Tan Tian Qing - Independent Equity Research

Alphabet Inc. (Google) Class C - NASDAQ

DISCLAIMER: *This report is produced by an amateur and not a professional, thus all information is intended for* ***informational purposes only*** *and* ***should NOT*** *be construed as any kind of financial advice.*

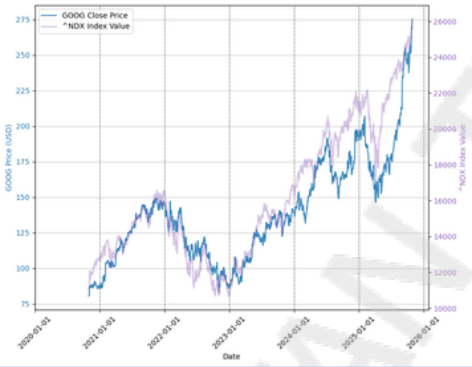
At Close: Oct 31, 2025, 4:00AM (GMT+8)
Ticker: GOOG (Yahoo Finance)

Personal View: Bullish (Holds Position)
Entry Date/ Average Price: Oct 02, 2025 / ~$246.50

Profile Overview	
52-week Low	$142.66
52-week High	$291.93
Change (YTD)	47.98%
Last Price	$281.82
Market Cap	$3.40T
PE Ratio	27.34x
Nasdaq 100's PE	35.30x

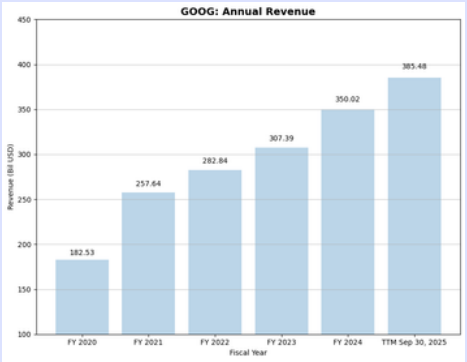
Click here for high resolution graphics

Figure 1: Share Price Movement



Data Source: Yahoo Finance (yfinance library)

Figure 2: Annual Revenue since FY2020



Data Source: Stock Analysis

COMPANY SNAPSHOT & BUSINESS MODEL

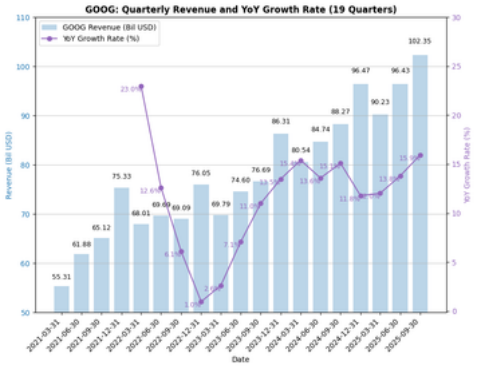
Alphabet Inc. is a multinational technology conglomerate and holding company, best known as the parent company of technology giant **Google**, businesses spanning Internet-related Services (Search, Advertising, Cloud Computing), Android Ecosystem, Platform, Devices, and experimental initiatives (Research Labs). By the date of producing the report, it is **the world's Fourth Largest Company**, with approximately $3.40 trillion market capitalization, far above the fifth one, Amazon's $2.61 trillion. Alphabet's business model can be simply divided into three segments: (1) Google Services, (2) Google Cloud, and (3) Other Bets.

The company's enduring strength is rooted in the unparalleled dominance of its core segment, **Google Services**, which generates the vast majority of consolidated revenue (~85%, mainly attributed by advertising). Products and services under this segment includes Ads, Android, Chrome, Gmail, Google Drive, Google Maps, Google Photos, Google Play, Google One, Search, and YouTube. Worth mentioning, **Google Search is dominating the global search engine market**, with market shares consistently around 91±2% throughout a 10-year period, making it the primary gatekeeper for online intent and advertising demand (it is a near-ubiquitous channel advertisers must access). The company has historically been heavily reliant on its advertising revenue.

