US Digital Advertising

AI-empowered digital transformation

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International advertising market (global ad market ex-China, same below unless otherwise specified) still has ample room for further digital transformation, benchmarking to rather advanced state in China's market. The pandemic accelerated the digital transformation towards online and mobile advertising globally. According to eMarketer, spending in international ad market reached US$809bn in 2023, with that for digital ad reaching 66% of total at US$533bn (vs. pre-pandemic level of 47% in 2019). We expect the spending in international ad market to grow at a CAGR of 8% over 2023-2025 reaching US$927bn in 2025E, mostly driven by the growth of digital ad spending. We expect digital ad will account for 69% of total ad spending in 2025E, up from 66% in 2023. Riding on AI capabilities and their unparalleled market leadership (Alphabet/Meta: 28/22% market share in 2023), we believe Alphabet and Meta are well-positioned to benefit from the digital transformation. Despite stock outperformance in 2023, we expect leadership in driving AI innovations will further support Alphabet's and Meta's stock performance resilience versus peers. We Initiate Alphabet and Meta at BUY.

- **Market leaders to benefit from further digitization.** Penetration rate of international markets ads digitization was relatively low at 66%, versus China's 83% in 2022. We estimate digital ad spending of international markets to reach US$644bn in 2025E, representing a CAGR of 11% over 2023-25E and 69% of total international markets ad spending in 2025E. For the US ad market, we expect the digital penetration rate to rise from 75% in 2023 to 79% in 2025E. We forecast the US digital ad spending will grow at a CAGR of 11% over 2023-2025E and reach US$342bn in 2025E. Given Meta and Alphabet's value proposition to advertisers, abundant user traffic and improving ad tech, they will continue to ride on the structural growth trend.

- **AI offers expansion opportunities.** Apart from leveraging of AI to improve user engagement and ad monetization, we believe the AI capabilities of Alphabet and Meta will bring new monetization potential. Meta saw 7%/6% increase in time spent on Facebook/Instagram as a result of recommendation improvement in 2023. Meta's AI tools also supported its Advantage+ Shopping Campaigns to reach US$10bn run-rate in 3Q23. Backed by the progress made in Generative AI, Alphabet further improved its capability to deliver better ROI for advertisers, introduced new AI-powered ad campaigns like Demand Gen and made significant strides to its automated AI campaign Performance Max.

- **Initiate coverage of Alphabet and Meta at BUY.** For Alphabet: 1) strong leadership in international ad market with 28% market share in 2023; 2) Google cloud and AI initiatives offer ample growth potential; 3) business model also offers flexibility for operating leverage to maintain steady ROE, and we forecast 13% earnings CAGR over FY24-26E. For Meta: 1) continuous innovation (e.g. Reels, Shop, Click-to-Message) will aid steady revenue CAGR of 11% over FY24-26E; 2) investments in AI and metaverse offer long-term growth opportunities; 3) business model offers ample operating leverage room to maintain 18% earnings CAGR over FY24-26E; and 4) commitment to improve shareholder return.

Valuation Table

Name	Ticker	Rating	Mkt Cap (US$ mn)	TP (LC)	Upside/ Downside	P/E FY24E	P/E FY25E	P/S FY24E	P/S FY25E
Alphabet	GOOG US	BUY	1,754,656	172.2	21%	19.5	16.9	6.1	5.3
Meta	META US	BUY	1,207,110	547.6	16%	23.0	20.0	7.6	6.8
Pinterest	PINS US	NR	23,955	NR	NR	27.5	21.8	6.6	5.6
Snap	SNAP US	NR	18,438	NR	NR	NA	32.9	3.5	3.1

Source: Company data, CMBIGM estimates

Contents

International digital advertising sector: overview

During 2020-2021, share prices of Alphabet and Meta rallied over 100% and 60% respectively, as the pandemic accelerated the digitalisation of international advertising market. In 2021, Alphabet and Meta delivered strong revenue growth of 41% YoY and 37% YoY, respectively.

In 2022, Meta's stock price underperformed and declined by over 60%, due to the implementation of Apple's IDFA privacy policy, intensifying competition from TikTok, and the unexpected conflict events in Europe. Alphabet's stock price was more resilient in 2022 (but still down by c.40%), since it is less impacted by the IDFA policy and intensifying competition in the social media sector.

Supported by the reaccelerating revenue growth and improving operation efficiency in 2023, both companies' fundamentals improved. Fuelled by AI thematic and strong market rally, shares of Meta and Alphabet surged by over 194/62% in 2023, respectively.

Figure 1: Price performance of US tech and leading ad platforms
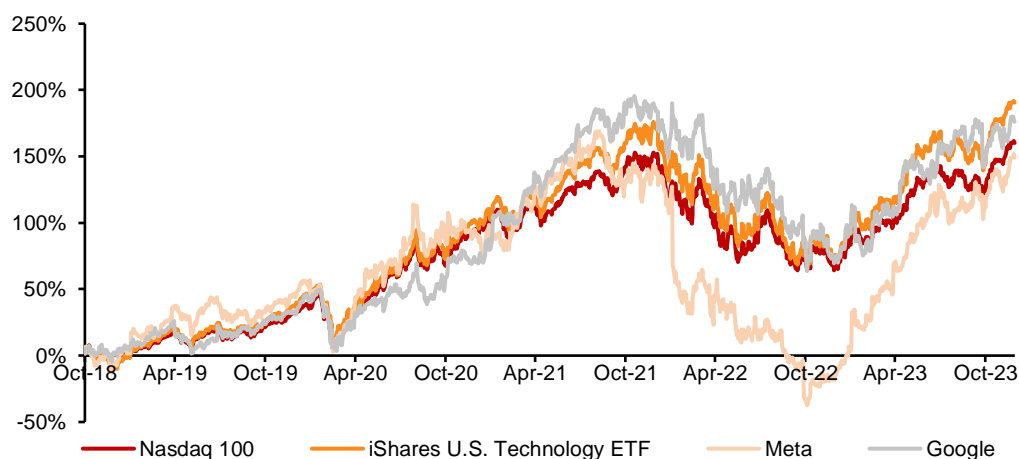
Source: Company data, CMBIGM

The average forward 1-year PE of Meta and Alphabet is currently at 21.8x, which is largely on par with the 5-year historical average (21.5x).

Figure 2: U.S digital advertising: forward 1-year PE band

Source: Bloomberg, CMBIGM

Figure 3: Global online ad platforms: valuation comparison

Companies	Ticker	Price (LC)	PE(x)			PS (x)			EPS CAGR 23-25E
			2023E	2024E	2025E	2023E	2024E	2025E	
Global ads									
Alphabet	GOOGL US	140.5	23.2	19.5	16.9	6.9	6.1	5.3	18%
Meta	META US	473.3	31.7	23.0	20.0	9.0	7.6	6.8	29%
Pinterest	PINS US	35.3	33.5	27.5	21.8	7.8	6.6	5.6	39%
Snap	SNAP US	11.2	NA	NA	32.9	4.0	3.5	3.1	32%
Average			**29.5**	**23.3**	**22.9**	**6.9**	**6.0**	**5.2**	
Global tech									
Microsoft	MSFT US	404.1	42.0	34.8	30.3	14.2	12.3	10.7	12%
NVIDIA	NVDA US	726.1	NA	NA	34.0	66.6	30.2	18.7	70%
Amazon	AMZN US	169.5	44.5	34.4	27.4	3.1	2.7	2.5	70%
Tesla Inc	TSLA US	200.0	NA	NA	49.3	6.5	5.8	4.8	0%
Salesforce	CRM US	289.7	NA	35.3	30.0	9.1	8.1	7.2	27%
Netflix Inc	NFLX US	584.0	47.8	33.9	27.5	7.5	6.6	5.9	26%
Adobe Inc	ADBE US	546.7	34.3	30.5	26.9	12.8	11.5	10.3	14%
Intuit Inc	INTU US	655.7	46.1	40.0	34.5	12.8	11.4	10.2	18%
Uber	UBER US	78.4	NA	47.3	31.0	4.4	3.8	3.2	NA
ServiceNow	NOW US	765.0	NA	NA	47.7	17.5	14.4	11.9	30%
Average			**42.9**	**36.6**	**33.9**	**15.4**	**10.7**	**8.5**	

