

**Company:** Google LLC (Subsidiary of Alphabet Inc.)

**Industry:** Technology (Internet & Software)

**Financials (as of 2023):**

- **Market Capitalization:** ~\$1.756 Trillion (very large, one of the world's biggest)
- **Revenue:** ~\$307.39 Billion (very high)
- **Profit Margin:** ~24.01% (healthy)
- **P/E Ratio:** ~26.9

**Overview:**

- Founded in 1998 by Larry Page and Sergey Brin, Google is a multinational technology company specializing in Internet-related services and products.
- Their most prominent product is the **Google Search engine**, which holds a dominant market share globally.
- Beyond search, Google offers a vast ecosystem of services including:
  - Gmail (email)
  - Google Drive (cloud storage)
  - Google Maps (navigation)
  - Android (mobile operating system)
  - YouTube (video sharing platform)
  - Chrome (web browser)
  - Google Cloud Platform (cloud computing)

**Competitive Advantages:**

- **Search Dominance:** Google's search engine is the world's most popular, offering unparalleled access to information and user data. This data fuels advancements in other products and services.
- **Data & AI Expertise:** Google amasses vast amounts of user data, which they leverage through powerful AI algorithms to personalize user experiences, improve product targeting, and drive innovation.
- **Diversified Revenue Streams:** Google generates revenue not only from search advertising but also from cloud services, app stores, hardware (e.g., Pixel phones), and other ventures.
- **Brand Recognition & User Trust:** Google has become synonymous with "search" and has built a strong reputation for reliability and user-friendliness.
- **Constant Innovation:** Google dedicates significant resources to research and development, constantly innovating in areas like artificial intelligence, self-driving cars, and virtual reality.

### **Differences from Competitors:**

- Compared to tech giants like Apple or Microsoft, Google focuses heavily on online advertising and data-driven services.
- Unlike Amazon which excels in e-commerce, Google's strength lies in information access and user data analysis.
- Google prioritizes free, user-friendly services funded by advertising, while some competitors offer premium subscription models.

### **Connection to Alphabet:**

- Google LLC is not a publicly traded company. It operates as a subsidiary of Alphabet Inc. (GOOGL).
- Alphabet was created in 2015 through a restructuring of Google.

- This move aimed to streamline Google's core internet businesses and allow Alphabet to pursue ventures in other sectors like life sciences (Calico) and self-driving cars (Waymo).
- Although separate entities, Google remains Alphabet's largest and most profitable subsidiary.

### **Financial Strengths:**

- **Dominant Market Share:** Google Search holds a dominant position, attracting massive user traffic and ad revenue.
- **Diversified Revenue Streams:** Revenue comes from multiple sources, reducing reliance on any single market.
- **Strong Cash Flow:** Google generates significant cash flow, allowing for reinvestments and acquisitions.
- **Brand Recognition & User Trust:** A trusted global brand with a large user base translates to strong brand loyalty.

### **Financial Risks:**

- **Regulatory Scrutiny:** Google faces potential regulations regarding data privacy and antitrust concerns.
- **Competition:** Tech giants like Amazon, Microsoft, and Apple compete fiercely with Google in various sectors.
- **Economic Downturns:** Advertising revenue can be impacted by economic fluctuations.

1. list company's business and main service

Google's main business is **online advertising**, but it offers a wide range of services that all tie back to this core business model.

Here's a breakdown:

- **Main Business: Online Advertising**

- Google dominates the search engine market, allowing them to display targeted ads alongside search results. This is their primary revenue driver.
- They also display ads on other platforms through partnerships and their own ad network.

- **Services that Support Advertising:**

- **Search Engine (Google Search):** The world's most popular search engine, driving massive user traffic and ad impressions.
- **Gmail:** Free email service with a large user base, offering opportunities for targeted advertising.
- **YouTube:** The world's leading video-sharing platform, providing another avenue for video ads.
- **Android:** The most popular mobile operating system globally, allowing Google to integrate advertising within the Android ecosystem.
- **Google Chrome:** The most widely used web browser, offering a platform for displaying targeted ads.

- **Additional Services:**

- Google Cloud Platform (cloud computing services)

- Google Workspace (productivity tools like Docs and Sheets)
- Pixel phones (hardware)
- Google Play Store (app store)

Even though some of these services are free to users (like Gmail and Search), they all contribute to Google's advertising business model in various ways. For example, Gmail allows Google to collect user data for ad targeting, while the large user base of Search and YouTube creates a valuable platform for advertisers to reach potential customers.