Besides, Google Workspace is a suite of cloud-based productivity and collaboration tools for enterprises, such as Calendar, Colab, Docs, Drive, Gmail, Meet, Sheet, and etc. It is categorized under **Google Cloud** segment (SaaS), the primary growth engine in recent years beyond ads, alongside AI infrastructure (Gemini, TPU, Data Center, Vertex AI) and other services. This division represents the company's AI ambitions, **serving as the critical pillar for monetizing the massive investment in AI**. As of second quarter of 2025, Google Cloud held approximately 13% of the global cloud infrastructure market share, making it the third-largest provider behind AWS (around 30%) and Microsoft Azure (around 20%).

Lastly, Other Bets is a dedicated segment comprises various early-stage, experimental ventures like Waymo (autonomous driving technology) and Verily (life sciences and healthcare). While not currently significant revenue contributors, they represent risky ventures for potential disruptive innovation and long-term value creation outside of the core internet business.

Figure 3: Quarterly Revenue since Q1'21

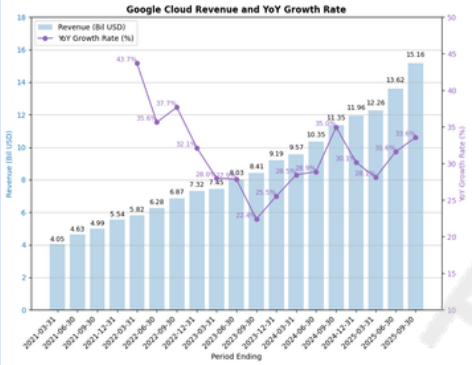


Data Source: Stock Analysis

Figure 4: Revenue by Google Search

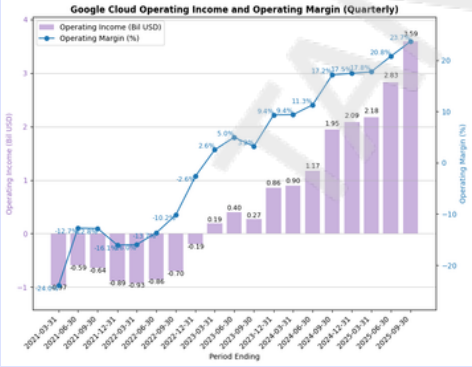
Data Source: Stock Analysis

Figure 5: Revenue by Google Cloud



Data Source: Stock Analysis

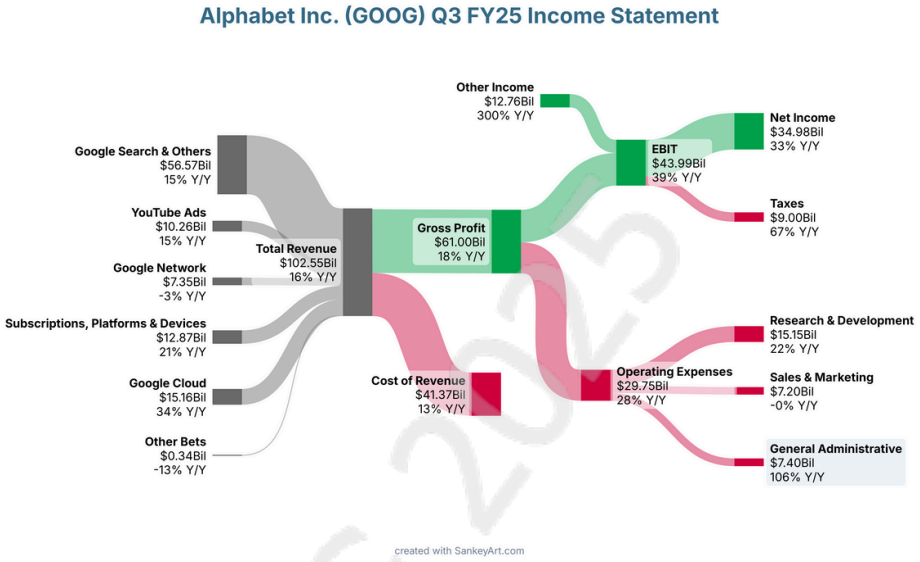
Figure 6: Google Cloud Operating Income



Data Source: Stock Analysis

FUNDAMENTAL PERSPECTIVE

The below diagram illustrates how Alphabet Inc. generated money and to where its revenue flowed in the most recent quarter (Q3 2025).



