and visualizations, enabling enterprises to better leverage machine learning and AI. The integration of Looker enhances the analytics capability of GOOGL's Cloud platform to better understand patterns and opportunities that exist in their data.

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The integration of Looker will drive further customer adoption of GOOGL's hybrid cloud platform and enable it to better compete with Amazon's (AMZN-US, Buy Rated) Web Services (AWS) and Microsoft's (MSFT-US, Buy Rated) Azure.

- **GOOGL's strong balance sheet and cash flow enable the ongoing funding of key growth initiatives and strategic acquisitions, enhancing shareholder returns via ongoing share repurchases.** As of June 2019, GOOGL has \$124.76 billion, or \$180.06 per share, in excess cash, along with our expectations for the generation of \$89.49 billion in Economic Operating Cash Flow (EBITDAR) over the NTM, giving it more than enough to continue to fund growth, R&D, strategic acquisitions, and to continue to repurchase shares. So far this year, GOOGL has announced \$37.5 billion in open market share repurchases, including \$25 billion it announced in July and \$12.5 billion announced in January of this year. In 2018, GOOGL repurchased \$9.08 billion worth of its stock. So far, in 2019, GOOGL has repurchased \$12.30 billion, including \$5.7 billion in the most recent quarter.
- **GOOGL is on our Research Focus List and in our Focus Opportunity Portfolio.** GOOGL's leading presence in enterprise and cloud computing, along with its dominance in search, maps, digital advertising, and overall management of information access, will propel its lead in the future areas of home automation, automotive infotainment, autonomous technology, and many other key secular technology trends.

#### **Investment Thesis**

GOOGL is best positioned to benefit from many of the key secular technology trends, including the growth of mobile engagement, video sharing, advertising, and, most importantly, enterprise and cloud computing, which is the sector's largest growth engine. GOOGL continues to demonstrate incredible ability to innovate and execute, emerging as a dominant provider in all its product offerings. Waymo could evolve into one of the transportation industry's most dominant technology providers. We believe GOOGL will continue to drive greater shareholder value creation through the continued monetization of its product offerings and its dominance in mobile and online search and advertising. We also believe that YouTube will capture more video dollars shifting online, and that strength in Google Play will continue. GOOGL's ability to increase its Return on Capital will continue to drive growing Economic Profit and greater shareholder value creation.

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**Company Overview**

**Alphabet, Inc. (GOOGL-US)** is the parent company of Google, which is the world's largest Search engine and an incubator of new business technologies under its Other Bets division. Alphabet operates Search and other Internet products, including Ads, Android, Apps, Chrome, Cloud, Commerce, Google Play, Maps, and YouTube. GOOGL also offers several hardware products that include Chromebooks, Chromecast, Google Home smart speakers, and the Android-based Pixel line of smartphones. Other Bets include business lines such as Access, which is also known as Google Fiber; Calico; Google's Investment initiatives that are done through Google Capital and Google Ventures; Google X; Nest; Verily; and other developmental technology initiatives. Nest develops and sells home automation and smart home devices, including cameras, smoke alarms, and smart thermostats. Google Fiber provides high-speed Internet infrastructure. Google Capital and Google Ventures are its financing arms for private equity and venture capital investments. Other Bets also include special investment in developmental projects, including Life Sciences which is in development for a glucose-sensing contact lens; Calico, which focuses on longevity research; Google's X Lab which researches space and drone delivery systems; and Sidewalk Labs which focuses on developing technologies to improve urban living. In 2016, Alphabet separated its development of autonomous vehicle technology into a separate company called Waymo.

Alphabet offers several web-based information services through its own and hosted networks. Alphabet's primary source of revenue is advertising, driven by ads embedded in Search result pages derived from its page ranking and text-matching proprietary technology and infrastructure that facilitates the advertising optimization process. Alphabet's main advertising service called AdWords helps advertisers create ads based on the inclusion of certain pre-purchased words in Search results. Alphabet's AdSense program enables the distribution into Google Network websites. Alphabet's AdMob technology is incorporated in AdWords, which extends advertising campaigns onto AdMob's mobile network optimized for mobile devices. Mobile is the fastest-growing part of the Google Search and advertising business. Google Mobile allows users to search by word as well as by location, voice, or site. Google Local delivers local information on over 80 million places of interest, including restaurants, stores, and other places of interest. Alphabet also offers website embedded display ads. Alphabet's video-sharing site, YouTube, offers embedded video ads, and TrueView offers opt-in ads embedded in YouTube videos to provide viewers with advertising that may be of interest to them. Google's advertising service platforms include AdExchange, AdWords, Bid Manager, and DoubleClick.

