



# Tech Industry - Corporate Finance Analysis

## **Alphabet, Amazon, Meta, Netflix, Rakuten**

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Alphabet



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## Executive Summary:

Company	Alphabet	Amazon	Meta Platforms	Netflix	Rakuten
Corporate Governance Score	0	0	0	0	0.5
Marginal Investor	Institutional	Institutional	Institutional	Institutional	Institutional
Regression Beta	1.174	1.061	1.324	1.475	0.973
Jensen's Alpha (% annualized)	0.13%	-0.173	-0.293%	-1.16%	-8.49%
R Squared (%)	52.00%	0.339	33.70%	25.92%	16.30%
Bottom up Levered Beta (%)	1.11	1.06	1.13	1.364	2.33
Equity Risk Premium	6.54%	4.28%	4.29%	5.81%	5.68%
Cost of equity (%)	9.88%	7.23%	7.53%	10.82%	7.58%
Debt to Capital Ratio	5.66%	5.75%	2.74%	26.40%	45.16%
Cost of debt (pre-tax) (%)	3.52%	3.52%	3.84%	5.20%	1.64%
Cost of Capital (%)	9.87%	6.89%	7.42%	8.96%	4.90%
Return on Equity (%)	22.84%	13.14%	26.60%	31.59%	Not meaningful
Return on Capital	36.07%	10.68%	36.02%	16.20%	Not meaningful
Optimal Debt Ratio (%)	50%	10%	30%	20%	30%
Change in Value (in % terms)	3.27%	0.52%	7.52%	2.03%	7.13%
Dividends in most recent periods (Total \$)	0	0	0	0	¥ 6,131
Buybacks in most recent periods (Total \$)	70,000,000,000	0	44,538,000,000	600,022,000	0
FCFE in most recent periods (Total \$)	65,776,000,000	-2,616,000,000	28,849,000,000	-1,334,763,000	¥1,921,530,800
Price per share (\$)	2313	3334.34	207.01	191.93	¥2,088.28
Value per share (\$)	3509	2290	788.24	192.78	¥918

*\*For all data \$ will be used to denote US Dollars and ¥ will be used to express Japanese Yens. \$ is assumed as selected monetary unit except when noted.*

## 1. Company Description

**Alphabet:** Alphabet is the holding company of Google, the firm behind the world's largest search engine (Google), the world's most used smartphone operating system (Android), and a multitude of other internet-based services, including the world's largest video-sharing site (YouTube). Alphabet's other holdings include Chrome, Gmail, Google Drive, Google Maps, Google Photos, Google Play, Search; and the Other Bets include emerging businesses at various stages of development, ranging from those in the research and development phase to those that are in the beginning stages of commercialization, and the company's goal is for them to become thriving, successful businesses in the medium to long term.. It generates over 50% of its revenue outside the US. (Source: Bloomberg, DES<GO>)

**Amazon:** Amazon.com, Inc. is an online retailer that offers a wide range of products. The Company products include books, music, computers, electronics and numerous other products. Amazon offers personalized shopping services, Web-based credit card payment, and direct shipping to customers. Amazon also operates a cloud platform offering services globally. Amazon.com designs its stores to enable hundreds of millions of unique products to be sold by the company and by third parties across dozens of product categories. Customers access its offerings through its websites, mobile apps, Alexa, devices, streaming, and physically visiting its stores. In terms of electronics, Amazon manufactures and sells electronic devices, including Kindle, Fire tablet, Fire TV, Echo, Ring, and other devices, and develops and produces media content. Amazon serve consumers, sellers, developers, enterprises, content creators, advertisers, and employees. Amazon acquired MGM for approximately \$8.45 billion in 2021. Majority of sales were generated in the US. (Source: Bloomberg, DES<GO>)

**Meta Platforms:** Meta builds useful and engaging products that enable people to connect and share with friends and family through mobile devices, personal computers, virtual reality headsets, and in-home devices. Meta, which allows outside developers to build apps that integrate with Facebook, boasts 3 billion monthly active users. In addition to its namesake platform, Facebook owns photo and video sharing site Instagram, messaging applications Messenger and WhatsApp, and virtual reality platform Facebook Reality Labs. The company generates approximately 55% of total sales accounts outside the US. In late 2021, Facebook changed its corporate name to Meta Platforms, Inc. (Source: Bloomberg, DES<GO>)

**Netflix:** Netflix is one of the world's leading entertainment services with approximately 222 million paid memberships in over 190 countries enjoying TV series, documentaries, feature films and mobile games across a wide variety of genres and languages. Members can enjoy content virtually anywhere and anytime on any internet-connected screen--all without commercials. The company continues to offer DVD-by-mail service in the US. Netflix has over 220 million paid subscribers in more than 190 countries. (Source: Bloomberg, DES<GO>)

**Rakuten:** Rakuten is Japan's largest online retailer (80 million users) and a leading provider of Internet-based services. Its Rakuten-branded sites offer shopping, auctions, books and CDs, travel arrangements, and online brokerage services. Other online properties include job search portal Infoseek and Buy.com in the US and Thailand's TARAD.com shopping site. Offline, the company's activities include ownership of a professional baseball team, a telecom carrier, a financial services division, an online marketer, and a bus service. Rakuten's Fusion Communications provides Internet phone service. The company, which has operations in 10 countries, was founded in 1997 by chairman and CEO Hiroshi Mikitani. (Source: Bloomberg, DES<GO>)