Note: data as of 16 Feb
Source: Bloomberg, CMBIGM

Figure 4: US digital advertising: company overview

Company	Ticker	Overview
Meta	Meta US	Meta operates as a social media platform. The company builds applications and technologies that help people connect, find communities, and grow businesses. Meta is involved in advertisements, augmented, and virtual reality.
Alphabet	GOOG US	Alphabet provides web-based search, advertisements, maps, software applications, mobile operating systems, consumer content, enterprise solutions, commerce, and hardware products.
Pinterest	PINS US	Pinterest operates and maintains social networking sites. The company provides online venue for personal photos, ideas, oddities, decorations, places to visit, recipes, and other items.
Snap	SNAP US	Snap provides technology and social media services. The company develops mobile camera application products and services that allow users to send and receive photos, drawings, text, and videos.

Source: Company data, CMBIGM

The market value of top funds (Vanguard, BlackRock, FMR, State Street Group) holding in Meta/Alphabet (GOOG US) rose by 121/32% YoY to US$164/145bn in 3Q23, representing 1.6/1.4% of the total portfolio value in 3Q23 (vs. 0.8/1.2% in 3Q22).

Figure 5: Top fund holding in Magnificent 7: market value

(US$ bn)

Apple ■ Tesla ■ Nvidia ■ Microsoft ■ Amazon ■ Google ■ Meta

Source: Bloomberg, CMBIGM
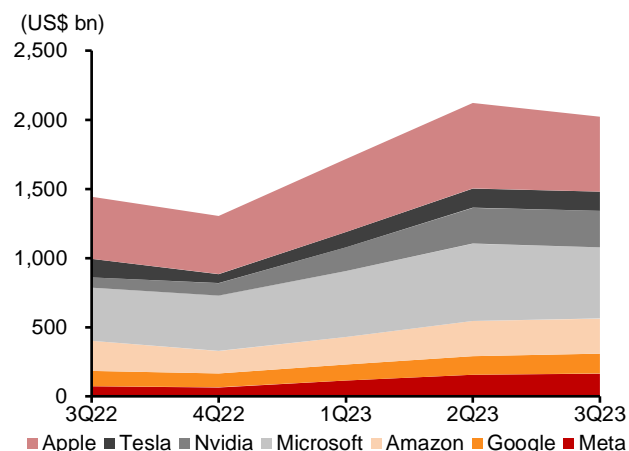
**Figure 6: Top fund holding in Magnificent 7: breakdown by market value**

■ Apple ■ Tesla ■ Nvidia ■ Microsoft ■ Amazon ■ Google ■ Meta

Source: Bloomberg, CMBIGM
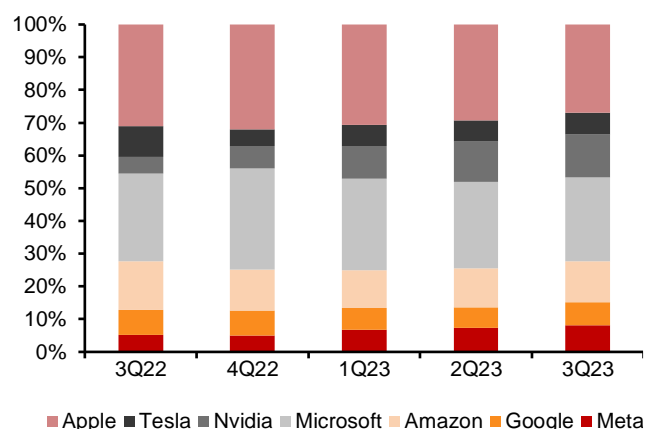
Figure 7: Magnificent 7 as % of top fund holding

Meta ── Google ── Amazon ── Microsoft ── Nvidia ── Tesla ── Apple

Source: Bloomberg, CMBIGM
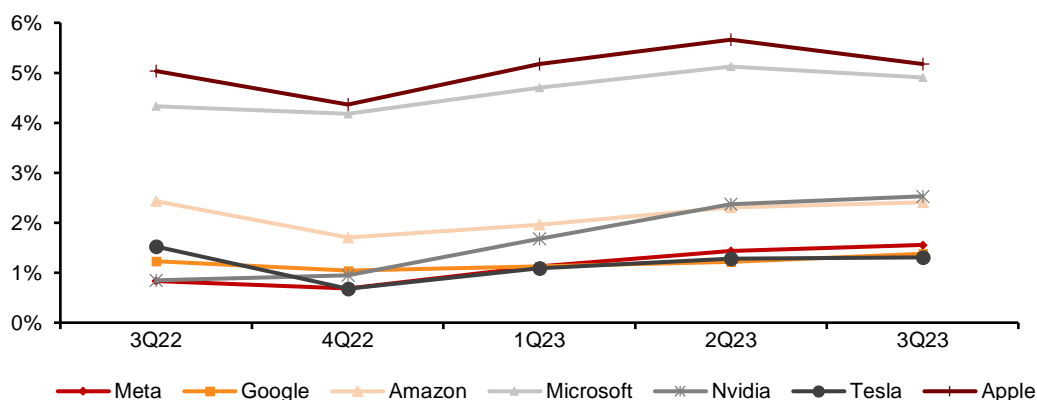
Global advertising: expect TAM to reach US$1.1tn in 2025E

Global advertising market is experiencing a persistent trend of digital transformation, which has been accelerated by the pandemic since 2020. According to eMarketer, global ad market spending grew by 9% YoY to US$988bn in 2023, with digital ad marketing accounting for 69% of the total ad spending (vs. pre-pandemic level of 52% in 2019). Among the different digital ad formats, mobile ad represented the largest share (52% of total ad spending in 2023).

Looking forward, the global ad market spending is expected to grow at a CAGR of 8% over 2023-2025E and reach US$1.1tn in 2025E, mainly driven by the expanding digital ad market, as more merchants are acquiring customers via digital channels. Based on eMarketer data, digital ad will account for 72% of total ad spending in 2025E, up from 69% in 2023.