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Alphabet also offers several operating systems and platforms, including the world-leading mobile operating platform, Android, along with Chrome OS and Browser, Google Drive, Google Home, Google Play, Google TV, and Google Wallet. Google Enterprise includes apps such as Gmail, Google Docs, Google Calendar, and Google Sites. Google operates in more than 50 countries worldwide.

**Alphabet operates and reports revenue in two Business Segments:**

**Google** - (99% of revenue) consists primarily of revenue driven by advertising and other computer services, such as web hosting and Android OS licensing fees.

**Other Bets** - (1% of revenue) oversees the incubation of new technologies, which, when start to generate revenue, become part of Google.

**Alphabet reports revenue by four Geographic Regions:** United States (46% of revenue); Europe, Middle East & Africa (33% of revenue); Asia-Pacific (16% of revenue); Other Americas (6% of revenue).

**Alphabet Inc. Class A (GOOGL-US)**
**Internet Software & Services**
**Financial Data**

Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	09/30/2014	09/30/2015	09/30/2016	09/30/2017	09/30/2018	09/30/2019	09/30/2020	Average	Average	Trend
<b>Net Sales Revenue</b>	\$64,729.0	\$70,548.0	\$84,854.0	\$104,380.0	\$130,328.0	\$154,569.0	\$183,546.0	\$108,935.8	\$129,759.0	\$169,057.5
Sales Growth	13.05%	8.99%	20.28%	23.01%	24.86%	18.60%	18.75%	19.15%	22.16%	18.67%
Sales Growth Trend	16.21%	10.61%	15.76%	21.92%	24.12%	21.10%	18.69%	18.70%	22.38%	19.90%
<b>Operating Cash Flow (EBITDAR)</b>	\$30,800.2	\$35,135.5	\$43,716.5	\$52,665.6	\$62,128.0	\$74,403.6	\$89,486.2	\$53,609.8	\$63,065.7	\$81,944.9
EBITDAR Margin	47.58%	49.80%	51.52%	50.46%	47.67%	48.14%	48.75%	49.52%	48.75%	48.45%
EBITDAR Growth	18.57%	14.08%	24.42%	20.47%	17.97%	19.76%	20.27%	19.34%	19.40%	20.01%
<b>Net Operating Profit Before Tax (NOPBT)</b>	\$16,763.2	\$18,055.5	\$23,285.5	\$29,251.6	\$32,856.0	\$37,325.6	\$47,344.2	\$28,154.8	\$33,144.4	\$42,334.9
NOPBT Margin	25.90%	25.59%	27.44%	28.02%	25.21%	24.15%	25.79%	26.08%	25.79%	24.97%
NOPBT Growth	19.55%	7.71%	28.97%	25.62%	12.32%	13.60%	26.84%	17.64%	17.18%	20.22%
<b>Cash Operating Income Tax</b>	\$3,256.9	\$3,512.5	\$3,545.7	\$5,637.5	\$10,842.5	\$6,100.5	\$9,942.3	\$5,927.7	\$7,526.8	\$8,021.4
Economic Tax Effective Rate	19.43%	19.45%	15.23%	19.27%	33.00%	16.34%	21.00%	20.66%	22.87%	18.67%
<b>Net Operating Profit After Tax (NOPAT)</b>	\$13,506.3	\$14,543.0	\$19,739.8	\$23,614.1	\$22,013.5	\$31,225.2	\$37,401.9	\$22,227.1	\$25,617.6	\$34,313.5
NOPAT Margin	20.87%	20.61%	23.26%	22.62%	16.89%	20.20%	20.38%	20.72%	19.91%	20.29%