## 2. Corporate Governance

Company	CEO	Yrs in Role	Salary (Million)	Bonus (Million)	Other Comp (Million)	Stock Options (Million)	Total Comp (Million)	% Ownership	% Voting Rights
Alphabet	Sundar Pichai	7	\$2	-	\$5.4	-	\$6.4	-	-
Amazon	Andy Jassy	1	-	-	-	-	-	-	-
Meta	Mark Zuckerberg	18	\$0.000001	-	-	-	\$0.000001	13%	57%
Netflix	Reed Hastings, Ted Sarandos	RH - 24 TS - 2	RH \$0.7 TS \$20	-	RH \$0.1M TS \$1.0M	RH \$42 TS \$18	RH \$43 TS \$39	<2%	<2%
Rakuten	Hiroshi Mikitani	21	¥10	-	-	¥160	¥170	11.15%	11.15%

Table 1: CEO Information

Company	Corporate Governance Score	Board Members	Insiders	Avg. Tenure (Years)	ISS Score Breakdown				
					Audit	Board	Shareholder Rights	Compensation	Overall
Alphabet	2	11	3	12.4	9	3	10	10	9
Amazon	0	10	2	7	5	7	2	10	9
Meta	0	10	2	6.3	10	9	10	10	10
Netflix	0	12	2	10.6	8	10	10	10	10
Rakuten	0.5	9	4	8.1	1	5	9	8	8

Table 2: Corporate Governance (ISS Scores: 1 is low risk, 10 is high risk)

**Alphabet:** Sundar Pichai, the Chief Executive Officer of Alphabet since December 2019 and Google since October 2015, has served on the board of directors since July 2017. Pichai previously served as Google's Senior Vice President of Products from October 2014 to October 2015, and as Google's Senior Vice President of Android, Chrome and Apps from March 2013 to October 2014. Since joining Google in April 2004, Sundar has held various positions, including Google's Senior Vice President, Chrome and Apps; Senior Vice President, Chrome; and Vice President, Product Management. John L. Hennessy has served as a member of our Board of Directors since April 2004 and as Chair of the Board of Directors since January 2018. Larry Page is one of Google's Co-Founders and has served as a member of our Board of Directors since its inception in September 1998. Larry previously served as Google's Chief Executive Officer from April 2011 to October 2015, and as Alphabet's Chief Executive Officer from October 2015 to December 2019.

The size of Alphabet's board of directors consists of 15 members consisting of directors and executive officers. 12 out of 15 members served on the board of the firm for more than 5 years. The co-founders Sergey Brin and Larry Page hold more than 50% of the voting rights (majority being class-B shares).

**Amazon:** Mr. Jassy has been President and Chief Executive Officer of the Company since July 2021. He founded and led Amazon Web Services since its inception, serving as its CEO from April 2016 to July 2021 and its Senior Vice President from April 2006 until April 2016. Mr. Jassy joined the Company in 1997, and, prior to founding AWS, he held various leadership roles across the Company, including both

business-to-business and Business-to-consumer. Mr. Bezos has been Chair of the Board since founding the Company in 1994. Prior to becoming Executive Chair in July 2021, he served as Chief Executive Officer from May 1996 to July 2021 and as President from founding until June 1999 and again from October 2000 to July 2021.

Amazon's board of directors are largely independent (insiders: Mr. Bezos - previous CEO, current executive chair of board, Mr. Jassy - current CEO). Although 6 out of 10 members of the board have served for more than 5 years, the remaining board members are diverse - with 4 out of 10 nominees having served for less than 5 years. One key thing to note here is that Amazon has an ISS score of 2 for shareholder rights, which is significantly lower than the other companies that we have looked at.

**Meta:** Mark Zuckerberg has been the CEO of Meta Platforms since the company was founded as Facebook in 2004. Mark, or 'Zuck' as he's better known, takes a token total compensation of a dollar each year. He does however own about 13% of the company through his holdings of class A and class B shares of Meta.

Meta's board of directors is largely independent with two insiders (CEO Mark Zuckerberg and CFO Sheryl Sandberg). Its Audit and Compensation committees are independent as well with no insiders on either of them. However, Zuckerberg controls over 57% of the voting rights through his ownership of over 82% of Class B shares. This significantly increases risk and lowers Meta's corporate governance score to 0. The high risk is also reflected in the ISS scores for Meta with the company ranking in the top decile for Audit, Shareholder Rights, Compensation and the overall score.

**Netflix:** Reed Hastings is the co-founder of Netflix, and has been the company's CEO since the beginning in 1998. He also serves as the chairman of the board. His compensation split is 98% stocks and 2% salary. Theodore "Ted" Sarandos has been Netflix co-CEO since July of 2020, previously he served as its Co-Chief Executive Officer & Director since 2000. His compensation is close to 50% salary and 50% stock options.

Netflix's board of directors only has two insiders (Both co-CEO), but even with this it is hardly considered an independent board as 7 of its 10 members have served as board directors for over 7 years (3 of the 10 are also CEOs of other companies). Their Audit committee is independent, but compensation is ambiguous as it is handled by a board member who has served in this position for over 19 years. Hastings serving as the chairman of the board, and the long tenure of most board members, it's why Netflix has a high risk in corporate governance, with the company's ISS scores ranking in the top riskiest decile for all categories except for Audit where it ranks in the 8th riskiest decile.

**Rakuten:** Hiroshi Mikitani (Mickey) is the CEO of Rakuten and is a founder of the company. He owns a 11.15% stake in Rakuten.

Rakuten's board of directors is composed of 4 insiders and 5 outside directors. This shows that the ratio of independent directors is less than other tech companies among five companies we researched. This mainly comes from the differences in corporate governance between Japan and the US. On the other hand, its Audit committees are mostly independent with three independent and one insider. This makes the the company's ISS score low, 1, compared to others.