Figure 8: Global ad market spending
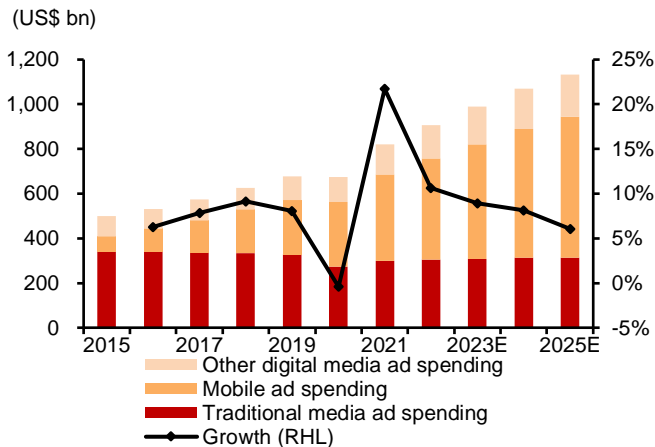
Source: eMarketer, CMBIGM

Figure 9: Global ad market spending mix
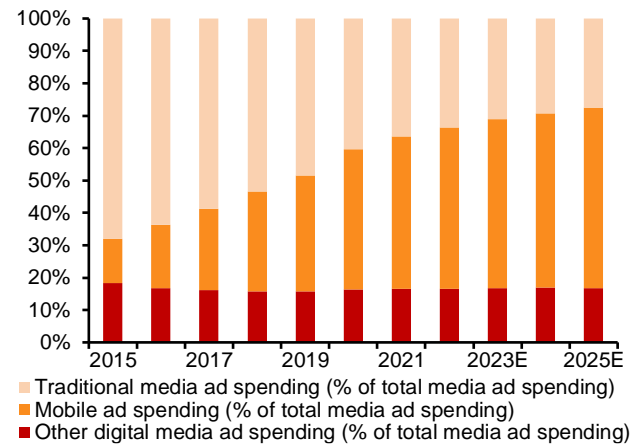
Source: eMarketer, CMBIGM

Global digital ad spending is estimated to reach US$820bn in 2025E, representing a CAGR of 11% over 2023-2025E. Display/search/classified/other advertising formats will account for 58/39/3/1% of total digital ad spending in 2025E, vs 57/40/3/1% in 2023 according to eMarketer. Compared to China's digital ad market, global digital ad market has greater revenue contribution from search ad. (Global vs China: 40% vs. 6% in 2023).

Figure 10: Global digital ad spending: breakdown by format
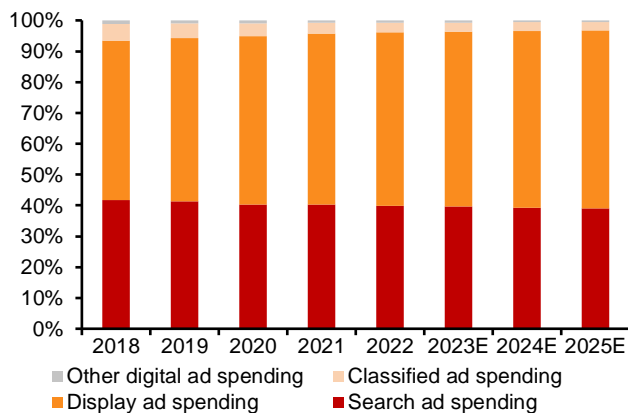
Source: eMarketer, CMBIGM

Figure 11: China's digital ad spending: breakdown by format
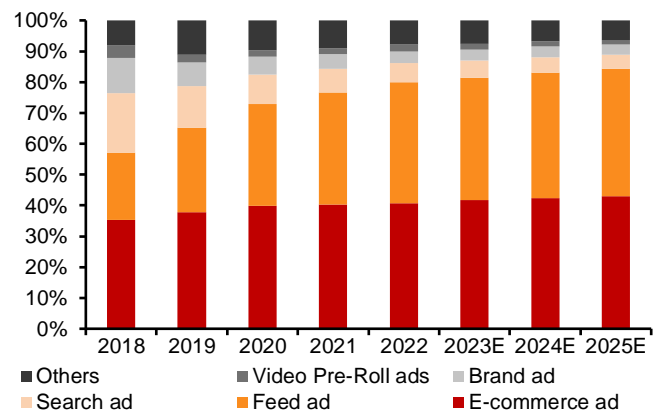
Source: iResearch, CMBIGM

Alphabet and Meta are well-positioned to benefit from the digital transformation of global advertising market, given their unparalleled leadership in the global digital ad market (especially the search/social ad market). As per eMarketer, Alphabet/Meta are the two largest worldwide digital advertising platforms, with market share of 28/22% in 2023, compared to that of Amazon/Alibaba/Bytedance (8/7/6%). We expect Alphabet/Meta to maintain market leadership over 2023-2025E, supported by their unique value proposition as a go-to platform for acquiring digital customers.

Figure 12: Global digital ad spending: breakdown by company
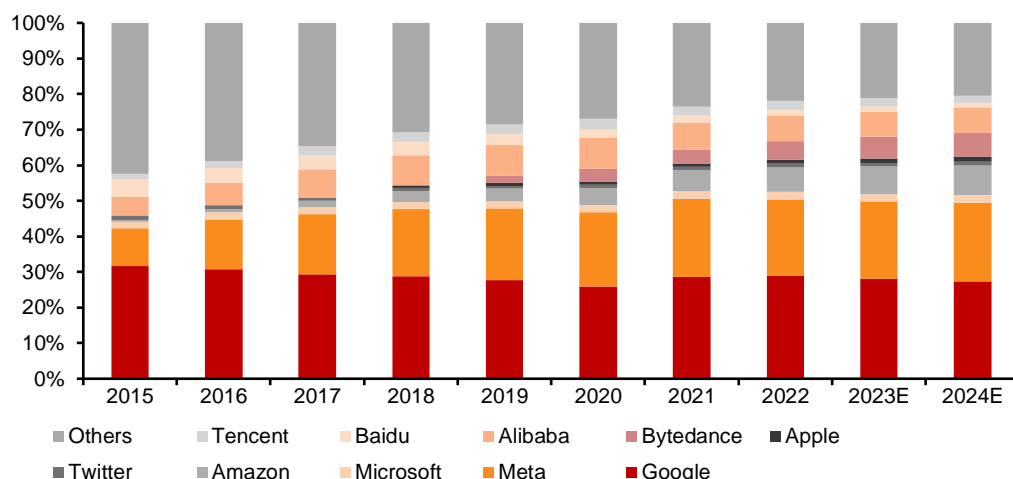
Source: eMarketer, CMBIGM

International ad market: more room for further digital transformation

The international (global ex-China) market ad spending was US$809bn in 2023 and is expected to reach US$927bn in 2025E, which represents a CAGR of 8% over 2023-2025E per eMarketer. The digitization penetration rate of international ad market was relatively low at 66% in 2022, versus China's 83% in 2023. We estimate the international digital ad spending to reach US$644bn in 2025E, representing a CAGR of 11% over 2023-2025E and accounting for 69% of total ad spending in 2025E.