Source: Alphabet Q3 2025 Earnings Release

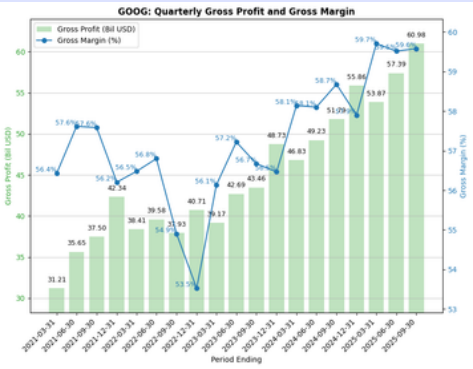
Financial Performance Analysis

Despite three years of hype around "LLMs replacing traditional search engines,", financially, as evidenced on Figure 4 representing the revenue generated by **Google Search** segment, which is the core income generator of Alphabet, there **has not show any signs of slowing growth or structural erosion over the past 11 quarters** (since ChatGPT's release in late 2022). Compared to FY2021, FY2022 did show significant deceleration, however, this is believed attributed to the impact of the FED's aggressive Quantitative Tightening practice (actively raising the interest rates) to combat high inflation, not the impact of ChatGPT. For the most recent eight quarters (after the end of FED's rates hike), the revenue growth in this segment remained stable, growing at ~12.5% YoY.

Moving on to the **Google Cloud** segment, this segment **continuously shows robust growth momentum** (Figure 5), with every quarter resulted greater than 25% YoY growth in each of the last eight quarters (since ChatGPT release). This growth reflects **strong market demand for AI infrastructure and services**. What is even more encouraging is that since the first quarter of FY2023, Google Cloud segment has officially started generating positive operating profits for Alphabet. Its **operating margin has continued to grow at a steady and linear pace**, rising from a mere 2.55% in Q1 2023 to 23.68% in Q3 2025, with **no signs of slowing down** (Figure 6).

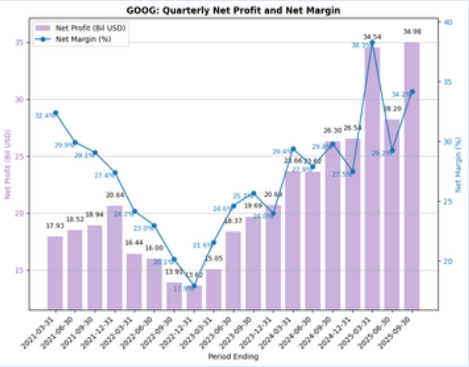
With sustained and solid market demand for AI infrastructure, **the cloud segment is poised to become a medium-term revenue diversifier**, easing the most prominent investment risk of Alphabet, which is **core business risk** (advertising). Therefore, the central question now is *whether AI can sustain consistent demand*. To answer this, we can take an eye looking at the tech giants' CapEx trend. When other tech giants like Microsoft, Amazon, and Meta, **all ramp up their CapEx at the same time**, it sends a powerful strategic signal that at this stage, they see virtually limitless demand for AI services in the future.