### 3. Stockholder Analysis

Company	Institutions	Float Held by Institutions	Individuals	Insiders
Alphabet (Class A)	86.19%	86.34%	13.81%	0.18%
Alphabet (Class B)	71.82%	82.86%	28.18%	13.55%
Amazon	65.58%	75.16%	34.42%	9.85%
Meta (Class A)	86.11%	86.54%	13.89%	0.5%
Netflix	94.91%	96.14%	5.09%	1.29%
Rakuten	33.46%	59.27%	66.54%	11.17%

Table 3: Institutional, Individual and Insider Holders

Looking at the above table, it's clear that institutional investors are the marginal investors in each of the companies covered in our analysis based on the percentage of float held by institutional investors. This tells us that the marginal investors in these companies are diversified, satisfying a critical assumption of most established risk and return models. However, institutional investors are not known to challenge a company's management. They vote with their money, and will divest from a company if they believe it is underperforming as was the case of Netflix over the first quarter of 2022.

### 4. Risk and Return

Company	Regression Beta	Alpha	Jensen's Alpha	R-Square
Alphabet	1.174	0.170%	0.13%	52%
Amazon	1.061	-0.170%	-0.173%	33.9%
Meta	1.324	-0.307%	-0.293%	33.70%
Netflix	1.475	-1.17%	-1.16%	25.92%
Rakuten	0.973	-8.5%	-8.49%	16.30%

Table 4: Risk and Return Characteristics

In this section, we computed the risk, cost of debt, cost of equity and cost of capital for each of our companies. The regression betas for all companies were computed using a 2 year period with weekly sampling. The TOPIX was used as the reference index for Rakuten, while the S&P 500 was used as the reference index for all other companies. As is evident from the Jensen's Alpha of each company in Table 4, all companies except Alphabet underperformed expectations during the period of the regression analysis. We attribute this to the recent sell-off of tech stocks globally due to the challenging macroeconomic environment created by rising inflation and interest rates. In the case of Amazon and Rakuten, the global supply chain slowdown has also had an impact on the performance of each company's stock. Meta reported an unexpected decline in user growth in Q1 2022 which led to substantial selloff of the company's stock as investors foresee increased competition from Tik-Tok..

### Hurdle Rate:

The regression betas are estimates and not precise as they are subject to standard error introduced by the statistical analysis and frequency of samples used. To supplement the regression beta, we computed “Bottom-Up” unlevered and levered betas using industry averages. The “Bottom-Up” betas, along with the data used to compute them are listed in Table 5 below. The bottom-up levered beta was then used to calculate the cost of equity for each of the companies using its market values of debt and equity. As can be seen from Table 5, Rakuten has a comparatively high cost of equity despite the low risk free rate of 0.06%. This can be attributed to its high debt to capital ratio which pushes its bottom-up levered beta up to 2.33, the highest in this group of companies. Rakuten also has the largest difference between its regression beta and bottom-up levered beta. At the other end of spectrum is Amazon, with nearly identical regression beta and bottom-up levered beta as is illustrated in Figure 1.

Also worth noting is that Alphabet, Meta, Netflix and Rakuten generate over half of their revenue from outside the United States, with Rakuten generating over 83% of its revenue in Japan. Amazon generates the majority of their revenues from the United States. This geographic distribution of business is reflected in the weighted average ERPs of the companies, with Amazon having the lowest ERP.

Company	Bottom Up Unlevered Beta	MV of Debt (Bn)	MV of Equity (Bn)	Debt to Capital Ratio	Bottom Up Levered Beta	Weighted Avg ERP	Cost of Equity
Alphabet	0.98	\$92.015	\$1,533.71	5.66%	1.1	6.54%	9.88%
Amazon	1.06	\$101.317	\$1,662	5.75%	1.06	4.28%	7.20%
Meta	0.91	\$14.73	\$523.62	2.74%	1.13	4.29%	7.55%
Netflix	1.12	\$30.57	\$85.31	26.4%	1.36	5.20%	10.82%
Rakuten	0.84	¥2,550,251	¥1,452,033	63.72%	2.33	5.68%	10.67%