2. Show balance sheet, inc statement :

**Alphabet Inc.**  
**CONSOLIDATED BALANCE SHEETS**  
(in millions, except par value per share amounts)

	As of December 31,	
	2022	2023
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 21,879	\$ 24,048
Marketable securities	91,883	86,868
Total cash, cash equivalents, and marketable securities	113,762	110,916
Accounts receivable, net	40,258	47,964
Other current assets	10,775	12,650
Total current assets	164,795	171,530
Non-marketable securities	30,492	31,008
Deferred income taxes	5,261	12,169
Property and equipment, net	112,668	134,345
Operating lease assets	14,381	14,091
Goodwill	28,960	29,198
Other non-current assets	8,707	10,051
Total assets	\$ 365,264	\$ 402,392
<b>Liabilities and Stockholders' Equity</b>		
Current liabilities:		
Accounts payable	\$ 5,128	\$ 7,493
Accrued compensation and benefits	14,028	15,140
Accrued expenses and other current liabilities	37,866	46,168
Accrued revenue share	8,370	8,876
Deferred revenue	3,908	4,137
Total current liabilities	69,300	81,814
Long-term debt	14,701	13,253
Deferred revenue, non-current	599	911
Income taxes payable, non-current	9,258	8,474
Deferred income taxes	514	485
Operating lease liabilities	12,501	12,460
Other long-term liabilities	2,247	1,616
Total liabilities	109,120	119,013
Commitments and Contingencies (Note 10)		
Stockholders' equity:		
Preferred stock, \$0.001 par value per share, 100 shares authorized; no shares issued and outstanding	0	0
Class A, Class B, and Class C stock and additional paid-in capital, \$0.001 par value per share: 300,000 shares authorized (Class A 180,000, Class B 60,000, Class C 60,000); 12,849 (Class A 5,964, Class B 883, Class C 6,002) and 12,460 (Class A 5,899, Class B 870, Class C 5,691) shares issued and outstanding	68,184	76,534
Accumulated other comprehensive income (loss)	(7,603)	(4,402)
Retained earnings	195,563	211,247
Total stockholders' equity	256,144	283,379
Total liabilities and stockholders' equity	\$ 365,264	\$ 402,392

**Alphabet Inc.**  
**CONSOLIDATED STATEMENTS OF INCOME**  
(in millions, except per share amounts)

	Year Ended December 31,		
	2021	2022	2023
Revenues	\$ 257,637	\$ 282,836	\$ 307,394
Costs and expenses:			
Cost of revenues	110,939	126,203	133,332
Research and development	31,562	39,500	45,427
Sales and marketing	22,912	26,567	27,917
General and administrative	13,510	15,724	16,425
Total costs and expenses	178,923	207,994	223,101
Income from operations	78,714	74,842	84,293
Other income (expense), net	12,020	(3,514)	1,424
Income before income taxes	90,734	71,328	85,717
Provision for income taxes	14,701	11,356	11,922
Net income	\$ 76,033	\$ 59,972	\$ 73,795
Basic net income per share of Class A, Class B, and Class C stock	\$ 5.69	\$ 4.59	\$ 5.84
Diluted net income per share of Class A, Class B, and Class C stock	\$ 5.61	\$ 4.56	\$ 5.80

3. purpose of all 5 distinct sections in 10 k :

The 10-K includes five distinct sections:

- **Business.** This provides an overview of the company's main operations, including its products and services (i.e., how it makes money).
- **Risk factors.** These outline any and all risks the company faces or may face in the future. The risks are typically listed in order of importance.
- **Selected financial data.** This section details specific financial information about the company over the last five years. This section presents more of a near-term view of the company's recent performance.
- **Management's discussion and analysis of financial condition and results of operations.** Also known as MD&A, this gives the company an opportunity to explain its business results from the previous fiscal year. This section is where the company can tell its story in its own words.
- **Financial statements and supplementary data.** This includes the company's audited financial statements including the income statement, balance sheets, and statement of cash flows. A letter from the company's independent auditor certifying the scope of their review is also included in this section.<sup>4</sup>

4. Describe Google principle of risk factors and your thought of those :

As per 10k, below are the risks mentioned :

**1. Revenue Risks from Advertising:** Alphabet heavily relies on advertising revenues, which could be impacted by reduced advertiser spending, loss of partners, ad-blocking technologies, or challenges in ad customization due to privacy concerns and technological changes.

- **Thought:** Over-reliance on advertising can be risky. Google should diversify revenue streams further into cloud services or subscriptions.

**2. Economic Dependence:** The advertising budget is sensitive to macroeconomic conditions; downturns could lead to reduced advertising spending, affecting Alphabet's financial results.

- **Thought:** Economic downturns are inevitable. Google could explore recession-proof advertising strategies or develop alternative revenue sources less susceptible to economic fluctuations.

**3. Intense Competition:** The technology and online services sectors are highly competitive. Alphabet must continually innovate and keep its offerings relevant amidst rapidly changing technology and consumer preferences to stay competitive.

- **Thought:** Constant innovation is crucial. Google should maintain strong R&D efforts and prioritize user needs to stay ahead of the competition.

**4. Innovation and R&D Investments:** To maintain its competitive edge, Alphabet must invest significantly in research and development, potentially diverting resources from other areas of operation.

- **Thought:** Investing in R&D is a double-edged sword. It's necessary, but Google should ensure efficient allocation of resources to maximize return on investment.

**5. Regulatory and Compliance Risks:** Changes in advertising, data privacy, and competition policies could require operational adjustments, leading to increased costs or constraints in business practices.

- **Thought:** Staying compliant is vital. A proactive approach to regulatory changes can minimize disruption and potential costs.



**6. Intellectual Property Risks:** Alphabet faces risks related to protecting its intellectual property and could incur substantial costs in litigation or compensation if it fails to secure necessary rights or infringes on the rights of others.

- **Thought:** Protecting intellectual property is essential. Building a strong patent portfolio and fostering a culture of responsible innovation can mitigate risks.