Figure 7: Quarterly Gross Profit since Q1'21



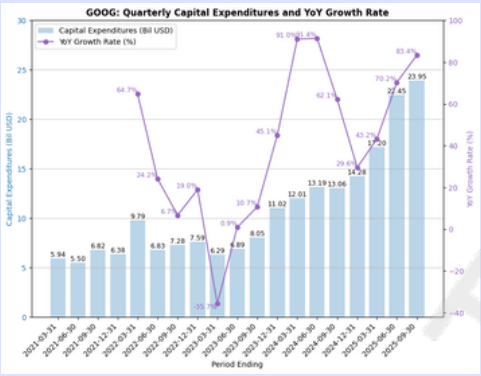
Data Source: Stock Analysis

Figure 8: Quarterly Net Profit since Q1'21



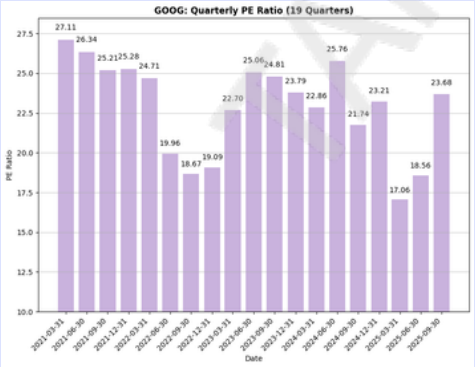
Data Source: Stock Analysis

Figure 9: Quarterly CapEx since Q1'21



Data Source: Stock Analysis

Figure 10: Quarterly PE Ratio since Q1'21



Data Source: Stock Analysis

This phenomenon generally heralds below insights:
(1) Tech giants believe demand for AI services will be massive and sustained over the long term, necessitating upfront infrastructure investments to seize the opportunity. This suggests **a full-scale commitment to AI infrastructure**.

(2) Tech giants are willing to sacrifice some present cash flow and profits to secure greater market share and revenue streams in the future. This is a sign that the company has **strong confidence** that there's significant room for expansion over the long term.

(3) Building and fortifying "moats". AI infrastructure is prohibitively expensive, not a game that startups can easily enter. Massive CapEx effectively constructs an impenetrable moat. Competitors or new entrants struggle to raise comparable capital to replicate infrastructure at scale, thereby securing these giants' market dominance.

Not only that, when major players collectively enter a high-CapEx cycle, this becomes **not an option but a competitive necessity**. CapEx in this context becomes a "survival investment", leaving no major player able to stand aside. Should a company choose not to participate in the CapEx race during early stages, it triggers a vicious "decline spiral" as follow:

- **Technological lag** → product performance and service experience fall behind competitors, less attractiveness.
- **Customer attrition** → slowing revenue growth as market share being eroded.
- **Reduced cash flow** → further inability to reinvest in future technologies → widening technological gap.

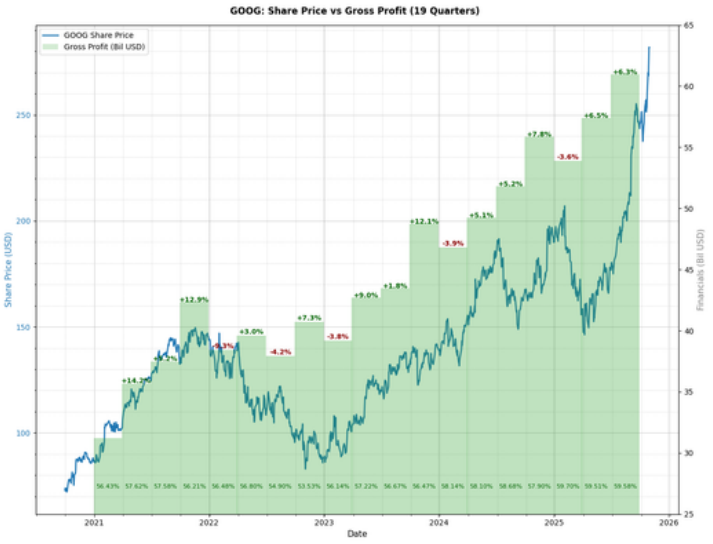
Thus, once trapped in this cycle, a company faces extreme difficulty in reversing its fortunes. Essentially, today's tech giants are paving a highway for AI through their CapEx. The critical question is *who will truly drive on this "road"*.

From CapEx side, for Alphabet, **the outlook remain highly optimistic**. Despite surging CapEx (Figure 9), its overall profitability remain robust (Figure 8) and even stronger, indicating **the company no longer need to sustain its market position through endless, costly "money burn"** at this stage. Instead, its CapEx are productive, as facilities like TPUs, data centers, and model APIs not only enhance advertising and cloud businesses but also convert more revenue into profit (evidenced by Google Cloud segment, Figure 6). In other words, **Alphabet's rising CapEx translates into stronger cash inflows**. This demonstrates that Alphabet's CapEx are not just strategic spending, but constructing the entire backbone of AI infrastructure, maintained a balance between "current profitability" and "future positioning".