Figure 13: Global advertising: overview

Total ad spending (US$bn)									
	2018	2019	2020	2021	2022	2023E	2024E	2025E	FY23-25 CAGR
Global	625.7	676.3	673.5	819.8	907.1	988.2	1068.6	1133.1	8%
International (Global ex-China)	523.1	555.7	541.3	667.7	741.0	809.0	876.5	927.4	8%
US	225.9	242.2	242.5	305.6	346.0	378.7	411.5	435.6	8%
China	102.6	120.6	132.2	152.1	166.1	179.2	192.1	205.6	7%
Western Europe	113.2	117.4	110.4	134.3	146.8	157.3	167.3	175.5	6%
Middle east & Africa	18.7	19.5	16.5	22.3	26.8	31.6	36.3	39.5	14%
Latin America	23.2	24.1	22.2	29.9	36.2	43.3	52.1	58.5	17%
Digital ad spending (US$bn)									
	2018	2019	2020	2021	2022	2023E	2024E	2025E	FY23-25 CAGR
Global	291.2	348.4	401.2	521.0	602.2	681.4	756.5	820.2	11%
International (Global ex-China)	224.1	263.3	299.8	399.6	466.8	532.6	594.4	644.2	11%
US	111.1	132.5	152.7	211.2	248.8	284.1	316.5	342.3	11%
China	67.1	85.2	101.4	121.5	135.4	148.8	162.1	176.0	9%
Western Europe	48.9	55.5	60.7	79.0	90.6	101.1	111.0	119.4	10%
Middle east & Africa	5.9	7.7	11.2	14.5	18.6	23.2	27.0	29.7	17%
Latin America	7.1	8.5	10.2	15.5	20.9	27.5	35.8	41.9	26%
Digital penetration									
	2018	2019	2020	2021	2022	2023E	2024E	2025E	
Global	47%	52%	60%	64%	66%	69%	71%	72%	
International (Global ex-China)	43%	47%	55%	60%	63%	66%	68%	69%	

US	49%	55%	63%	69%	72%	75%	77%	79%
China	65%	71%	77%	80%	82%	83%	84%	86%
Western Europe	43%	47%	55%	59%	62%	64%	66%	68%
Middle east & Africa	32%	40%	67%	65%	69%	73%	74%	75%
Latin America	31%	35%	46%	52%	58%	64%	69%	72%

Source: eMarketer, CMBIGM

The digital penetration rates of ad spending for Asia-Pacific/Western Europe/Latin America were 63/62/58% in 2022, which have ample room for improvement compared to China/North America (82/72%). In Asia-Pacific/Western Europe/Latin America, we expect rising digital penetration rate to fuel digital ad spending growth, underpinned by the increasing user time spent on internet and enriching digital ad solutions.

Figure 14: Global digital ad spending penetration: by region (2022)
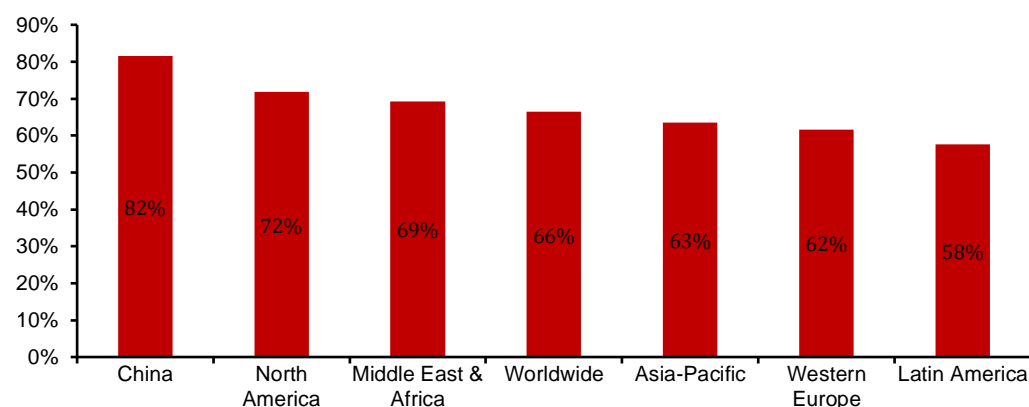
Source: eMarketer, CMBIGM

US advertising: rising online ad penetration

According to eMarketer, the US ad market spending grew by 9% YoY to US$284bn in 2023, and the digital ad spending accounted for 75% of the total ad spending. Driven by growth of digital ad (11% CAGR over 2023-2025E), the US ad market spending is expected to grow at 8% CAGR over 2023-2025E and reach US$436bn in 2025E, with digital ad accounting for 80% of total spending.

The US mobile ad market is concentrated. Alphabet and Meta established a strong foothold in the US mobile ad spending market, with market share of 26% and 18% respectively in 2023, according to eMarketer. We expect Alphabet's and Meta's market share will be relatively stable in the US.

Figure 15: US ad market spending
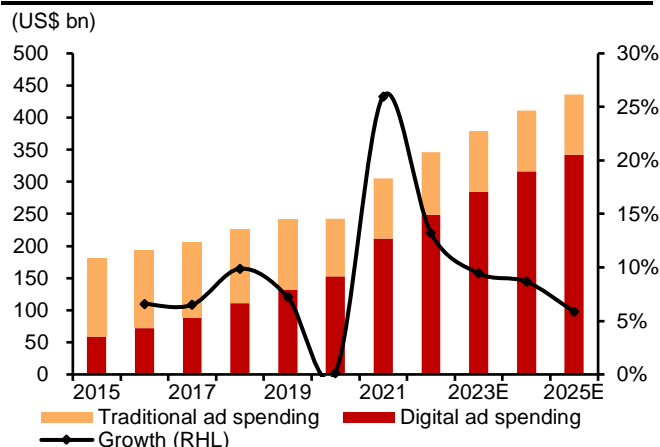
Source: eMarketer, CMBIGM

Figure 16: US mobile ad spending breakdown
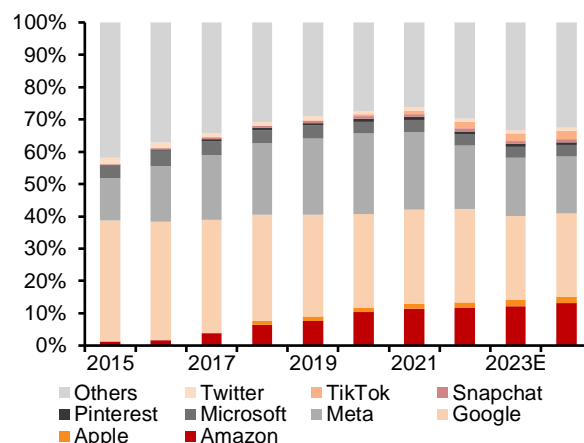
Source: eMarketer, CMBIGM

Rising digital penetration of US retails sales is a key driver of the US digital advertising market as more merchants acquire users via digital channels. Per eMarketer, the digital penetration rate of US retail sales will reach 18% in 2025E, vs pre-pandemic level of 11% in 2019. The digital ad spending has gradually become inevitable expenses for online merchants. The US digital ad spending as percentage of e-commerce sales is expected to reach 25% in 2024E, up from pre-pandemic level of 22% in 2019.

Figure 17: US retail e-commerce sales
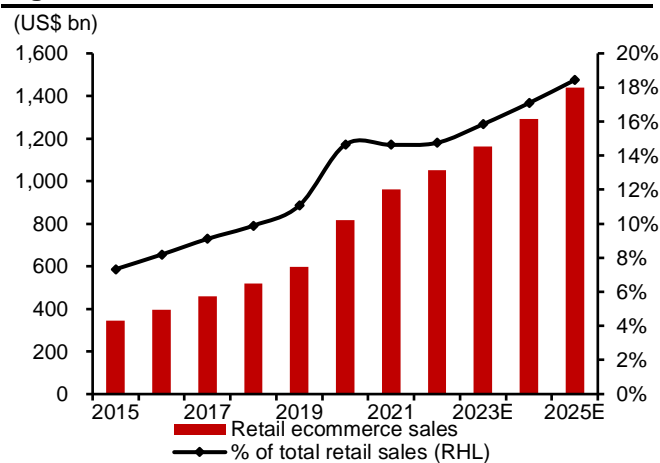
Source: eMarketer, CMBIGM

Figure 18: US digital ad as % of e-commerce sales
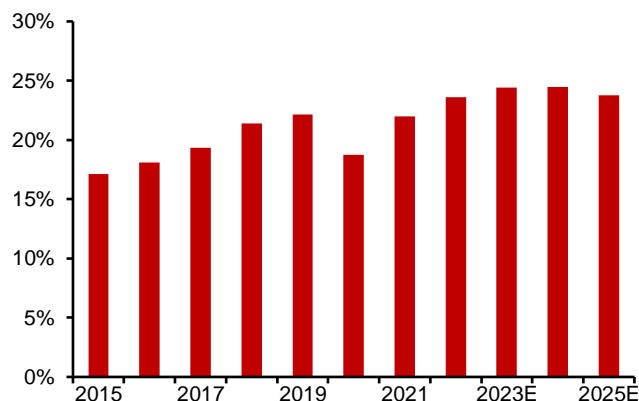
Source: eMarketer, CMBIGM

Generative AI to empower online advertising platforms

Leading global TMT companies are pinpointing AI infrastructure investments to stay competitive in the field of generative AI. Based on the estimates of Omdia, 150k/50k H100 GPUs were shipped to Meta and Alphabet in 2023. We expect these AI investments will support the development of their own large models and generative products, which will help Meta and Alphabet to capture new monetization opportunities and improve operating efficiency.