**7. Global Operations and Market Risks:** International operations expose Alphabet to risks including foreign exchange fluctuations, political unrest, and varying regulatory environments.

- **Thought:** Global diversification has advantages and disadvantages. Google should carefully manage exposure to high-risk markets and implement strategies to hedge against currency fluctuations.

**8. AI and Technological Shifts:** Investments in AI and other technologies are essential but come with challenges like significant development costs, rapid evolution of technologies, and potential superiority of competitors' technologies.

- **Thought:** AI is crucial for the future. Google should prioritize attracting and retaining top AI talent and invest in responsible development of these technologies.

**9. Privacy and Data Security:** Alphabet must navigate complex global data protection laws, and any failure in data security could lead to significant legal and financial repercussions.

- **Thought:** Data security and privacy are paramount. Building user trust through robust security measures and transparent data practices is essential.

**10. Dependency on Key Personnel:** The loss of key employees or failure to attract new talent could impact Alphabet's ability to innovate and execute business strategies effectively.

- **Thought:** Talent is a key asset. Investing in employee development, fostering a positive work environment, and having strong succession plans can mitigate this risk.

**11. Product Development and Supply Chain:** Alphabet faces risks in manufacturing and supply chain logistics, which could affect its ability to deliver products efficiently.

- **Thought:** Supply chain resilience is critical. Diversifying suppliers, having contingency plans for disruptions, and investing in efficient logistics can minimize risks.

**12. Legal and Ethical Challenges:** Ethical, legal, and regulatory challenges particularly related to AI and data usage could affect business operations and company reputation.

- **Thought:** Proactive approach to ethics. Developing clear ethical guidelines for AI development and data usage can position Google as a leader in responsible technology.

**13. New Business Ventures and Investments:** Alphabet's ongoing investments in new technologies and markets are inherently risky and may not yield the expected returns, potentially affecting financial outcomes and focus on current successful operations.

- **Thought:** Calculated risks drive growth. Alphabet should thoroughly evaluate new ventures, allocate resources strategically, and have exit strategies if necessary.

5. Explain movements and assets, liabilities, equity value, and provide specific reasons for this movement .

**Alphabet Inc.**  
**CONSOLIDATED BALANCE SHEETS**  
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Total liabilities and stockholders' equity	\$ 365,264	\$ 402,392

**Current assets** : Current assets are money that Alphabet has or items, such as inventory and accounts receivable, that will turn into cash within 12 months.

Balance Sheet					
Column1	2023	2022	2021	2020	2019
Current Assets	171,530	164,795	188,143	174,296	152,578

From 2019 to 2021, there was a clear upward trend in current assets, indicating growth and possibly increased liquidity. However, in 2022, there was a noticeable drop, followed by a slight recovery in 2023. Overall, the trend shows growth from 2019 to 2023, but with some fluctuation in the most recent years.

**Current liabilities :** Total current liabilities are all the bills that Alphabet needs to pay within the next 12 months.

Balance Sheet					
Column1	2023	2022	2021	2020	2019
Current Liabilities	81,814	69,300	64,254	56,834	45,221

The current liabilities have been consistently increasing each year from 2019 to 2023. This consistent increase may indicate that the company is accumulating more short-term debts or other financial obligations.

### Analysis:

1. Growth in Assets and Liabilities: Both current assets and current liabilities have increased over the five-year period. The increase in current liabilities outpaces that of current assets, especially in 2022 and 2023.
2. Liquidity and Financial Health: The increasing current assets from 2019 to 2021 suggested improving liquidity, but the drop in 2022 with a subsequent modest recovery in 2023, paired with continuously rising current liabilities, could indicate potential liquidity pressures. The company appears to be holding more assets compared to 2019, which is generally positive, but the faster rise in liabilities could squeeze liquidity.
3. Managerial Practice: The increase in both assets and liabilities suggests that management is possibly leveraging more to fuel asset growth, which could be a sign of expansion or investment in operations. It looks like they are actively managing their portfolio of assets and liabilities, perhaps to support business growth.

**Total assets** are all of the assets that Alphabet owns and uses to make money. I

Balance Sheet					
Column1	2023	2022	2021	2020	2019
Total Assets	402,392	365,264	359,268	319,616	275,909
% of Sales	76.4%	77.4%	71.7%	57.1%	58.7%
Growth	10.2%	1.7%	12.4%	15.8%	N/A

### Analysis :

1. Growth in Total Assets: Alphabet has shown an increase in total assets every year from 2019 to 2023. The growth rate fluctuates but is positive overall, with a significant increase of 10.2% in 2023 after a modest 1.7% in 2022.
2. Sales vs. Asset Growth: The percentage of sales compared to total assets has slightly decreased from 77.4% in 2022 to 76.4% in 2023. However, this change is minor and could reflect either a decrease in sales, an increase in total assets outpacing sales, or both. It's not necessarily indicative of inefficiency.
3. Efficiency Assessment: Since the total assets have grown year over year, but the percentage of sales relative to total assets has decreased in 2023, this could suggest that the company might be investing more in assets compared to the growth in sales. This isn't inherently negative as it could be part of a strategic investment for future growth. However, if the asset growth does not eventually translate to proportionate increases in sales, it may suggest inefficiency.

**Total equity** represents the dollar amount of total assets shareholders would be entitled to after all debts are paid.