Table 5: Cost of Equity

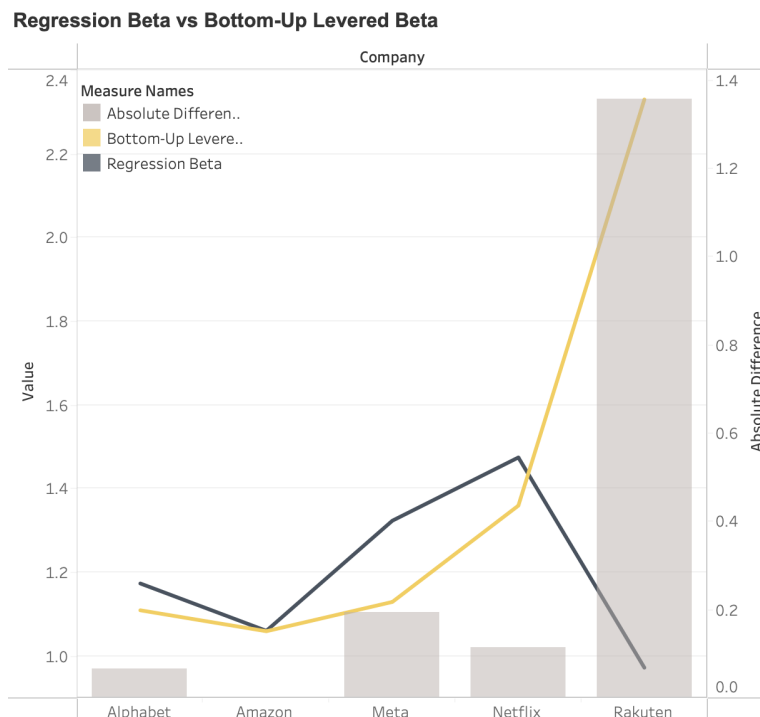


Figure 1: Regression Beta Vs Bottom-Up Levered Beta

Company	Risk Free Rate	Rating	Default Spread	Pre- Tax Cost of Debt	Marginal Tax Rate	After-Tax Cost of Debt	Cost of Capital	Industry	Industry Avg. WACC
Alphabet	2.70%	AA2	0.82%	3.52%	27%	3.00%	9.87%	Advertising	5.64%
Amazon	2.70%	AA2	0.82%	3.52%	27%	3.00%	6.93%	Software (Internet)	5.52%
Meta	2.70%	AAA	1.14%	3.84%	27%	2.80%	7.42%	Advertising	5.64%
Netflix	2.89%	Ba1	2.31%	5.20%	27%	3.79%	8.96%	Entertainment	5.38%
Rakuten	0.06%	BB+	2.31%	2.37%	30.62%	1.64%	4.92%	Online Retail	5.92%

Table 6: Cost of Debt and Cost of Capital

Costs of Debt, Equity and Capital with Debt Ratio

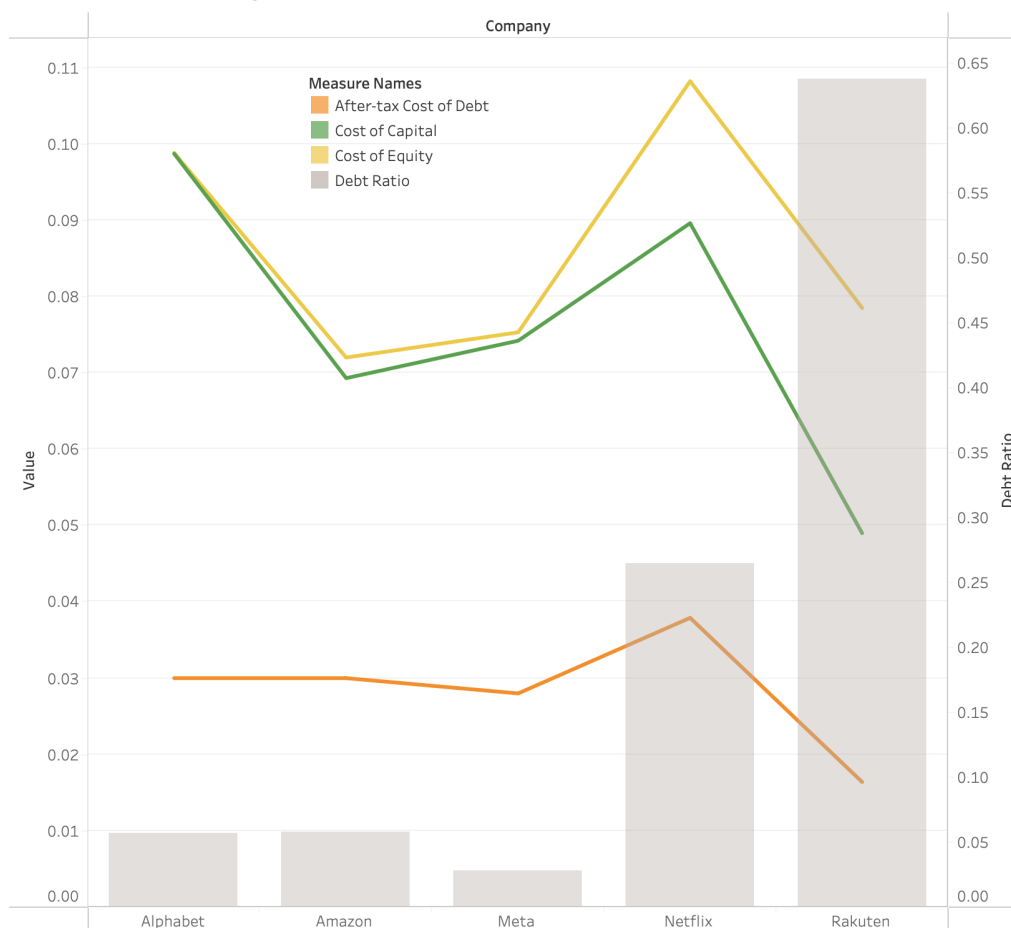


Figure 2: Costs of Debt, Equity and Capital with Debt Ratio

Amongst the companies in this group, Alphabet and Netflix have the highest cost of capital. Rakuten is at the other end of the spectrum and has a significantly low cost of capital of 4.92%, which is lower than the industry average WACC of 5.92% for Online Retail. All other companies have a cost of capital that is higher than the WACC for the corresponding industries. Netflix's high cost of capital comes from their high default spread due to the recently updated rating to Ba1. Looking at Figure 2, we can clearly see the