NOPAT Growth	14.83%	7.68%	35.73%	19.63%	-6.78%	41.85%	19.78%	19.62%	18.23%	30.81%
<b>Cash &amp; Equivalents</b>	\$62,157.0	\$77,580.0	\$87,161.0	\$102,112.0	\$117,689.0	\$132,465.0	\$157,220.3	\$103,401.4	\$117,422.0	\$144,842.6
<b>Total Assets</b>	\$125,781.0	\$144,281.0	\$159,948.0	\$189,536.0	\$221,538.0	\$263,044.0	\$312,202.1	\$195,669.4	\$224,706.0	\$287,623.1
<b>Non - Interest Bearing Liabilities (NIBLs)</b>	\$19,299.0	\$19,821.0	\$18,235.0	\$24,450.0	\$41,766.0	\$46,928.0	\$55,698.0	\$30,240.0	\$37,714.7	\$51,313.0
<b>Net Assets</b>	\$106,482.0	\$124,460.0	\$141,713.0	\$165,086.0	\$179,772.0	\$216,116.0	\$256,504.1	\$165,429.4	\$186,991.3	\$236,310.1
<b>Economic Asset Adjustments</b>	(\$2,100.7)	(\$2,761.1)	(\$1,137.0)	(\$2,893.8)	(\$6,365.8)	(\$11,133.2)	(\$13,213.8)	(\$4,858.2)	(\$6,797.6)	(\$12,173.5)
<b>Net Operating Assets</b>	\$104,381.3	\$121,698.9	\$140,576.0	\$162,192.2	\$173,406.2	\$204,982.8	\$243,290.3	\$160,571.2	\$180,193.7	\$224,136.5
<b>Debt &amp; Debt Equivalents</b>	\$8,816.3	\$10,607.9	\$10,244.0	\$10,800.2	\$11,624.2	\$22,614.8	\$26,841.0	\$13,178.2	\$15,013.1	\$24,727.9
<b>Equity &amp; Equivalents</b>	\$98,815.0	\$116,241.0	\$134,103.0	\$157,100.0	\$169,840.0	\$194,969.0	\$231,405.1	\$154,450.6	\$173,969.7	\$213,187.1
<b>Total Capital - Financing Sources</b>	\$107,631.3	\$126,848.9	\$144,347.0	\$167,900.2	\$181,464.2	\$217,583.8	\$258,246.2	\$167,628.8	\$188,982.7	\$237,915.0
<b>Capital Adjustments</b>	(\$5,678.0)	(\$8,138.0)	(\$7,443.0)	(\$9,730.0)	(\$14,004.0)	(\$20,000.0)	(\$23,737.6)	(\$11,863.0)	(\$14,578.0)	(\$21,868.8)
<b>Net Capital Financing Sources</b>	\$101,953.3	\$118,710.9	\$136,904.0	\$158,170.2	\$167,460.2	\$197,583.8	\$234,508.5	\$155,765.8	\$174,404.7	\$216,046.2
<b>Net Working Capital</b>	\$7,941.5	\$6,922.4	\$9,479.7	\$8,375.0	\$5,099.4	\$3,813.5	\$4,526.1	\$6,738.0	\$5,762.6	\$4,169.8
Cost of Net Working Capital	\$472.3	\$492.1	\$551.0	\$601.6	\$501.8	\$273.6	\$324.7	\$484.0	\$459.0	\$299.2
% of Revenue	0.73%	0.70%	0.65%	0.58%	0.39%	0.18%	0.18%	0.50%	0.38%	0.18%
<b>Operational Capital</b>	\$26,756.8	\$32,838.3	\$40,748.7	\$45,051.2	\$52,917.6	\$70,557.2	\$83,743.1	\$48,422.6	\$56,175.4	\$77,150.1
Cost of Operational Capital	\$1,525.8	\$1,973.0	\$2,471.9	\$2,891.2	\$3,648.6	\$3,790.6	\$4,498.9	\$2,955.1	\$3,443.5	\$4,144.7
% of Revenue	2.36%	2.80%	2.91%	2.77%	2.80%	2.45%	2.45%	2.75%	2.67%	2.45%
<b>Productive Capital</b>	\$46,961.8	\$52,536.3	\$60,143.7	\$64,665.2	\$73,260.6	\$90,373.2	\$107,262.3	\$68,195.8	\$76,099.7	\$98,817.8
Cost of Productive Capital	\$2,790.9	\$3,294.0	\$3,785.2	\$4,205.7	\$5,136.7	\$5,023.4	\$5,962.2	\$4,289.0	\$4,788.6	\$5,492.8