Total Equity					
Balance Sheet					
Column1	2023	2022	2021	2020	2019
Total Equity	283,379	256,144	251,635	222,544	201,442

From the provided data on Total Equity, we can observe the following trends for Alphabet from 2019 to 2023:

1. **Consistent Growth in Equity:** Alphabet's total equity has been consistently increasing each year. Starting at \$201,442 in 2019 and growing to \$283,379 by 2023.
2. **Strengthening Financial Position:** The growth in total equity suggests that Alphabet is potentially increasing its net assets (assets minus liabilities), which generally signifies a strengthening financial position and could be a result of retained earnings, additional investments, or both.
3. **Shareholder Value:** The increasing total equity indicates that the value for shareholders has been growing, which is typically a positive sign for investor confidence and company stability.
4. **Capital Structure:** This growth may also reflect Alphabet's management decisions regarding its capital structure, such as financing operations through equity rather than debt, which can be beneficial in reducing financial risk.
5. **Potential for Investment and Expansion:** Increasing equity may provide the company with more resources for investments, research and development, and expansion into new markets or products.

### **Conclusion :**

- Alphabet's financial data reveals a company experiencing robust growth in both total assets and shareholder equity over the past five years, suggesting good corporate performance and prudent financial management.
- Although there is a slight decrease in the percentage of sales to total assets in 2023, the overall increase in equity indicates a strong financial position and value for shareholders, reinforcing confidence in Alphabet's stability and future prospects.
- However, the growing pace of liabilities in relation to assets, although not an immediate concern, calls for vigilant monitoring to ensure continued liquidity and the company's ability to meet short-term obligations. .

### **6. Explain company's current ratio**

The current ratio measures the amount of cash and expected cash inflows (money coming into the company) in the last 12 months as compared to the amount of cash outflow (bills that needed to be paid by the company). From this measurement, we can determine whether a company had enough money coming in to cover funds going out.

Current Ratio					
Column1	2023	2022	2021	2020	2019
Current Assets	171,530	164,795	188,143	174,296	152,578
/ Current Liabilities	81,814	69,300	64,254	56,834	45,221
<b>Current Ratio</b>	<b>2.10</b>	<b>2.38</b>	<b>2.93</b>	<b>3.07</b>	<b>3.37</b>

Analysis :

Over the five-year span, there has been a gradual decline in the current ratio, indicating a narrowing of the company's liquidity, however, the ratio has consistently stayed well above the threshold of 1.

This means that, throughout this period, the company has maintained a strong ability to cover its short-term liabilities with its current assets. The trend suggests that while the company's liquidity is reducing somewhat, it does not currently present a concern regarding the company's short-term financial health.

#### 7. What is liquid asset and your thought on google's liquid asset position

Liquid assets are specific assets that can be quickly and easily converted into cash without losing value. These include things like cash, money in checking or savings accounts, and marketable securities such as stocks and government bonds. The key characteristic of liquid assets is their ability to be swiftly turned into cash to meet financial obligations.

	As of December 31,	
	2022	2023
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 21,879	\$ 24,048
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Goodwill	28,960	29,198
Other non-current assets	8,707	10,051
Total assets	\$ 365,264	\$ 402,392

the liquid assets of the company :

1. **Cash:** \$24,048 in 2023, which is the most liquid asset available.
2. **Short Term Investments (Marketable Securities):** \$86,868 in 2023, which are typically marketable securities that can be easily converted to cash.
3. **Accounts Receivable:** \$47,964 in 2023, which are usually considered liquid because they are expected to be converted to cash within one business cycle (typically a year).

These assets can be readily converted to cash or are close to cash in terms of their liquidity and thus are considered liquid assets.

### **Analysis :**

The liquid assets of the company show strong liquidity. Cash and short-term investments are significant, indicating that the company has a substantial buffer to manage short-term obligations. The healthy accounts receivable also suggest that the company is efficient in its credit and collections processes.

Moreover, the presence of substantial cash and short-term investments provides flexibility and the ability to invest in opportunities that may arise, such as acquisitions, research and development, or other strategic initiatives without the need for external financing.

Overall, the company's liquidity position appears robust, which is beneficial for weathering potential economic downturns and taking advantage of growth opportunities.

### 8. What is turnover assets

The total asset turnover ratio shows how much revenue Alphabet generates in terms of its assets under management.

Total Asset Turnover					
Column1	2023	2022	2021	2020	2019
Sales	307,394	282,836	257,637	182,527	161,857
/ Total Assets	402,392	365,264	359,268	319,616	275,909
<b>Total Asset Turnover</b>	<b>0.76</b>	<b>0.77</b>	<b>0.72</b>	<b>0.57</b>	<b>0.59</b>



Analysis :

The lower the total assets and the higher the sales, the better. As a result, an optimal trend for this ratio would be a growing total asset turnover ratio, year-over-year. This would show that the company is generating more revenues with the same or fewer assets.

Over this five-year span, there's a noticeable improvement from 2019 to 2022, showing that the company was generating more sales for every dollar of assets. This suggests an increasing operational efficiency over this period. However, the slight decrease in 2023 could be a sign of either a slowdown in sales growth or an accumulation of assets at a faster rate than sales growth. It's not a cause for immediate concern, given the ratio is still higher than in 2019 and 2020, but it is a point to be noted.