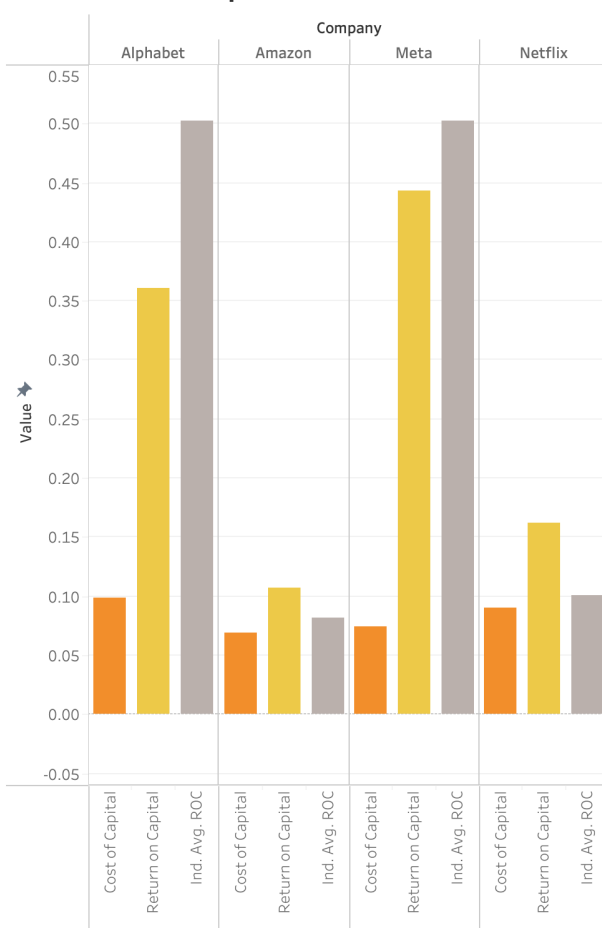
impact of leverage on the cost of capital of each company, with companies with higher debt ratios having a cost of capital much lower than their cost of equity.

## 5. Measuring Investment Returns

Company	ROC	Cost of Capital	ROC - WACC	BV Capital	ROE	Cost of Equity	ROE - COE	BV of Equity	Industry	Ind. Avg. ROC	Ind. Avg. ROE
Alphabet	36.047%	9.87%	7.26%	\$144 bn	22.84%	9.88%	12.96%	\$251 bn	Advertising	50.20%	20.18%
Amazon	10.68%	6.89%	3.79%	\$170 Bn	13.14%	7.23%	5.91%	\$138Bn	Software (Internet)	8.13%	-4.12%
Meta	44.33%	7.42%	36.91%	\$139,333	26.60%	7.53%	19.07%	\$124,879	Advertising	50.20%	20.18%
Netflix	16.20%	7.95%	8.26%	\$33.2Bn	31.59%	9.53%	22.16%	\$15.9Bn	Entertainment	10.06%	4.28%
Rakuten	Negative	4.92%	-	¥109,901	Negative	10.67%	-	1,117,290	Online Retail	6.59%	26.88%

Table 7: Return on Capital and Return on Equity

RoC vs Cost of Capital



RoE vs Cost of Equity

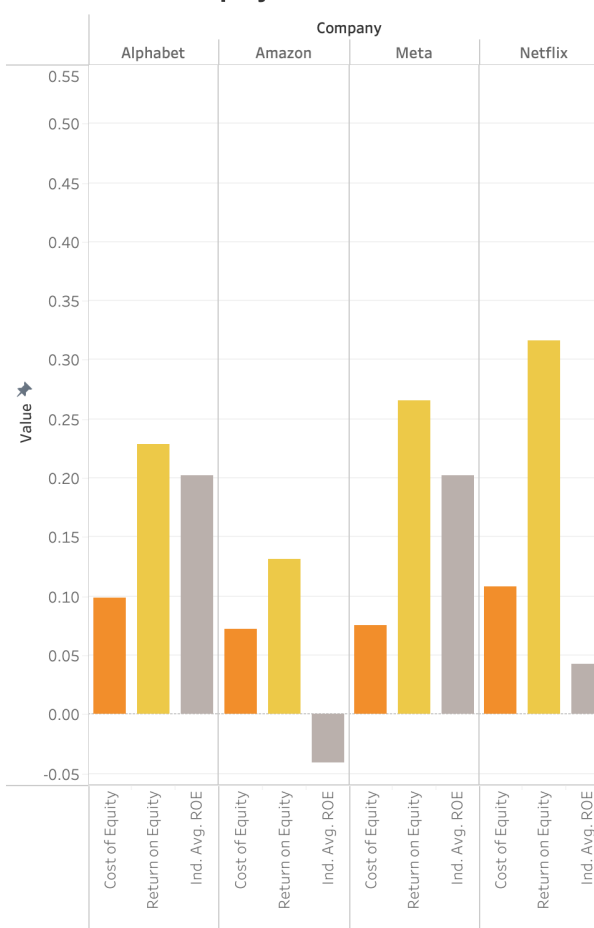


Figure 3: RoC vs Cost of Capital and RoE vs Cost of Equity

In our set of companies, all companies except Rakuten had higher ROE and ROC when compared to their cost of equity and cost of capital respectively. However, Netflix and Meta had ROC that was more than twice their cost of capital. Meta and Netflix were also standouts when comparing the ROE with the cost of equity for each company.

All companies except Rakuten also significantly exceeded the industry average for Return on Equity for their corresponding industry. When looking at the Return on Capital, Meta and Alphabet had a lower ROC than their industry averages, however these companies still had the two highest ROCs in our group of companies.

## 6. Capital Structure Choices and Optimal Capital Structure

Company	Marginal Tax Rate	Effective Tax Rate	Current Tax Benefit
Alphabet	27%	16.20%	\$ 14 bn
Amazon	27%	12.65%	\$5.2 Bill
Meta	27%	16.74%	0*
Netflix	27%	13.45%	\$759 Mill
Rakuten	30.62%	36.1%	0**

Table 8: Current Tax Benefits of Debt

\*Meta had 0 interest payments in 2021. \*\*Rakuten had a negative earnings in FY2021.