Worth mentioning, Alphabet achieves **vertical full-stack integration** spanning from silicon, data, and network layers all the way up to algorithms, cloud platforms, and distribution channels, supported by its fully integrated production ecosystem of in-house chip design, self-built data centers, power management, liquid cooling systems, and etc.

A simple valuation will be discussed in the next section.

QUANTITATIVE PERSPECTIVE



Nowadays, the market is particularly worried about whether the AI frenzy is a "bubble". Let's examine this from a data-driven quantitative aspect. If we plot **Alphabet's Gross Profit alongside its share price** over the quarter, from Q1 2021 to Q3 2025 (as diagram above shows), it is seen that the **two series move together quite closely**. The share price tends to follow the company's profit after deducting direct cost of revenue.

This pretty make sense, notwithstanding total revenue represents the overall market demand, **gross profit is a benchmark that captures the core product competitiveness and unit economics** (pricing power and cost control capabilities ⟶ *to what extent the company can transfer the costs to its customers*), without the noise that R&D, CapEx, and other OpEx created in the bottom line.

Net profit despite reflects overall profitability, but for a technology company that is investing aggressively in AI chips or data centers, **monitor net profit solely can under-state the health of the core business** (this can be volatile); Gross profit isolates the economics of the product set that the market is ultimately paying for is thus a better benchmark (this is rather stable).

Quantitatively, between Q1 2021 and Q3 2025, gross profit rose ~95.4%, while revenue rose ~85.1%. Over the same window the stock delivered a total return of 137.1% (from $102.73 to $243.55). Yet looking at relative valuation, **the trailing quarterly PE has actually trended down** (Figure 10), from Q1 2021 at 27.11x to Q3 2025 at 23.68x. Across the 19 quarters, the PE ranged from ~17x to ~27x, but clusters in around 22-25x.

In other words, even though the share price grew faster than both gross profit and revenue growth, **the company's realized fundamentals explain most of the price appreciation** and thus, there is definitely no any sign of "bubble" for Alphabet's performance.

This is identical to Nvidia, where the stock price has been rising, yet its valuation has been decreasing. Therefore, **today's PE of 27.34x is within the fair value.** More optimistically, with stronger capability of AI monetization over quarters in the foreseeable future, **Alphabet is qualified for a higher valuation** to the average PE of peers' 35.30x (since among the Magnificent 7, only Alphabet and Meta is below the industry average), a 29% upside potential to **~$363.55**, provided that their core business remains stable and Google Cloud segment continues to achieve >30% YoY growth.

PERSONAL OUTLOOK & ANALYSIS

Core Investment Drivers

Google Cloud appeared to be the clearest and most tangible growth driver, as it is not only expanding but also becoming increasingly profitable, supported by an impressive 82% YoY surge in order backlog to $155 billion. Meanwhile, **the current core Search business remains resilient and adaptive**, not disrupted by LLMs. AI Overviews and AI Mode are designed as augmentations, delivering better user experience, not replacements to the traditional search process.

The close-loop investment logic of Search and AI model as follow: Google processes over 8.9 billion search queries daily, each query serves as training data to further refine its algorithms. **The more users search, the smarter the model becomes**. Smarter model attracts enterprise customers (advertisers follow user attention), more customers generate more data and revenue, more data makes the model smarter, while more revenue allows the company to reinvest for product innovation and infrastructure, reinforcing its long-term competitive edge. This scale-driven feedback loop **forms a powerful data moat that is extremely difficult for competitors to replicate**.

This scale advantage also brings significant cost efficiency: a massive user base spreads operational costs across billions of interactions, keeping per-user operating expenses well below those of competitors.

Moving on, another driver is the deep **AI ecosystem integration**. Gemini has achieved massive user adoption (650 millions of monthly users) and surging token usage on the developer side (processing over 1.3 quadrillion tokens, more than 20x growth in a single year), suggesting the company's strong position in foundational AI model and signaling substantial potential for AI-driven revenue generation (eg. the deal with Apple). Crucially, **Gemini is deeply embedded across Google's entire product suite, giving it a natural distribution advantage over standalone models**.