Figure 19: Estimated H100 GPUs shipped to selective buyers (2023)

Source: Omdia, CMBIGM

Backed by strong AI infrastructure and AI research team, Alphabet's self-developed large model Gemini Ultra has already outperformed GPT-4V in the MMMU benchmark. Meta's open-source model Llama is also quickly closing the gap among other leading large models such as GPT-4 and Gemini. In January 2024, Meta restructured its AI department and started the traini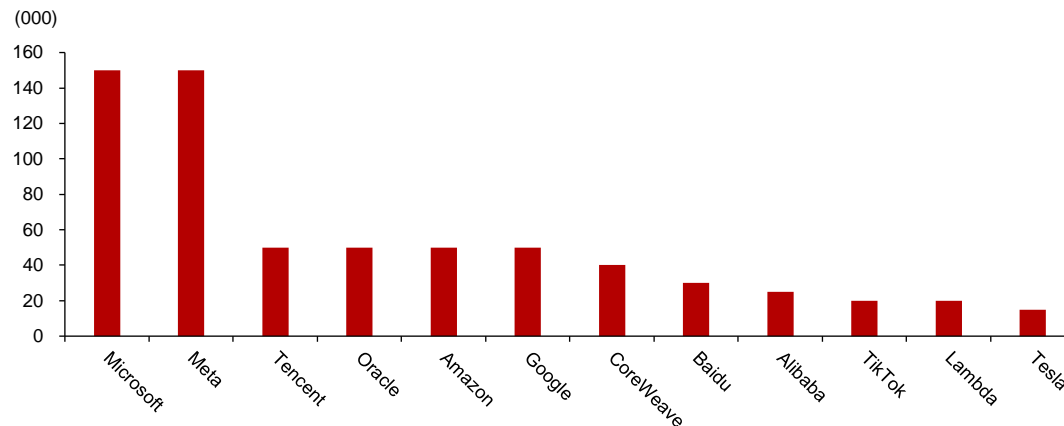ng of its next-generation large model. Supported by abundant use cases and solid AI infrastructure, we expect Alphabet and Meta to be the most competitive challengers to OpenAI in the Generative AI race.

Figure 20: MMMU benchmark performance: Gemini Ultra vs GPT-4V
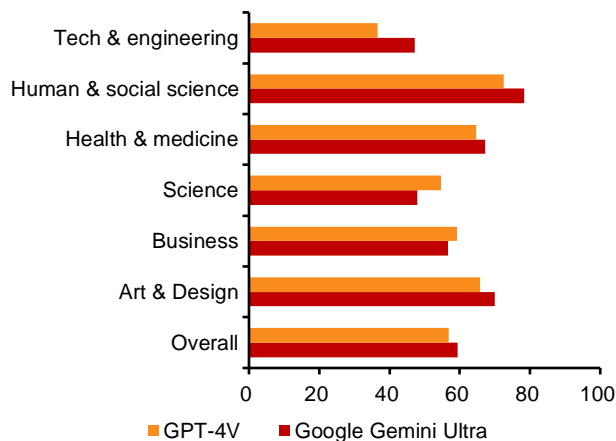
Source: CB Insights, CMBIGM

Figure 21: MMMU benchmark performance comparison and timeline
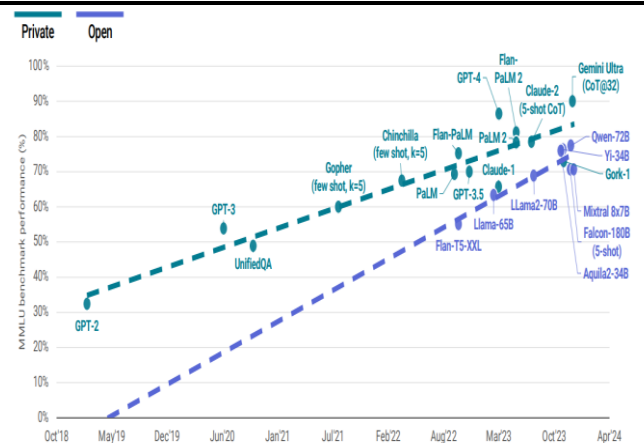
Source: CB Insights, CMBIGM

We expect generative AI will help Alphabet and Meta unlock more monetization opportunities. For instance, Meta saw 7%/6% increase in time spent on Facebook/Instagram, as a result of recommendation improvement in 2023. Meta's AI tools also supported its Advantage+ Shopping Campaigns to reach US$10bn run-rate in 3Q23. Supported by the progress made in Generative AI, Alphabet further improved its capability to deliver better ROI for advertisers, introduced new AI-powered ad campaigns like

Demand Gen and made significant improvement to its automated AI campaign Performance Max.

Figure 22: Generative AI to unlock monetization opportunities

Google		
Search	Google Gemini was incorporated into search
Advertising	Google introduced generative AI-powered ad campaign like Demand Gen
Robotics	Google PaLM-E targets robotics, combining language with robotic sensory data
Meta		
Advertising	Meta's AI supports better ad targeting and creative content generation
Social	Meta's AI drove 7% increase in time spent on Facebook as a result of recommendation improvement in 2023
Consumer devices	Meta is bringing multimodal AI to consumers with its Ray-Ban smart glasses

Source: Omdia, CMBIGM

AI video generation models have experienced rapid development since the beginning of 2023. Multiple video generation models were introduced, with enhancing image quality, extending video length and additional features. Before Open AI launched Sora in 2024, most video models like Pika and Runway can only generate 1-5 second videos based on text or image. In Feb 2024, OpenAI, leveraging a transformer architecture that operates on spacetime patches of video and image latent codes, introduced Soar, which can generate a minute of high-fidelity video and become one of the most advanced video generation models at current stage.