If this trend continues, where the turnover ratio decreases, it could indicate that the company's asset base is growing without a proportional increase in sales, which might be a sign to reevaluate asset acquisition or utilization strategies.

## 9. income statement 2022-2023.

**Alphabet Inc.**  
**CONSOLIDATED STATEMENTS OF INCOME**  
(in millions, except per share amounts)

	Year Ended December 31,		
	2021	2022	2023
Revenues	\$ 257,637	\$ 282,836	\$ 307,394
Costs and expenses:			
Cost of revenues	110,939	126,203	133,332
Research and development	31,562	39,500	45,427
Sales and marketing	22,912	26,567	27,917
General and administrative	13,510	15,724	16,425
Total costs and expenses	178,923	207,994	223,101
Income from operations	78,714	74,842	84,293
Other income (expense), net	12,020	(3,514)	1,424
Income before income taxes	90,734	71,328	85,717
Provision for income taxes	14,701	11,356	11,922
Net income	\$ 76,033	\$ 59,972	\$ 73,795
Basic net income per share of Class A, Class B, and Class C stock	\$ 5.69	\$ 4.59	\$ 5.84
Diluted net income per share of Class A, Class B, and Class C stock	\$ 5.61	\$ 4.56	\$ 5.80

- a. Net sales : Net sales (Revenues) are the dollar amount of products or services a company sells to customers in the noted timeframe.

Column1	2023	2022	2021	2020	2019
Revenues	307,394	282,836	257,637	182,527	161,857

#### Analysis :

1. Growth Trend: There is a clear upward trend in revenue year over year. Starting from \$161,857 million in 2019, there has been consistent growth each subsequent year, reaching \$307,394 million in 2023.

2. Revenue Increase: The company has almost doubled its revenue over the five-year period, indicating strong financial performance and potentially successful expansion and scaling of operations.

3. Resilience: The sustained growth suggests that the company has been resilient through various economic cycles over these years, including any impacts from events such as the COVID-19 pandemic.

4. Strategic Success: The continuous increase in revenue could also reflect the success of Alphabet's business strategy, which might include diversification of income streams, acquisitions, innovation, and capturing a larger market share.

b. Net income : The net income is the profits Alphabet has available to either reinvest in the company or compensate investors through dividend payouts.

Column1	2023	2022	2021	2020	2019
Net Income	73,795	59,972	76,033	40,269	34,343

#### Analysis :

1. Increasing Trend: There is a general increasing trend in net income over the five-year period. The company's net income has more than doubled from \$34,343 in 2019 to \$73,795 in 2023.

2. Year-to-Year Fluctuations: Despite the overall increase, there is a noticeable fluctuation from year to year. There was a significant rise from 2019 to 2021, a drop in 2022, followed by a recovery in 2023.

3. Profitability: The data suggests that the company has been profitable each year and is increasing its profitability over time, which is a positive sign for stakeholders and may reflect efficient management and growth strategies.

4. Potential Impacts: The dip in net income in 2022 may indicate certain challenges or increased costs faced during that year. The subsequent increase in 2023 suggests that the company may have overcome these challenges or found new avenues for growth.

5. Financial Health: The consistent increase in net income, apart from the slight decline in 2022, generally indicates good financial health and the company's ability to generate profit from its operations.

- c. Net operating cost : are costs that an organization incurs when conducting normal daily operations.

Column1	2023	2022	2021	2020	2019
Operating Expenses	223,101	207,994	178,923	141,303	127,626

#### Analysis :

1. Upward Trend: There is a clear upward trend in operating expenses. The company's operating expenses have steadily increased from \$127,626 in 2019 to \$223,101 in 2023.

2. Growth in Expenses: The company has seen a substantial increase in operating expenses over five years, which could be indicative of expansion, increased scale of operations, or possibly inflationary pressures on costs.

3. Investments and Strategy: The increase in operating expenses might reflect strategic investments in areas like research and development, marketing, or expanding the workforce, which could contribute to long-term growth despite short-term cost increases.

- d. profit margin : The profit margin ratio compares a company's net income, or profits, with its revenues.

Net Profit Margin					
Column1	2023	2022	2021	2020	2019
Net Income	73,795	59,972	76,033	40,269	34,343
/ Sales	307,394	282,836	257,637	182,527	161,857
<b>Net Profit Margin</b>	<b>24.01%</b>	<b>21.20%</b>	<b>29.51%</b>	<b>22.06%</b>	<b>21.22%</b>

### Analysis :

1. Steady Growth from 2019 to 2021: There is a general increase in the net profit margin from 21.22% in 2019 to a peak of 29.51% in 2021, indicating that the company was becoming increasingly profitable, likely due to either increasing revenue, decreasing costs, or a combination of both.

2. Decrease in 2022: The net profit margin fell to 21.20% in 2022, suggesting that there was a decrease in profitability relative to sales. This could be due to a number of factors such as increased costs, lowered pricing, a change in sales mix, or other operational challenges.

3. Recovery in 2023: In 2023, the net profit margin increased again to 24.01%, suggesting a recovery from the previous year. This indicates that the company managed to improve its profitability relative to sales, possibly by managing costs more effectively, achieving higher sales, or a combination of improved operational efficiencies.