### Optimal Capital Structure:

Debt Ratio	Alphabet	Amazon	Meta	Netflix	Rakuten
Current Debt Ratio	5.66%	5.75%	2.74%	26.40%	63.72%
	Cost of Capital				
0%	13.91%	7.05%	7.46%	9.17%	4.84%
10%	12.40%	6.96%	7.31%	8.97%	4.74%
20%	10.67%	8.69%	7.18%	8.84%	4.64%
30%	10.21%	9.77%	7.10%	8.85%	4.57%
40%	9.94%	10.84%	7.30%	9.53%	4.58%
50%	9.81%	13.74%	8.14%	11.23%	6.16%
60%	10.23%	15.17%	12.35%	13.40%	7.89%
70%	11.54%	16.60%	16.34%	14.47%	8.40%
80%	13.67%	18.04%	17.78%	18.56%	9.19%
90%	16.04%	19.47%	19.21%	19.99%	11.68%

Table 9: Optimal Debt Ratio

To determine the optimal capital structure and the impact that moving to the optimal capital structure would have on each of the companies, we determined the debt ratio where the cost of capital would be minimized and the intrinsic value of the company at the optimal debt ratio. From our analysis outlined in Table 9, it's evident that Alphabet and Amazon are a little underleveraged with their current debt ratios of 5.66% and 5.75% a bit under their optimal debt ratio of 10%. Meta is significantly underleveraged with its current debt ratio of 2.74% significantly under its optimal of 30%. Netflix is relatively close to its optimal debt ratio of 20%, while Rakuten is significantly overleveraged with its current debt ratio of 63.72% almost double the optimal debt ratio of 30%.

The impact of each company moving to its optimal debt structure is illustrated in Table 10. As can be inferred from the optimal debt ratio analysis in Table 9, with Meta and Rakuten furthest from their optimal debt ratios, both of these companies would see the biggest increases in firm value if they decided to move to the optimal. Meta would see a \$40 billion increase in firm value and Rakuten would see its firm value jump by almost ¥305 billion.

Company	Debt Ratio			Cost of Capital			Increase in FV at Optimal (Bn)	Increase in Value/ Share
	Current	Optimal	Industry Avg	Current	Optimal	Industry Avg		
Alphabet	5.66%	50%	7.67%	9.87%	9.91%	5.64%	3.27%	\$7.56
Amazon	5.75%	10%	7.13%	6.89%	6.96%	5.52%	0.52%	\$17.33
Meta	2.74%	30%	33.98%	7.42%	7.10%	5.64%	\$40.126 (7.52%)	\$14.64 (7.08%)
Netflix	26.38%	20%	2.55%	7.95%	7.81%	5.37%	\$2.18 (2.03%)	\$4.91 (2.56%)
Rakuten	63.72%	30%	8.51%	4.92%	4.57%	8.55%	¥304.98	¥192.81 (7.62%)

Table 10: Impact of moving to optimal Debt Ratio

## 7. Current Debt Structure and Mechanics of Moving to the Optimal Capital Structure

**Alphabet:** In optimizing the cost of capital, Alphabet needs to increase its debt ratio. However, with over \$139 billion in cash on its books, there is no immediate need for Alphabet to borrow money. As Google's cloud business continues to grow at a robust rate, we expect the current cash flows will be sustainable in the near future. Though Alphabet would realize higher firm value by moving to its optimal debt ratio, we do not recommend that the company do so in the next 3 to 5 years as we expect it to continue its current top-line growth. However, if the company does choose to increase its debt ratio, they should borrow in a mix of USD, Euro and other currencies to match its cash flows. The duration of the debt should be short term, and given the sustainable growth trajectory of the company it should use non-convertible straight debt.

**Amazon:** Amazon is pretty close to its optimal capital structure. The company would have to do a small raise to its debt to reach its expected optimal ratio. This raise in debt would help optimize their cost of capital, without a significant impact on their risk or ratings. Amazon has announced a significant stock buyback in 2022, which will help push them closer to their optimal ratio.

**Meta:** The company currently has no borrowings. All of the book value and market value of debt stem

from lease liabilities that Meta has for operating leases and non-cancellable finance leases for network infrastructure. This has worked well so far as Facebook has been in the high growth phase of its life cycle. However, with no debt and no interest payments Meta is losing out on the tax benefits of debt. Additionally, taking on some debt could improve management discipline as the company begins its transition from a high growth company to a mature company.

To weigh the benefits against the costs, it's important to note that the majority of Meta's assets are intangible which would lead to high agency costs. With a large cash balance and no current borrowing, Meta's risk of bankruptcy would not increase significantly if it decided to take on more debt.

Though we do not recommend that Meta change its debt ratio over the near term, as the company matures and its growth slows over the next 3 to 5 years, Meta could see significant benefits, including a material percentage increase in firm value, from taking on additional debt and initiating its move towards the optimal debt ratio. With Meta's projects mostly being short-term and its cash flows a mix of USD and global currencies, Meta should borrow short-term USD and Euro denominated straight debt with a fixed-interest rate due to the non-cyclical, stable cash flows.