Figure 23: Generative AI video timeline: 2023
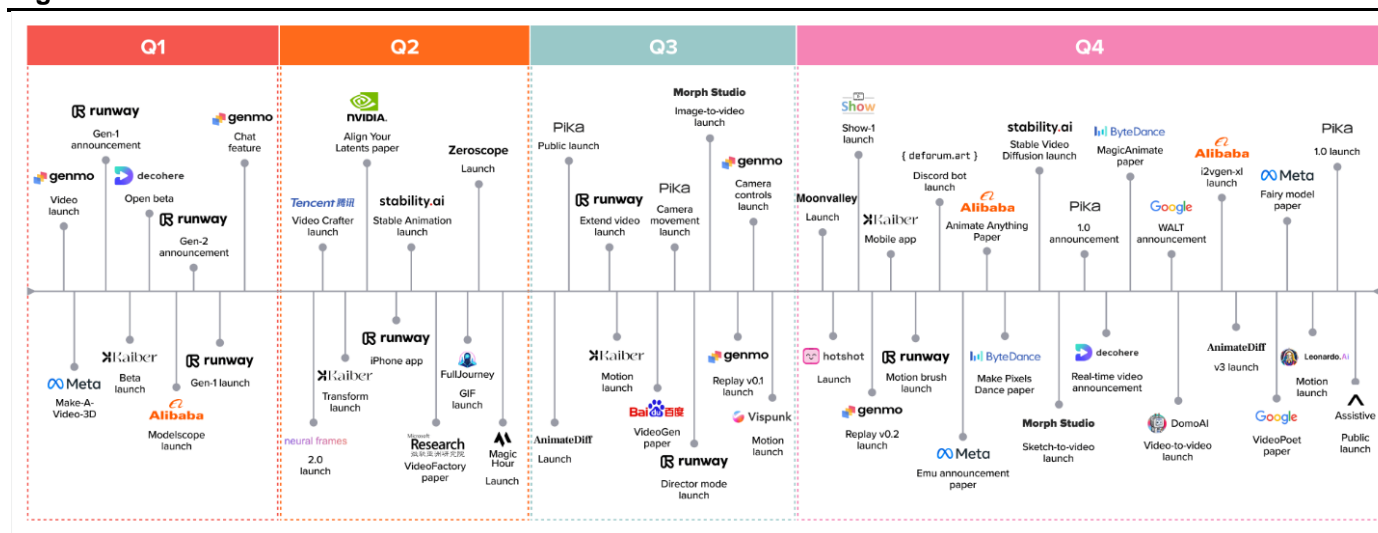
Source: a16z, CMBIGM

Alphabet and Meta also unveiled their video generation models via form of publishing research paper, but their models are yet to be public. Alphabet's VideoPoet is a large language model that is capable of a wide variety of video generation tasks, including text-to-video, image-to-video, video stylization, video inpainting and outpainting, and video-to-audio. Meta introduced its video generational model, Emu Video, in Nov 2023. Emu Video can use two diffusion models to generate 512x512 four-second videos at 16 frames per second. With the development of video generation models, we expect Alphabet and Meta could further improve content creation efficiency and enhance user experience.

Figure 24: Generative AI video model: output comparison

Video Model	Generation Type	Max Length	Extend?	Publicly available?
Sora (OpenAI)	Text-to-video, image-to-video, video-to-video	60 sec	Yes	No
VideoPoet (Alphabet)	Text-to-video, image-to-video, video-to-video	na	Yes	No
Fairy (Meta)	Video-to-video	na	No	No
Emu Video (Meta)	Text-to-video, image-to-video	4 sec	No	No
Runway	Text-to-video, image-to-video, video-to-video	4 sec	Yes	Yes
Pika	Text-to-video, image-to-video	3 sec	Yes	Yes
Kaiber	Text-to-video, image-to-video, video-to-video	16 sec	No	Yes
Stable Video	Image-to-video	4 sec	No	Yes

Source: Company data, CMBIGM

Figure 25: Generative AI video model: output comparison
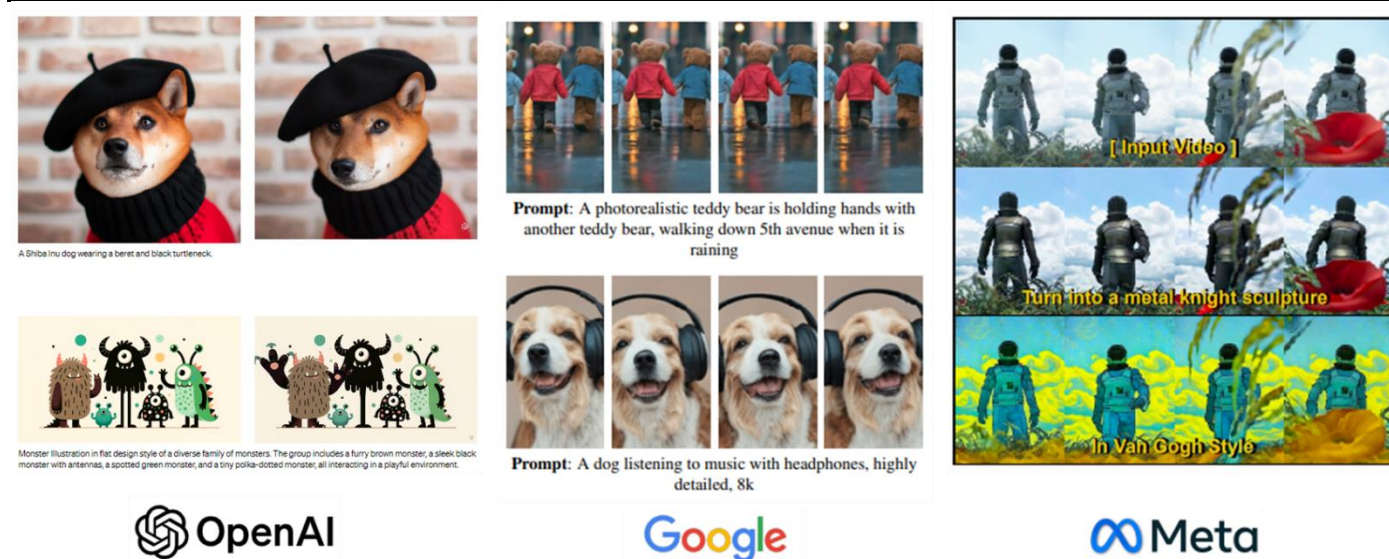
Source: Company data, CMBIGM

Alphabet (GOOG US)

Solid leadership in core search with Gen AI incremental opportunities

Alphabet is the largest digital ad platform worldwide by revenue, with total ad revenue of US$238bn and global digital ad market share of 28% in 2023. We expect Alphabet to maintain its market leadership over 2023-2025E, supported by its unique value proposition as a go-to platform for online merchants acquiring customers. We forecast net income to deliver 13% CAGR over 2024-2026E, driven by enhanced operating leverage and ad revenue growth reacceleration. We value Alphabet at US$2,175bn (US$172.2 per share) based on 26x 2024E P/E. Initiate at BUY.

■ **Riding on the digitalisation trend of global ad market.** Global ad market is experiencing a persistent trend of digital transformation, which has been accelerated by the pandemic since 2020. Despite the short-term pressure due to macro headwinds, the global ad market spending is expected to grow at a CAGR of 8% over 2022-2025E and reach US$1.1tn in 2025E, per eMarketer. Digital ad will account for 72% of total ad spending in 2025E per eMarketer, up from pre-pandemic level of 52% in 2019. Given Alphabet's strong leadership in ad tech, user traffic and revenue share, we believe Alphabet is well-positioned to capture the ad market opportunities. We forecast Alphabet's ad revenue to deliver a CAGR of 8% over 2024-2026E and reach US$303bn in 2026E, with Google Search/YouTube ads/Google Network Member recording a 2024-2026E CAGR of 9/9/6% to US$225/41/37bn in 2026E.