Overall, except for the dip in 2022, the company has maintained a relatively healthy net profit margin over these years, which suggests it has been able to manage its operations effectively to maintain profitability. The increase in 2023 also points to a positive trend, suggesting that the company has been able to adapt to conditions that caused the 2022 dip. This resilience is a positive sign for the company's financial health.

- e. operating margin : The operating profit margin ratio helps investors understand how much profit Alphabet is generating from the perspective of operations compared to total sales for the same timeframe. This ratio is a great indicator of how well the company's management team is controlling operations.

<b>Operating Profit Margin</b>					
<b>Column1</b>	<b>2023</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
EBIT	84,293	74,842	78,714	41,224	34,231
/ Sales	307,394	282,836	257,637	182,527	161,857
<b>Operating Profit Margin</b>	<b>27.42%</b>	<b>26.46%</b>	<b>30.55%</b>	<b>22.59%</b>	<b>21.15%</b>

### Analysis :

1. Steady Growth from 2019 to 2021: The operating profit margin has increased from 21.15% in 2019 to a high of 30.55% in 2021, suggesting that the company was becoming increasingly efficient at converting sales into profit before interest and taxes.

2. Decrease in 2022: There was a slight decrease in the operating profit margin to 26.46% in 2022, indicating a reduction in operational efficiency or an increase in operating costs relative to sales.

3. Recovery in 2023: In 2023, there was an increase in the operating profit margin to 27.42%. This suggests that the company managed to slightly improve its operational efficiency compared to the previous year, although it has not yet returned to the peak efficiency of 2021.

Overall, the company has shown a strong operating performance over the past five years, with a general trend of increasing operating profit margin, except for a dip in 2022. The recovery in 2023 is a positive sign, but it's still below the peak of 2021, indicating there might be room for operational improvements or that the company is facing higher operating costs. The data points to a generally well-managed company that is able to generate profits from its operations effectively, even if there are year-to-year fluctuations.

### 10. What is the defn of free cash flow?

Free cash flow (FCF) represents the cash that a company generates after accounting for cash outflows to support operations and maintain its capital assets. Unlike earnings or net income, free cash flow is a measure of profitability that excludes the non-cash expenses of the income statement and includes spending on equipment and assets as well as changes in working capital from the balance sheet.

Free cash flow is the money that the company has available to repay its creditors or pay dividends and interest to investors.

11. Benchmarking - similar to same company- 2, and compare 5 different ratio with these 2 companies :

**Similar Companies :**

META: Meta Platforms, Inc.

Sector : Communication Services

Industry : Interactive media and services

Market cap : 1.22 T

TCEHY: Tencent Holdings Limited

Sector : Communication Services

Industry : Interactive media and services

Market cap :360.95 B

5 different ratio Comparison from 2023 :

Ratios	GOOGL (Alphabet)	META	TCEHY
Current Ratio (Current Assets/ Current Liabilities )	2.10	2.67	1.47
Debt to Equity Ratio (Debt/Equity)	4.68%	12%	39%
Quick Ratio ((Current assets- inventory)/ Current liabilities)	2.1	2.55	1.3
Operating Profit Margin (EBIT/Sales)	27.42%	34.65%	26.5%
Net Profit margin (Net Income/ Sales)	24.01%	28.98%	18.92%

**Analysis :**

1. Current Ratio: Alphabet's current ratio is healthy at 2.10, which indicates it has more than twice the current assets as current liabilities, signifying good short-term liquidity. Meta has an even higher current ratio at 2.67, suggesting stronger short-term financial health, while Tencent's current ratio at 1.47 is lower, indicating less coverage of current liabilities by current assets.

2. Debt to Equity Ratio: Alphabet has a very low debt to equity ratio at 4.68%, suggesting that it operates with minimal debt and has a strong equity base. Meta's ratio is higher at 12%, indicating a moderate level of debt usage, while Tencent's ratio at 39% is significantly higher, suggesting a higher reliance on debt relative to equity.

3. Quick Ratio: Alphabet's quick ratio is solid at 2.1, indicating that even without inventory, the company can cover its current liabilities. Meta's quick ratio is slightly higher at 2.55, reflecting perhaps an even better position in terms of liquid assets. Tencent's quick ratio is substantially lower at 1.3, reflecting a tighter liquidity position.

4. Operating Profit Margin: Alphabet's operating profit margin is substantial at 27.42%, but lower than Meta's 34.65%, suggesting that Meta operates with higher operational efficiency or lower operating costs relative to sales. Tencent's operating profit margin is the lowest at 26.5%, indicating that while still profitable, it retains a smaller portion of sales as operating profit compared to the other two.

5. Net Profit Margin: Alphabet's net profit margin is healthy at 24.01%, showing a strong ability to turn revenue into profit. However, it is outperformed by Meta's higher margin of 28.98%, indicating that Meta may be more effective at managing expenses or has additional income streams with higher margins. Tencent's margin is considerably lower at 18.92%, suggesting that it retains less profit from each dollar of sales compared to Alphabet and Meta.

In summary, Alphabet displays strong financial health with robust liquidity and profitability, though Meta shows higher margins and liquidity, which could be indicative of higher operational efficiency or a different business model. Tencent, while still profitable, has a lower liquidity and profitability relative to Alphabet and Meta, which could be due to higher costs or different market dynamics affecting its operations.