% of Revenue	4.31%	4.67%	4.46%	4.03%	3.94%	3.25%	3.25%	4.07%	3.74%	3.25%
<b>Total Operating Capital</b>	\$45,460.8	\$47,646.3	\$57,657.7	\$65,299.2	\$66,233.6	\$80,246.2	\$95,242.8	\$62,616.6	\$69,259.7	\$87,744.5
Cost of Total Operating Capital	\$2,712.7	\$3,082.5	\$3,537.4	\$4,143.3	\$4,749.7	\$4,374.0	\$5,191.4	\$3,977.4	\$4,422.3	\$4,782.7
% of Revenue	4.19%	4.37%	4.17%	3.97%	3.64%	2.83%	2.83%	3.80%	3.48%	2.83%
<b>Non - Operating Capital</b>	\$58,920.6	\$74,052.6	\$82,918.3	\$96,893.0	\$111,172.6	\$124,736.6	\$148,047.5	\$97,954.6	\$110,934.1	\$136,392.0
Cost of Non - Operating Capital	\$3,755.9	\$4,402.3	\$5,273.0	\$6,059.1	\$7,748.9	\$7,242.2	\$8,595.6	\$6,145.1	\$7,016.7	\$7,918.9
% of Revenue	5.80%	6.24%	6.21%	5.80%	5.95%	4.69%	4.68%	5.78%	5.48%	4.68%
<b>Total Capital</b>	\$104,381.3	\$121,698.9	\$140,576.0	\$162,192.2	\$173,406.2	\$204,982.8	\$243,290.3	\$160,571.2	\$180,193.7	\$224,136.5
Cost of Total Capital	\$6,468.5	\$7,484.8	\$8,810.4	\$10,202.4	\$12,498.6	\$11,616.2	\$13,787.0	\$10,122.5	\$11,439.0	\$12,701.6
% of Revenue	9.99%	10.61%	10.38%	9.77%	9.59%	7.52%	7.51%	9.57%	8.96%	7.51%
<b>Cost of Capital (WACC)</b>	6.67%	6.62%	6.72%	6.74%	7.45%	6.14%	6.14%	6.73%	6.78%	6.14%
<b>Capital Structure</b>										
<b>Debt &amp; Debt Equivalents</b>	\$8,816.3	\$10,607.9	\$10,244.0	\$10,800.2	\$11,624.2	\$22,614.8	\$26,841.0	\$13,178.2	\$15,013.1	\$24,727.9
Debt & Debt Equivalents % of Market Value	2.38%	2.62%	1.99%	1.70%	1.47%	2.79%	2.79%	2.09%	2.01%	2.79%
<b>Preferred Equity</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Preferred Equity % of Market Value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>Market Value of Common Equity</b>	\$361,998.4	\$393,517.5	\$505,077.7	\$623,727.5	\$778,387.9	\$789,184.1	\$936,668.1	\$617,978.9	\$730,433.2	\$862,926.1
Common Equity % of Market Value	97.62%	97.38%	98.01%	98.30%	98.53%	97.21%	97.21%	97.91%	97.99%	97.21%
<b>Total Economic Market Value (MV)</b>	\$370,814.7	\$404,125.4	\$515,321.7	\$634,527.8	\$790,012.2	\$811,798.8	\$963,509.2	\$631,157.2	\$745,446.3	\$887,654.0
Total %	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
<b>Excess Cash</b>	\$58,920.6	\$74,052.6	\$82,918.3	\$96,893.0	\$111,172.6	\$124,736.6	\$148,047.5	\$97,954.6	\$110,934.1	\$136,392.0
<b>Economic Enterprise Value</b>	\$311,894.2	\$330,072.8	\$432,403.4	\$537,634.8	\$678,839.6	\$687,062.3	\$815,461.6	\$533,202.6	\$634,512.2	\$751,262.0
<b>Average Capital</b>	\$94,733.0	\$110,332.1	\$127,807.5	\$147,537.1	\$162,815.2	\$182,522.0	\$216,046.2	\$146,202.8	\$164,291.5	\$199,284.1
Capital Δ	\$14,440.7	\$16,757.6	\$18,193.1	\$21,266.2	\$9,290.0	\$30,123.5	\$36,924.8	\$19,126.1	\$20,226.6	\$33,524.2