■ **Global cloud market represents enormous opportunities for Alphabet.** Enterprises continue to step up their investments in digital transformation to improve operating efficiency despite macro headwinds. Global public cloud spending is expected to increase by 21% YoY to US$600bn in 2023E. Google Cloud has been ranking the 3rd place in global cloud market, and we expect it to maintain its position. Looking ahead, we forecast Google Cloud's revenue to grow at a CAGR of 22% over FY24-FY26E, driven by enriching product portfolio and expanding customer base.

■ **Unleashing operating leverage on costs optimization.** Net income grew by 23% YoY to US$73.8bn in 2023, primarily attributable to Alphabet's effort in product prioritization and organisation optimization. Total headcount was down 4% YoY to 183k in 4Q23. Looking ahead in 2024E, Alphabet will continue to optimize its organisational structure and maintain disciplined expense control, while stepping up investments in strategic areas such as AI. We expect this to unleash its operating leverage and forecast net income to grow at a 13% CAGR over 2024-2026E.

Earnings Summary

(YE 31 Dec)	FY22A	FY23A	FY24E	FY25E	FY26E
Revenue (US$ mn)	282,836	307,394	343,045	379,475	416,533
YoY growth (%)	9.8	8.7	11.6	10.6	9.8
Net profit (US$ mn)	59,972.0	73,795.0	83,654.9	94,985.3	105,718.2
YoY growth (%)	(21.1)	23.0	13.4	13.5	11.3
EPS (Reported) (US$)	4.59	5.84	6.62	7.52	8.37
Consensus EPS (US$)	4.59	5.84	6.76	7.82	8.90
P/S (x)	6.3	5.8	5.2	4.7	4.3
P/E (x)	25.1	20.5	21.4	18.8	16.9

Source: Company data, Bloomberg, CMBIGM estimates

BUY

Target Price	**US$172.20**
Up/Downside	**21.5%**
Current Price	**US$141.76**

China Internet

Saiyi HE, CFA
(852) 3916 1739
hesaiyi@cmbi.com.hk

Wentao LU, CFA
luwentao@cmbi.com.hk

Ye TAO
franktao@cmbi.com.hk

Stock Data

Mkt Cap (US$ mn)	1,790,428.8
Avg 3 mths t/o (US$ mn)	3,059.9
52w High/Low (US$)	154.84/89.35
Total Issued Shares (mn)	12630.0

Source: FactSet

Shareholding Structure

Larry Page	5.7%
Sergey Brin	5.4%

Source: Company data

Share Performance

	Absolute	Relative
1-mth	-4.2%	-7.0%
3-mth	2.8%	-6.9%
6-mth	10.7%	-6.8%

Source: FactSet

12-mth Price Performance
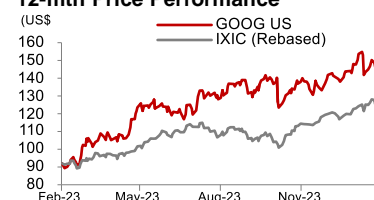
Source: FactSet

Investment thesis

Capturing opportunities of global advertising market

Alphabet is a leading technology platform benefiting from the global digitalisation trend. It is the largest digital ad platform worldwide by revenue, with total ad revenue of US$238bn and global digital ad market share of 28% in 2023. We expect Alphabet to maintain its market leadership over 2023-2025E, supported by its unique value proposition as a go-to platform for online merchants acquiring customers.

Global advertising market is experiencing a persistent trend of digital transformation, which has been accelerated by the pandemic since 2020. According to eMarketer, global ad market spending grew by 11% YoY to US$907bn in 2022, with digital ad marketing accounting for 66% of the total ad spending (vs. pre-pandemic level of 52% in 2019). Despite the short-term pressure due to macro headwinds, the global ad market spending is expected to grow at a CAGR of 8% over 2022-2025E and reach US$1.1tn in 2025E. Digital ad will account for 72% of total ad spending in 2025E, up from 66% in 2022.

Google Cloud evolving as the second growth engine

Global cloud market also represents enormous opportunities for Alphabet, with an estimated TAM of US$600bn in 2023E. Enterprises continue to step up investments in digital transformation to improve operating efficiency despite macro headwinds. Global public cloud spending is expected to increase by 21% YoY to US$600bn in 2023E, with SaaS/IaaS/PaaS/other accounting for 35/26/23/16% of total spending, according to Gartner.

Google Cloud has been ranking the 3rd place in global cloud market and we expect it to maintain its position. Google Cloud has accumulated a large customer base across different industries and countries, with 70% of the top 100 tech unicorns already using Google Cloud services. Looking ahead, we forecast Google Cloud's revenue to increase at a CAGR of 22% over FY24-FY26E and become a key growth driver for Alphabet, driven by enriching product portfolio and expanding customer base. We expect Google Cloud to maintain its third position in the global public cloud market.

Generative AI began to drive revenue growth of Google Cloud. Google Cloud offers Vertex AI platform to help customers build and deploy. Vertex AI already helped customers deploy over 130 Gen AI models, including PaLM, Med-PaLM, Sec-PaLM and Gemini, as well as other partner models. Vertex AI saw its API request increased by c.6x from 1H23 to 2H23.

Enhancing operating efficiency to drive earnings rebound

We expect total revenue of Alphabet to grow 12/11/10% YoY in 2024/2025/2026E, mainly driven by rising online penetration of customer acquisition and growing demand for enterprise digitalisation. We estimate FY24-FY26E revenue CAGR of 8/22/22% for Google service/Google Cloud/Other bets segments, which will account for 84.8/14.5/0.7% of Alphabet's total revenue in 2026E.

Net income of Alphabet grew by 23% YoY to US$73.8bn in 2023, primarily attributable to Alphabet's effort in product prioritization and organisation optimization. Total headcount was down 4% YoY to 183k in 4Q23. Looking ahead in 2024E, Alphabet will continue to optimize its organisational structure and maintain disciplined expense control, while stepping up investments in strategic areas such as AI. We forecast net income to grow by 13/14/11% to US$83.7/95.0/105.7bn in FY24/25/26E.

We value Alphabet at US$2,175bn (US$172.2 per share) based on 26x 2024E PE. Our target PE multiple is a premium to the sector average (23x), reflecting Alphabet's leadership in global advertising market and its potential to leverage AI to revitalize its businesses.

Alphabet: seizing digitalization opportunities

Alphabet is a leading technology platform benefitted from the digital transformation of consumers' daily life and business services. It is the largest digital ad platform worldwide by revenue, with total ad revenue of US$238bn and global digital ad market share of 28% in 2023. The company offers a wide spectrum of products and services to consumers, businesses and developers. The three major business segments include: 1) Google Services, which consists of Google Search, YouTube, Google Network, Google Play and Hardware, mainly generating revenue from advertising, sales of apps/hardware, and YouTube Subscription; 2) Google Cloud mainly generates revenue from IaaS/SaaS/PaaS and other business services; 3) Other bets mainly consists of Alphabet's investment in other companies such as Waymo, Verily and DeepMind.