## 12. Why is completing utilizing either IFRS sustainability or ,

13. What is alpha, BETA, and importance for portfolio management

Alpha measures an investment's return (aka performance) relative to a benchmark, while beta measures an investment's risks (volatility) compared to the overall market. Together, these statistical measurements help investors evaluate the performance of a stock, fund, or investment portfolio.

- Alpha and beta are two different parts of an equation used to explain the performance of stocks and investment funds.
- Beta is a measure of volatility relative to a benchmark, such as the S&P 500.
- Alpha is the excess return on an investment after adjusting for market-related volatility and random fluctuations.
- Alpha and beta are both measures used to compare and predict returns.

Because alpha represents the performance of a portfolio relative to a benchmark, it is often considered to represent the value that a portfolio manager adds to or subtracts from a fund's return. In other words, alpha is the return on an investment that is not a result of a general movement in the greater market.

The beta calculation is used to help investors understand whether a stock moves in the same direction as the rest of the market. It also provides insights into how volatile—or how risky—a stock is relative to the rest of the market.

GOOGL (Alphabet Inc) Beta 0.8, alpha : 0.08

$\text{Alpha} = R - R_f - \text{beta} (R_m - R_f)$

R : portfolio's return,



$R_f$  represents the risk-free rate of return,

beta represents the systematic risk of a portfolio,

$R_m$  represents the market return, for each benchmark.

14. In ur words, LIST 3 RATIOS FROM 10 K FOR CREDIT ANALYSTS, EXPLAIN RATIONALE,



Ratio	2023	2022	2021	2020	2019
Current Ratio (Current Asset / Current Liability )	2.10	2.38	2.93	3.07	3.37
					
	>1				
Total Asset Turnover Ratio (Sales/ Total Assets)	0.76	0.77	0.72	0.57	0.59
					
Return on Assets (Net Income/Total Assets)	18.34%	16.42%	21.16%	12.6%	12.45%
					
Quick ratio ((Current asset - Inventory)/ Current Liabilities )	2.10	2.38	2.91	3.05	3.35
					
	>1				

a. Current Ratio:

- The current ratio has been on a decreasing trend from 3.37 in 2019 to 2.10 in 2023.
- Despite the downward trend, all values are above 1, which indicates Alphabet has more than enough current assets to cover its current liabilities. The company is well-positioned to manage short-term obligations.
- The decreasing trend may indicate an increasing use of current assets or an increase in current liabilities; however, the company still maintains strong liquidity.

b. Total Asset Turnover Ratio:

- The ratio is somewhat variable, with a slight decrease from 0.77 in 2022 to 0.76 in 2023.
- This suggests a stabilization in the efficiency of using assets to generate sales.
- While the company is generating less revenue per dollar of assets in 2023 compared to 2022, the figures are still within a reasonable range, showing efficient use of assets overall.

c. Return on Assets (ROA):

- The ROA shows an increase from 16.42% in 2022 to 18.34% in 2023, which indicates improved profitability from assets.
- The company is generating more income per dollar of assets, which reflects efficient management and profitability.
- The upward trend in ROA is a positive sign for creditors, as it shows the company is using its assets effectively to generate earnings.

d. Quick Ratio:

- The quick ratio has followed a similar trend to the current ratio, decreasing from 3.35 in 2019 to 2.10 in 2023.
- A quick ratio above 1 is considered good, as it excludes inventory from current assets and is a more stringent test of liquidity.
- Alphabet maintains a strong quick ratio, which indicates healthy liquidity levels even without considering inventory. This suggests that the company is not overly reliant on inventory to cover short-term liabilities.

Analysis Summary:

- Overall, Alphabet demonstrates strong liquidity, as evidenced by both the current and quick ratios being above 1 across the years.
- The company is managing its assets effectively to generate sales and profit, with both total asset turnover and ROA showing healthy figures.
- Despite a slight decline in some ratios, the company remains in a robust financial position with no immediate liquidity concerns.
- From a credit perspective, Alphabet would be considered a low-risk borrower with a strong ability to meet its financial obligations in the short term.

15. similarly EQUITY ANALYSTS

Ratio	2023	2022	2021	2020	2019
Debt to Equity Ratio ((Short term debt + Long term debt)/ Total Equity)	4.68%	5.74%	5.89%	6.26%	2.26%
Return on equity (Net Income/ Total Equity)	26.04%	23.41%	30.22%	18.09%	17.05%
PE ratio (Market value per share/ Earnings per share)	24.08	19.39	26.76	29.86	20.3

a. Debt to Equity Ratio:

- Alphabet's debt to equity ratio has seen a general downward trend from 6.26% in 2020 to 4.68% in 2023.
- This indicates that Alphabet is using less debt relative to its equity to finance its operations.
- The low debt to equity ratio suggests a conservative capital structure, which typically indicates a lower risk of bankruptcy and financial distress.
- This could be seen as positive sign for risk-averse investors

b. Return on Equity (ROE):

- There is a noticeable fluctuation in ROE, with an increase from 2019 to a peak in 2021, followed by a slight dip in 2022 and then an increase again in 2023.
- The increasing ROE in 2023 to 26.04% is a strong indication of the company's growing efficiency in generating profit from shareholders' equity.
- This upward trend in ROE, particularly the recovery in 2023, suggests that the company is delivering value to shareholders and effectively using its equity base to grow its earnings.
- The higher than industry average ROE might suggest effective management and operations, but as noted, it could also imply more aggressive use of debt.

c. PE Ratio:

- The P/E ratio shows variability, with an increase from 2020, a peak in 2021, followed by a decrease in 2022, and an increase again in 2023 to 24.08.
- The increasing P/E ratio in 2023 suggests that the market is willing to pay more for each dollar of earnings, possibly expecting future growth.