Source: Company Data, Financial statements and Tigress Research

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Company Report – Research Update

Alphabet Inc. Class A (GOOGL-US)

Internet Software & Services

Financial Analysis

Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	09/30/2014	09/30/2015	09/30/2016	09/30/2017	09/30/2018	09/30/2019	09/30/2020	Average	Average	Trend
Return on Market Value (NOPAT / MV)	3.64%	3.60%	3.83%	3.72%	2.79%	3.85%	4.57%	3.56%	3.45%	4.21%
Return on Enterprise Value (NOPAT / EV)	4.33%	4.41%	4.57%	4.39%	3.24%	4.54%	5.39%	4.23%	4.06%	4.97%
Return on Capital (NOPAT / Average Capital)	14.26%	13.18%	15.44%	16.01%	13.52%	17.11%	17.31%	15.05%	15.54%	17.21%
Cost of Capital (WACC)	6.67%	6.62%	6.72%	6.74%	7.45%	6.14%	6.14%	6.73%	6.78%	6.14%
Economic Return Spread	7.58%	6.56%	8.73%	9.27%	6.07%	10.97%	13.02%	8.32%	8.77%	11.99%
Capital Charge	\$6,320.9	\$7,305.4	\$8,586.6	\$9,943.1	\$12,127.4	\$11,206.5	\$13,300.8	\$9,833.8	\$11,092.3	\$12,253.6
Economic Profit (EP)	\$7,185.4	\$7,237.5	\$11,153.2	\$13,671.0	\$9,886.1	\$20,018.7	\$23,759.8	\$12,393.3	\$14,525.3	\$21,889.2
Economic Profit Improvement (EPI)	\$1,260.0	\$52.1	\$3,915.7	\$2,517.8	(\$3,784.9)	\$10,132.6	\$3,741.1	\$2,566.6	\$2,955.2	\$6,936.9
EP Growth	21.26%	0.72%	54.10%	22.58%	-27.69%	102.49%	18.69%	30.44%	32.46%	60.59%
Economic Profit Margin on Sales	11.10%	10.26%	13.14%	13.10%	7.59%	12.95%	12.94%	11.41%	11.21%	12.95%
Economic Profit Per Share	\$10.80	\$10.71	\$16.29	\$19.88	\$14.27	\$28.80	\$34.18	\$17.99	\$20.98	\$31.49
GAAP Earnings Per Share	\$19.41	\$21.97	\$27.75	\$30.38	\$26.99	\$46.98	\$52.24	\$30.81	\$34.79	\$49.61
Excess Cash Per Share	\$87.02	\$107.88	\$120.60	\$139.72	\$159.81	\$180.06	\$213.71	\$141.61	\$159.87	\$196.89
<b>Performance Drivers</b>										
Sales Growth	13.05%	8.99%	20.28%	23.01%	24.86%	18.60%	18.75%	19.15%	22.16%	18.67%
Sales Growth Trend (ROC Sales Growth)	16.21%	10.61%	15.76%	21.92%	24.12%	21.10%	18.69%	18.70%	22.16%	19.90%
EBITDAR Margin	47.58%	49.80%	51.52%	50.46%	47.67%	48.14%	48.75%	49.52%	48.75%	48.45%
EBITDAR Growth	18.57%	14.08%	24.42%	20.47%	19.79%	19.76%	20.27%	19.34%	19.40%	20.01%
NOPBT Margin	25.90%	25.59%	27.44%	28.02%	25.21%	24.15%	25.79%	26.08%	25.79%	24.97%
NOPBT Growth	19.55%	7.71%	28.97%	25.62%	12.32%	13.60%	26.84%	17.64%	17.18%	20.22%
NOPAT Margin	20.87%	20.61%	23.26%	22.62%	16.89%	20.20%	20.38%	20.72%	19.91%	20.29%
NOPAT Growth	14.83%	7.68%	35.73%	19.63%	-6.78%	41.85%	19.78%	19.62%	18.23%	30.81%
Economic Profit Margin on Sales (EP / Sales)	11.10%	10.26%	13.14%	13.10%	7.59%	12.95%	12.94%	11.41%	11.21%	12.95%
Economic Profit Growth	21.26%	0.72%	54.10%	22.58%	-27.69%	102.49%	18.69%	30.44%	32.46%	60.59%
Economic Return Spread (ROC-WACC)	7.58%	6.56%	8.73%	9.27%	6.07%	10.97%	13.02%	8.32%	8.77%	11.07%
Economic Return Ratio (ROC / WACC)	213.68%	199.07%	229.89%	237.49%	181.52%	278.63%	281.96%	225.32%	232.55%	280.30%
Economic Profit Momentum (ΔEP/Capital)	1.24%	0.04%	2.86%	1.59%	-2.26%	5.13%	1.60%	1.47%	1.49%	3.36%
Economic Profit Momentum Margin (ΔEP/Sales)	1.95%	0.07%	4.61%	2.41%	-2.90%	6.56%	2.04%	2.15%	2.02%	4.30%
Capital Growth	16.50%	16.44%	15.33%	15.53%	5.87%	17.99%	18.69%	14.23%	13.13%	18.34%
Capital Turns	0.63X	0.59X	0.62X	0.66X	0.78X	0.78X	0.78X	0.69X	0.74X	0.78X
EVC Acceleration Margin	2.20%	0.08%	5.55%	2.97%	-3.63%	7.77%	2.42%	1.40%	2.71%	5.35%
EVC Acceleration Spread	1.54%	0.05%	3.55%	1.97%	-2.57%	6.22%	2.05%	1.19%	2.02%	4.22%
<b>Risk Factors</b>										
Free Cash Flow (NOPAT - Δ Capital)	(\$934.5)	(\$2,214.6)	\$1,546.7	\$2,347.9	\$12,723.5	\$1,101.6	\$477.1	\$3,101.0	\$5,391.0	\$789.4
Free Cash Flow Rate (FCF / Capital)	-0.92%	-1.87%	1.13%	1.48%	7.60%	0.56%	0.20%	1.78%	3.21%	0.38%
Free Cash Flow Yield (FCF / MV)	-0.25%	-0.55%	0.30%	0.37%	1.61%	0.14%	0.05%	0.37%	0.71%	0.09%