**Netflix:** The company is already close to its forecasted optimal capital structure, largely due to the company's poor performance over the first quarter of 2022 which ended up eroding 69% of the company's perceived market value (Stock dropped from 610 to 190) when compared QoQ. This market value erosion led to the company's poor investment rating of Ba1, and its D/E ratio being closer to the optimal. To reach its forecasted optimal of 20% debt, the company would have to raise capital, which at the moment seems unrealistic due to the aforementioned poor performance. So the best way for the company to reach its optimal is through the improvement of its financial statements, which will take at least 4 years based on the positive ROIC timelines of movies and TV shows.

**Rakuten:** Company is far from its forecasted optimal capital structure with an almost 30% difference. This is mainly due to extremely low bond interest rates with 0.08% to 1.5%. To make the current debt ratio close to optimal ratio, the company needs to pay off the existing debt. The best way for the company to approach its optimal capital structure is to improve the profitability and pay off the debt. Currently, Rakuten has not been profitable in the last three years. This is mainly because the company invested heavily on new business, such as telecommunication and fintech. Thus, the key to optimize the capital structure is to make the new business profitable and use more cash to pay off debt.

## 8. Description of new projects

**Alphabet:** The company's focus currently is on growing through acquisitions, especially by expanding into new ventures. The division of X-Development LLC primarily focuses on research and development, aimed at the generation of faster growth. In the wake of COVID, the company plans to spend more than \$7 billion on real estate across the US for expanding Data Centers, offices, and other software services. Funding of new projects usually is done through outstanding cash and the issue of new equity for large acquisitions.

**Amazon:** The company's growth has been challenged by the pandemic and subsequent war in Ukraine. The company's investments take multiple forms depending on which of its businesses it is for. The investments get used primarily in the shopping, entertainment, devices and services, AWS, emerging businesses (Amazon Care, Project Kuiper), and protecting the planet (sustainability) segments. The content investments are similar to those of Netflix, with a key difference in that they are funded mainly through outstanding cash. The company also spends on acquisitions such as that of Whole Foods. AWS projects largely take the form of R&D, the adoption of new technologies, and the expansion of their digital

solutions consulting business which has shown significant growth in the last two years. The length of the projects changes project-to-project, and so do the cash flows. Based on the company's report, it had about \$36.6 billion in cash, with proceeds coming primarily from sales and maturities of marketable securities, and short-term debt.

**Meta:** The company's projects are mostly short-term and their resulting cash flows are a mix of USD and global currencies. Currently one of their bigger projects is the development of the Metaverse, an immersive virtual world focused on social connection. The project is expected to cost \$30 billion, with \$10 billion expected to be invested in 2022. Funding is expected to be from Meta's outstanding cash balance, as the company hasn't announced the issue of new stocks nor raised its debt. Cash flows of the project are expected to increase YoY, as Metaverse is expected to be a new all-immersive environment where revenues will come from marketing and commissions on goods sold. However, it's estimated that these cash flows will not be realized till at least 2025. Currently, no values for the project are accurate as those will depend on trends of early user adoption and their evolution over the long term.

**Netflix:** For Netflix, projects mostly take two shapes. The development of new content, movies or TV shows, or purchase/rental of already developed content from other sources. Of the two options, new content carries a higher risk, as single projects for the entertainment industry have high volatility and volume is needed to lower risk. Already developed content has lower risk, mainly because project delays are non-existent and because customer interest is known beforehand. Length of projects varies by type, pre-production of a newly developed TV show usually lasts one year and their potential cash flows are high on the release of the first season but decrease as more seasons occur. Production times for movies are lengthier, and their cash flows are limited to four years, with the highest ones happening in the first 6 months from the release. Finally, the purchase or rental of existing content doesn't require production time but is usually accompanied by a heavy marketing push by Netflix. Cash flows timelines vary by release schedules but usually last for four years, with the first year providing the highest cash flows. Newly developed projects are funded mainly by equity, and rental/purchase of already developed content by other studios usually is funded by debt.

**Rakuten:** The company just announced investments in mobile services and fintech business to acquire new customers for their e-commerce business, these investments are expected to continue over the next five years. Historically, Rakuten took on a lot of debt to start new projects/businesses because of Japan's extremely low rates for short-term debt (Especially when compared to other countries). Therefore, it is expected that the company will continue to borrow money to invest in these new businesses, which will increase its debt to capital ratio. In terms of the risk associated with these businesses, it is still uncertain that they can be successful in fully monetizing these opportunities as they have been late entrants to these markets. In fact, their mobile service business is still unprofitable. Thus, their ability to generate stable cash flows above their cost of capital from these businesses depends on their ability to differentiate their products from those of competitors.

## 9. Dividend Policy and Framework for Dividend Analysis Going Forward

Company	Payout Ratio	Dividend Yield	Buybacks (Last Year) (Mn)
Alphabet	0	0	\$70,000
Amazon	0	0	0
Meta	0	0	\$44,538
Netflix	0	0	\$600
Rakuten	-*	¥3.88	0

Table 11: Dividends and Buybacks

\*Rakuten had negative earnings in the previous year

**Alphabet:** The firm significantly spends a portion of its earnings on buybacks annually, and the number reached a record high of \$70 billion in its last year. With its treasure chest of a cash balance of \$139 billion, high FCFE which are sustainable over the near term, and management's track record of selecting good projects, we feel Alphabet should continue returning cash to shareholders through buybacks.

**Amazon:** Amazon has never paid dividends till now. Although, there are examples of competitors giving out dividends. For instance, Walmart (which has slightly lower revenue than Amazon over the last few years) spent close to \$12 Bn in dividends in 2019. The company had no buybacks in the last year. Although, there is a tentative buyback that could occur in 2022.