#### Overall Analysis:

- Alphabet's financial ratios reflect a solid financial position with a conservative capital structure, strong return on equity, and a rising P/E ratio, suggesting positive market sentiment.
- The low debt to equity ratio speaks to a lower risk profile, which could appeal to risk-averse investors, but may also signal that the company is not as aggressive in pursuing growth through debt as other companies might be.
- The fluctuating but overall high ROE indicates Alphabet's capability to generate profits and potentially a sign of strong management performance.
- The P/E ratio suggests investors have confidence in the company's future prospects, but as an equity analyst, one should consider if the expectations for growth justify the current earnings multiples.

#### 16. CFO

- Debt to Equity Ratio: A CFO would see the low debt to equity ratio as advantageous because it suggests the company is not over-leveraged and has room to borrow if necessary for future growth initiatives. However, they might also consider if the company could be using more leverage to finance growth, especially when interest rates are low.
- Return on Equity (ROE): A high ROE would indicate to the CFO that the company is using its equity efficiently to generate profits. An improving ROE could validate the company's investment decisions and strategy.
- P/E Ratio: A higher P/E ratio might indicate to a CFO that the market has high expectations for the company's growth. They might use this insight to communicate with investors about future plans and to manage expectations.
- Current Ratio and Quick Ratio: Both ratios indicate liquidity. A CFO would be pleased with ratios over 1, as they show the company can cover short-term obligations. However, a very high current or quick ratio could indicate an

inefficient use of capital, which might prompt the CFO to seek better returns on excess cash.

- **Operating Profit Margin:** The CFO would analyze changes in the operating margin closely as they reflect the core efficiency of the business operations. A decrease might prompt a review of operational costs and strategies.
- **Net Profit Margin:** This ratio is critical for a CFO as it measures how much profit is generated from total revenues. A stable or improving net profit margin is ideal. Fluctuations might lead the CFO to dig deeper into cost controls, pricing strategies, and revenue management.

Ratio	2023	2022	2021	2020	2019
Cash Ratio ((Cash+Short term investments)/Current Liabilities)	1.36	1.64	2.17	2.41	2.65
Day sales outstanding (Ave. Accounts Receivables / (Annual Sales / 365))	52.38	51.34	49.75	56.25	NA
Operating Profit Margin (EBIT/Revenue)	27.42%	26.46%	30.55%	22.59%	21.15%

- Cash Ratio:** The cash ratio has been declining over the past five years, from 2.65 in 2019 to 1.36 in 2023. This trend might indicate that the company is utilizing its cash and short-term investments more efficiently, potentially by investing in growth opportunities or paying down debt. A CFO would ensure that this ratio doesn't drop too low to maintain sufficient liquidity to cover short-term liabilities.
- Days Sales Outstanding (DSO):** DSO appears relatively stable with a slight increase from 2019 to 2023. A CFO would interpret this as the company having consistent credit policies and effective accounts receivable management. However, any upward trend might warrant a review of credit terms and collections processes to avoid cash flow issues.

- c. Operating Profit Margin: There is a fluctuation in the operating profit margin with it being the highest in 2021 at 30.55% and decreasing in the subsequent years. A CFO would explore the causes of these fluctuations, whether they are due to increased operating costs, changes in sales mix, or other operational factors, and consider strategies to improve efficiency and profitability.

In the context of strategic financial management, the CFO would make several considerations:

- Liquidity Management: Even with the cash ratio trending downward, it remains above 1, which is generally considered healthy. The CFO would consider whether the company's liquidity position aligns with its operational needs and risk tolerance.
- Receivables Management: The DSO figures suggest that the company is collecting receivables in a consistent time frame. As a CFO, one would continue to monitor this closely to prevent any deterioration in credit quality that could impact cash flows.
- Profitability: The operating profit margin is a key indicator of the company's core operational efficiency. The CFO would assess whether any strategic changes, market conditions, or internal factors are affecting this ratio and take appropriate actions to maintain or enhance operating efficiency.
- Growth and Investment: The CFO would use these ratios to inform decisions on financing growth, such as whether to use cash reserves or seek external financing. Additionally, the investment in capital or R&D would be evaluated against these ratios to ensure that they contribute positively to the company's profitability and liquidity.
- Risk Management: The CFO would consider the implications of these ratios for the company's risk profile, particularly in terms of liquidity risk and operational risks associated with sales and profit margins.
- Stakeholder Communication: The CFO would use this data to communicate with stakeholders about the company's financial health, providing reassurance about liquidity and the management of assets and liabilities.
- Future Planning: Based on these ratios and their trends, the CFO would engage in planning to ensure that financial policies, such as those governing cash management, credit, and investments, are designed to sustain the company's financial health and support its strategic objectives.