Total Debt / Total Capital	8.65%	8.94%	7.48%	6.83%	6.94%	11.45%	11.45%	8.33%	8.41%	11.45%
Total Debt / EBITDAR	28.62%	30.19%	23.43%	20.51%	18.71%	30.39%	29.99%	24.65%	23.20%	30.19%
Excess Cash	\$58,920.6	\$74,052.6	\$82,918.3	\$96,893.0	\$111,172.6	\$124,736.6	\$0.0	\$97,954.6	\$110,934.1	\$62,368.3
Financial Leverage ((Total Debt - Excess Cash) / Pension Leverage (Net Pension Liability / MV)	-13.51%	-15.70%	-14.10%	-13.57%	-12.60%	-12.58%	2.79%	-13.71%	-12.92%	-4.90%
Equity Risk Index (S&P 500 = 1.00)	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Stock Price Volatility	3.04	3.85	3.82	2.56	2.94	3.31	3.31	3.30	2.94	3.31
Sales Index (NL Sales)	11.08	11.16	11.35	11.56	11.78	11.95	12.12	11.56	11.76	12.03
Market Value Index (NL Market Value)	12.82	12.91	13.15	13.36	13.58	13.61	13.78	13.32	13.52	13.69
Size Index (NL Sales: MV)	11.95	12.04	12.25	12.46	12.68	12.78	12.95	12.44	12.64	12.86
Beta	0.98	0.98	0.98	0.98	0.98	0.99	0.99	0.98	0.98	0.99
TFP Adjusted Beta	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Stock Price Volatility	3.04	3.85	3.82	2.56	2.94	3.31	3.31	3.30	2.94	3.31
<b>Valuation Measures</b>										
Total Economic Market Value (MV)	\$370,814.7	\$404,125.4	\$515,321.7	\$634,527.8	\$790,012.2	\$811,798.8	\$963,509.2	\$631,157.2	\$745,446.3	\$887,654.0
Economic Enterprise Value	\$311,894.2	\$330,072.8	\$432,403.4	\$537,634.8	\$678,839.6	\$687,062.3	\$815,461.6	\$533,202.6	\$634,512.2	\$751,262.0
Equity Market Value	\$361,998.4	\$393,517.5	\$505,077.7	\$623,727.5	\$778,387.9	\$789,184.1	\$936,668.1	\$617,978.9	\$730,433.2	\$862,926.1
Total Capital	\$104,381.3	\$121,698.9	\$140,576.0	\$162,192.2	\$179,406.2	\$204,982.8	\$243,290.3	\$160,571.2	\$180,193.7	\$224,136.5
Market Value Created MVC (MV - Capital)	\$266,433.4	\$282,426.5	\$374,745.7	\$472,335.5	\$616,605.9	\$606,816.1	\$720,218.9	\$470,585.9	\$555,252.5	\$663,517.5
MVC Margin (MVC / Sales)	411.61%	400.33%	441.64%	452.52%	473.12%	392.59%	392.39%	431.98%	435.62%	392.48%
MVC Spread (MVC / Capital)	255.25%	232.07%	266.58%	291.22%	355.58%	296.03%	296.03%	293.07%	313.69%	296.03%
Current EVC Value (EP / WACC)	\$107,690.8	\$109,306.2	\$166,008.9	\$202,852.1	\$132,725.1	\$326,048.1	\$386,980.5	\$184,054.4	\$214,366.1	\$356,514.3
Current Operations Value COV	\$202,423.8	\$219,638.3	\$293,816.3	\$350,389.2	\$295,540.3	\$508,570.1	\$603,026.7	\$330,257.2	\$378,657.5	\$555,798.4
Current Operations Value Per Share	\$304.37	\$324.94	\$429.16	\$509.45	\$426.53	\$731.61	\$877.42	\$480.53	\$547.24	\$804.10
Future Growth Value (MVC - EVA Value)	\$168,391.0	\$184,487.1	\$221,505.4	\$284,138.5	\$494,471.8	\$303,228.7	\$360,482.5	\$300,900.0	\$366,788.7	\$331,855.6
Future Growth Value Reliance (FGV / MV)	45.41%	45.65%	42.98%	44.78%	62.59%	37.35%	37.41%	47.67%	49.20%	37.39%
Share Price	\$588.41	\$638.37	\$804.06	\$973.72	\$1,207.08	\$1,221.14	\$1,221.14	\$968.87	\$1,133.98	\$1,221.14
Dividend Yield	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Shareholder Return (TTM)	34.22%	8.49%	25.96%	21.10%	23.97%	1.16%	0.00%	-20.66%	17.04%	7.69%
MV to IC Ratio	3.55X	3.32X	3.67X	3.91X	4.56X	3.96X	3.96X	3.93X	4.14X	3.96X
EV / EBITDAR Multiple	10.13X	9.39X	9.89X	10.21X	10.93X	9.23X	9.11X	9.95X	10.06X	9.17X
EV / NOPBIT Multiple	18.61X	18.28X	18.57X	18.38X	20.66X	18.41X	17.22X	18.94X	19.14X	17.75X
EV / NOPAT Multiple	23.09X	22.70X	21.91X	22.77X	30.84X	22.00X	21.80X	23.99X	24.77X	21.89X
EV / EP Multiple	43.41X	45.61X	38.77X	39.33X	68.67X	34.32X	34.28X	43.02X	43.68X	34.32X
Future Growth Value (% of MV)	45.41%	45.65%	42.98%	44.78%	62.59%	37.35%	37.41%	47.67%	49.20%	37.39%
Current Operations Value (% of MV)	54.59%	54.35%	57.02%	55.22%	37.41%	62.65%	62.59%	52.33%	50.80%	62.61%
Market Value (COV + FGV %)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Basic Shares Outstanding	665.0	675.9	684.6	687.8	692.9	695.1	687.3	687.3	691.9	691.2