**Meta:** Meta has never paid a dividend in its lifetime as a publicly traded company which is not uncommon in the tech industry. As mentioned before, Meta has been a high growth company and its management has undertaken good projects with a return on equity and return on capital far exceeding the company's cost of equity and cost of capital. This track record has built investor confidence in the management's ability to make good decisions and has allowed the firm to get away with returning no money to investors in the form of dividends. However, the company did return over \$44 billion to shareholders through stock buybacks after announcing share repurchases of \$25 billion and \$50 billion in 2021. However, this number was significantly higher than Meta's FCFE of \$28.849 billion in 2021 and partly resulted in the cash balance falling to \$48 billion in 2021 from a peak of \$62 billion in 2020. Clearly, this level of share repurchases are not sustainable for the company and we expect Meta to adjust buybacks to a more sustainable level in 2022 and beyond.

**Netflix:** Following the tech industry average, the company has paid 0 dividends over its history. Recently they have done some stock buybacks, such as the \$0.6 Bn one from last year. These buybacks are surprising given the company's negative FCFE for the year 2021, this cash reduction came mainly due to large reinvestments in content, \$5 Bn more than the previous year. Recent news announced that the company has reassessed the projects they will continue to take, they have announced for 2022 a reduction on their content spend which could lower their growth for 2024 and 2025. Additionally, they have announced an unvalued as of yet increase on their security measures, investment aimed at the deterrence of password sharing. Through these measures to control their spending and protect their revenue streams, it is likely the company will start generating positive cash flows very soon, though for the immediate time no buy-backs or debt repayment operations are expected.

**Rakuten:** the company has paid a dividend at least for the last five years. This is surprising given that the company was not profitable in the last three years. This is mainly due to the norms in Japan that a dividend should be paid. Additionally, the company has done a buyback only once in the last five years with 100,133,000 thousands yen (similar to \$766,861,971).

## 10. Valuation

Company	Current Stock Price	Value per Share	Difference	% Difference	Value assessment
Alphabet	\$2313	\$3509	\$1196	34.08%	undervalued
Amazon	\$3334.34	\$2290	\$1044.34	-31.3%	Overvalued
Meta	\$207.01	\$788.24	\$581.22	280.76%	Undervalued
Netflix	\$191.93	\$179.70	\$12.23	-9.86%	Overvalued
Rakuten	¥918	¥2,088.28	¥1,170.28	127.48%	Undervalued

Table 12: Valuation Summary

**Alphabet:** The recent decline to Alphabet's stock price has resulted in a rapid reduction of its market cap. This is reflected in the company being undervalued in our valuation analysis.

**Amazon:** For the company's valuation, we have factored in a lot of inputs. Most of the numbers around cash, capital, revenues, research investments, leases, and other debt have been taken from the company's most recent 10k, and Bloomberg. We have factored in R&D using the investment details we could find in the most recent 10k, but we may have missed out on forward-looking R&D investments, which may have contributed to our evaluation of Amazon being overvalued. Amazon is a large company, and is mainly involved in the Software category. The revenue growth that we have seen for Amazon is very similar to the industry average for this industry. Amazon has never given out dividends, which is common for companies in this category. Revenue growth was assessed using industry average, and the growth seen over the last few years. Company's revenue growth in 2021 was not as high as that in 2020, which could also have contributed to the company being over-valued.

**Meta:** We used a two-stage valuation for Meta. From 2021 to 2022, Meta saw its revenue grow by about 37%. We assumed this rate of revenue growth would continue for the next 5 years, following which the company's growth would slow. We also assumed that Meta's operating margins over the next few years would remain robust but fall slightly to 35% from the current 48% margin. Due to its sustained engagement metrics as well as Instagram's dominance in social and display advertising, we expect Meta to maintain robust margins despite investments in building out the Metaverse, competition from Tik-Tok and recent privacy related changes by Apple for iOS customers.

Given Meta's dominance in social and display advertising, at its current share price of \$207.01, the company is undervalued. With its sky high margins, expected revenue growth in the mid-30% range, dominant market position and robust cash flows to equity, we value Meta at \$2.185 trillion with a value/share of \$788.24.

**Netflix:** For the company's valuation a lot of inputs for growth and sales to capital ratios were analyzed. First, the entertainment industry averages in the US and in the International market, Netflix is different from the entertainment industry as its revenues come from a subscription-based model, so the industry was used more for overall guidance. Growth metrics were assessed using the company's performance over the last 5 years combined with an analysis of metrics from Cable TV and Telecom companies, both of these industries were used because revenues come from similar subscription-based models in largely competitive markets.

Company being "overvalued" is a statement of its poor performance over the last quarter, which has led them to lower their spend on new content basing it on "costly shows without guaranteed followers".

Company is starting to explore the possibility of an add-supported subscription model that would allow them to capture market segments currently outside their base. Plans to increase marketing spend for large productions have also been mentioned, and aligned with it, its most popular shows with upcoming release dates have been split into two separate releases to assess the performance of subscription metrics over weekly/periodic content instead of their once preferred binge model.

**Rakuten:** Rakuten is undervalued because of conglomerate discounts. In fact, the company operates its business not only in e-commerce but also online banking, insurance, telecommunication, etc. This makes the company's share price lower than it should be.

Another possible reason for the undervaluation is the heavy investment on mobile service while the business is not profitable. Rakuten started its mobile service business in 2018. Since then, the company invested huge money to expand its own mobile network range. However, the business is not profitable yet, and the market might consider it as negative. In fact, the company has been unprofitable since 2019, and this is mainly due to the loss in mobile service business. Thus, in order for the company to be appropriately valued, the company should prove that the company can make money in the mobile service business and show the huge investment will bear fruit.