The Vertex AI Platform and its proprietary TPU-based infrastructure that provide the compute, model hosting, and enterprise APIs form the critical monetizable backbone. Simply put, **Alphabet has evolved far beyond being just an internet company**; it is a full-stack AI infrastructure provider now. More accurately, **Alphabet is the only fully vertically integrated AI player**, representing a competitive moat. While everyone else is still struggling to get access to Nvidia's GPUs for compute capacity, Google is leveraging their own specialized AI accelerators that is cost cheaper and more efficient. They also secured a landmark deal to sell up to 1 million TPUs to Anthropic, one of its AI competitors.

Key metrics investors need to be mindful over the next 3 years:

1. Does **revenue** from ads remain solid while AI-related segment shows strong and sustainable growth momentum (expanding Google Cloud's backlog)?
2. Are **profit margins** narrowing or expanding?
3. Is **CapEx** continuing to ramp up or showing signs of moderation?

Comparative Analysis

Compared to its major competitors, **Amazon**, despite having its own Trainium and Inferentia chips and a strong cloud presence, still trails in model capability and lacks a powerful distribution network. **Microsoft** benefits from its partnership with OpenAI and operates extensive cloud infrastructure, yet it relies on Nvidia for chips, leaving it dependent on external suppliers. **Meta** is strong in AI research but lacks both proprietary hardware and a commercial cloud platform to scale its models. Meanwhile, **OpenAI and Anthropic** have world-class models but no infrastructure of their own, they rent computing power from the major cloud players. Contrariwise, Alphabet alone owns every layer of the AI value chain. From an investor perspective, the thesis is simple: Google is the only company that can win in every layer simultaneously, yet some risks should be taken care.

Key Investment Risks

Every good investment inherent it own set of risks. For Alphabet, investors should aware of:

- **Antitrust Investigation** - Ongoing lawsuits in the US and EU may lead to fines or data sharing with third-party competitors, which could weaken Google's dominance in search and advertising, leading to slower growth.
- **Intensifying Competition** - Competition is heating up across AI, cloud, and searching, Alphabet may lose market share or pricing power, compressing margins.
- **Market Sentiment** - When market sentiment plunges into extreme fear, especially when AI-related stocks show signs of a bubble bursting (inflated PE ratios, share prices surging out of sync to financials, or weakening demand), no one is spared in a bear market.
- **Failed AI Monetization** - There's a possibility that current AI enthusiasm reflects pseudo-demand. If AI adoption fails to translate into tangible productivity gains or if AI proves less economically impactful than expected, returns on massive AI spending could disappoint and Alphabet's growth narrative weakens

APPENDIX: Additional Growth Vector (Beyond Core Ads & Cloud)

Waymo (Autonomous Driving)	Operating commercial robotaxi services in several US cities (Phoenix, San Francisco Bay Area, Los Angeles, Atlanta, Austin), with growing miles driven and positive unit economics in pilot zones. Once scaled, it could become a high-margin mobility platform.
Maps + AI + Local Commerce (Personal Brainstorm)	Turning Maps into a local commerce discovery engine (similar to China's Meituan or Xiaohongshu or Amap) that integrated user reviews, AI overviews, shop menus, and food delivery. Could potentially create a new monetization channel through merchant ads.
DeepMind / Isomorphic Labs (Life Science)	Alphafold's breakthroughs have foundational value in drug discovery, while Isomorphic Labs seeks direct monetization via pharmaceutical partnerships, representing Alphabet's entry into trillion-dollar biotech and healthcare markets.
YouTube Shorts	Shorts traffic is exploding; monetization and shoppable video integration could lift ARPU.
Google Quantum AI	No near-term monetization, but potentially transformative in the next decade. Immense future upside, possibly enabling premium "Quantum Computing as a Service" (QCaaS) for specialized problem solving (Pharmaceuticals, Material Science).