Source: Company Data, Financial statements and Tigress Research

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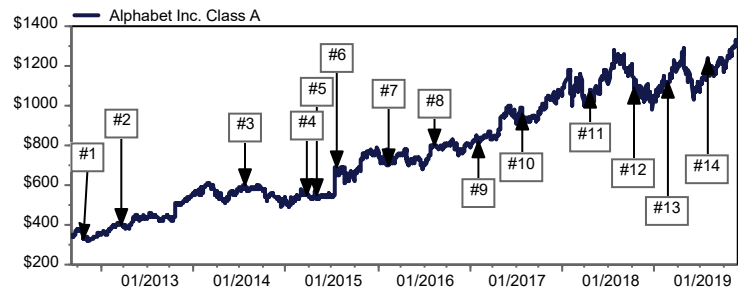
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**Alphabet Inc. Class A (GOOGL-US)**
**Internet Software & Services**
**Ratings History**

Alphabet Inc. Class A (GOOGL-US)				
Item #	Date	Research Action	Rating	Price
#14	07/29/2019	Reiterate Rating	Strong Buy	\$1,241.84
#13	02/19/2019	Reiterate Rating	Strong Buy	\$1,126.51
#12	10/10/2018	Reiterate Rating	Strong Buy	\$1,092.16
#11	04/17/2018	Reiterate Rating	Strong Buy	\$1,079.00
#10	07/26/2017	Reiterate Rating	Strong Buy	\$965.31
#9	01/30/2017	Reiterate Rating	Strong Buy	\$823.83
#8	08/16/2016	Reiterate Rating	Strong Buy	\$801.19
#7	02/09/2016	Reiterate Rating	Strong Buy	\$701.02
#6	07/20/2015	Reiterate Rating	Strong Buy	\$692.84
#5	05/01/2015	Reiterate Rating	Strong Buy	\$551.16
#4	03/27/2015	Reiterate Rating	Strong Buy	\$557.55
#3	07/23/2014	Reiterate Rating	Strong Buy	\$605.19
#2	03/20/2013	Reiterate Rating	Strong Buy	\$407.75
#1	10/25/2012	Initiation of Coverage	Strong Buy	\$339.21


**Tigress Research Methodology Overview**

We employ proprietary quantitative valuation models combined with dynamic fundamental analysis based on the principles of Economic Profit to formulate timely and insightful investment ratings, analysis, strategies, and recommendations.

We make key adjustments to reported financial data eliminating GAAP-based accounting distortions and measuring all companies on a cash operating basis.

Our proprietary research framework is a multi-factor model that scores and ranks companies based on their risk-adjusted ability to create Economic Profit relative to their current market value focusing on three key components:

**Business Performance:** Measuring economic profitability, growth and operating efficiency.

**Risk:** Measuring business sustainability, volatility, strength, and consistency.

**Valuation:** Linking business performance to market value. Measuring value created relative to capital employed and enterprise multiples of economic profit and cash flow.

We score and rank 24 key measurements of performance, risk, and value into relative market and industry investment recommendations.

**Glossary of Key Terms and Measures**

<b>Excess Cash per Share:</b>	Excess Cash per Share is the amount of excess cash divided by basic shares outstanding. Excess Cash consists of all cash and short-term securities less operating cash needed to run the business. Operating Cash is 5% of TTM net sales revenue.
<b>EBITDAR:</b>	Earnings Before Interest, Taxes, Depreciation, Amortization, and Restructuring and Rent Costs. This is especially important when comparing companies that use a significant amount of leased assets like restaurants and retailers.
<b>NOPAT:</b>	Net Operating Profit after Tax represents a company's after-tax cash operating profit excluding financing costs.
<b>Total Invested Capital:</b>	Total Invested Capital the total cash investment that shareholders and debt holders have made during the life of the company.
<b>Return on Capital:</b>	Return on Capital equals NOPAT divided by Total Invested Capital. It is a key measure of operating efficiency. ROC quantifies how well a company generates cash flow relative to the capital invested in its business.
<b>Cost of Capital:</b>	Is the proportionately weighted cost of each category of capital – common equity, preferred equity and debt.
<b>Economic Profit:</b>	Economic Profit is the net operating income after tax less the opportunity cost of the total capital invested. It is the most important driver of shareholder value.
<b>Current Operations Value:</b>	Current Operations Value is the portion of market value based on the discounted present value of the current earnings stream assuming it remains constant forever.
<b>Future Growth Value:</b>	Future Growth Value is the portion of market value based on un-earned Economic Profit

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**Analyst Certification**

I, Ivan Feinseth, hereby certify that the views expressed herein accurately reflect my personal views about the subject company and their securities and that I have not been and will not be directly or indirectly compensated for expressing specific recommendations or views in the report.

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Tigress Research employs a five-tier rating system for evaluating the investment opportunity and potential return associated with owning the common equity of rated firms within our research universe. The potential return is measured on a relative basis to the general market which is represented by the S&P 500 and to the subject company's industry peer group as indicated.

Rating:	Meaning:
<b>Strong Buy:</b>	Expect significant price gains in the price of the stock relative to its industry peer group and general market over the next 12 months.
<b>Buy:</b>	Expect out-performance for the price of the stock relative to its industry peer group and general market over the next 12 months.
<b>Neutral:</b>	Expect little or no outperformance opportunity over the next 12 months.
<b>Underperform:</b>	Expect underperformance for the price of the stock relative to its industry peer group and general market over the next 12 months.
<b>Sell:</b>	Expect price decline or significant relative market and industry underperformance over the next 12 months.
<b>Not Rated</b>	No Current Research Rating

**Rating Distribution (11/21/2019)**

	Companies Under Coverage		Relationship Companies Under Coverage*	
	#	%	#	%
<b>Strong Buy:</b>	16	13%	1	15%
<b>Buy:</b>	56	46%	5	70%
<b>Neutral:</b>	44	37%	1	15%
<b>Underperform:</b>	5	4%	0	0%
<b>Sell:</b>	0	0%	0	0%
<b>Not Rated</b>	NA	NA	65	NA
<b>Total</b>	121	100%	72	100%

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<b>Company:</b>	<b>Disclosure:</b>
Alphabet Inc. Class A (GOOGL-US)	14

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