Figure 26: Alphabet: business segments

Segment	Major products/business	Monetization
Google Services	Google search and other properties YouTube Google Network properties	Performance ad: delivers relevant ads that users will click on, leading to direct engagement with advertisers Brand ad: enhance users' awareness of advertisers' products and services
	Google Play	Revenue from sales of apps and in-app purchase in the Google Play Store
	Hardware	Revenue from sales of Fitbit wearable devices, Google Nest home products, Pixel phones, and other devices
	YouTube non-advertising	Revenue from YouTube Premium and YouTube TV subscriptions
Google Cloud	Google Cloud Platform	Revenue from infrastructure, platform and other services
	Google Workspace	Revenue from cloud-based collaboration tools for enterprises, such as Gmail, Docs, Drive, Calendar and Meet
Other Bets	Waymo	Company focusing on developing and offering autonomous car services
	Verily	Data-driven healthcare technology company
	DeepMind	Company focusing on AI research and applications

Source: Company data, CMBIGM

Figure 27: Alphabet: major product offerings

Source: Company data, CMBIGM

Alphabet's total revenue recorded a CAGR of 19% over 2021-2023 and reached US$307bn in 2023, driven by solid growth of both Google Advertising (CAGR: 17%) and Google Cloud (CAGR: 36%) revenue. Advertising business remains the major revenue and profit contributor of the company. Google Search & other ads/YouTube ads/Google Network ads/Google subscriptions, platforms, and devices/Google Cloud contributed 57/10/10/11/11% of total revenue in 2023.

Figure 28: Alphabet: total revenue trend
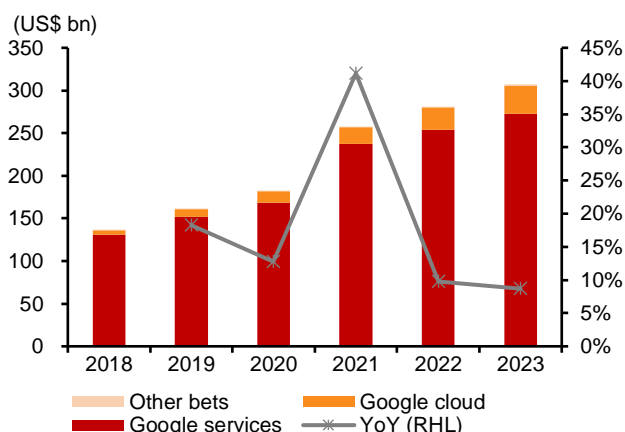
Source: Company data, CMBIGM

Figure 29: Alphabet: revenue mix (2023)
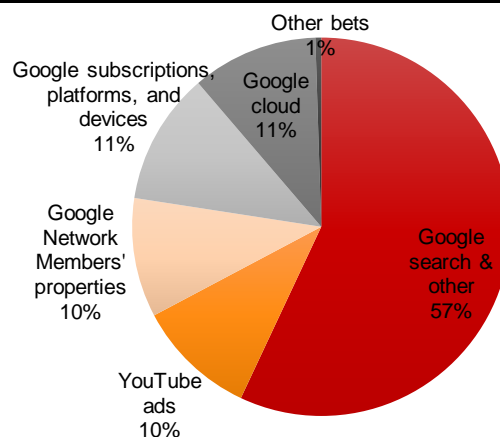
Source: Company data, CMBIGM

Alphabet's operating income was US$84.3bn in 2023, representing a CAGR of 27% over 2021-2023, mainly driven by growth of Google services and narrowing loss of Google Cloud. Google Services is the main profit contributor of the company, while other segments are still dragging the overall margin. That said, Google Cloud saw strong OPM improvement from -75% in 2018 to +5% in 2023.

Figure 30: Alphabet: operating income trend
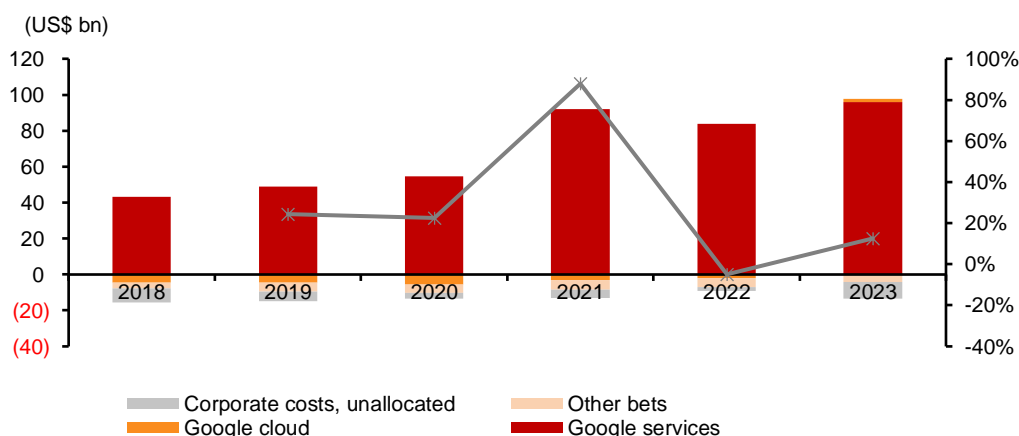
Source: Company data, CMBIGM

Google Service: strong leadership in global ad market

Google Service's revenue growth reaccelerated in 2023, primarily driven by resilient growth of Google Search, recovery of YouTube ad demand and solid growth of Google subscription business. As the global economy recovered, Google Service's revenue growth gradually reaccelerated throughout 2023. Google Service's revenue was up 12% YoY in 4Q23 (3Q23/2Q23: +11%/5% YoY), driven by the rising online penetration of advertising budget and improved monetization of Alphabet's diversified advertising properties.

Figure 31: Google Service: quarterly revenue trend
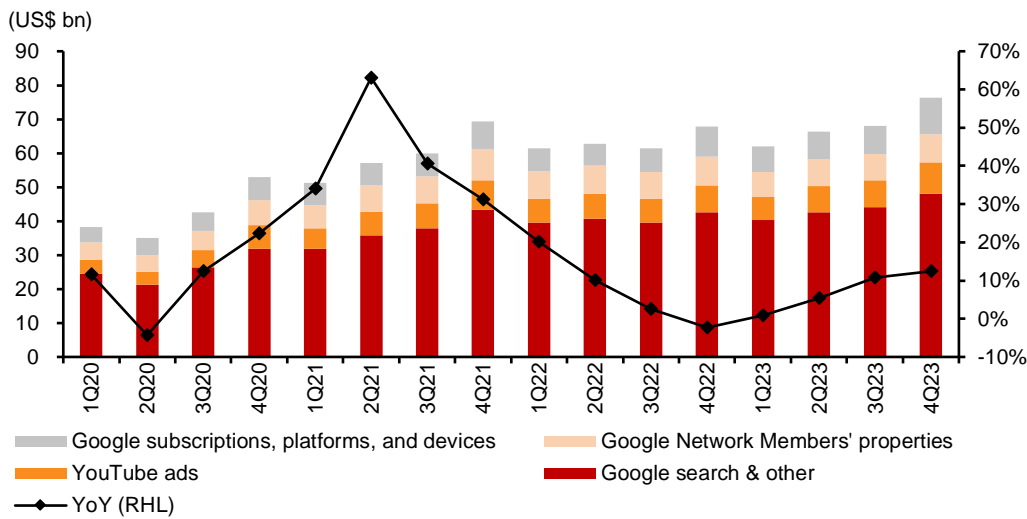
Source: Company data, CMBIGM

Google Search is a leader in the global search market, with dominant market share. Per StatCounter, Alphabet maintained over 90% share of the global search market in 2022. Google Search has accumulated abundant user traffic, with its total page visits up by over 10% from FY19 level to 86.4bn in December 2022. Google Search still has ample room to enhance its monetization, given that most user traffic has not been monetized. According to SimilarWeb, total paid search traffic was 14.4mn in December 2022 and only accounted for 0.02% of total page visits. With the commercial activities shifting online, we expect more search queries could be converted to paid clicks and drive the revenue growth of Google Search.

Figure 32: Google Search: page visits
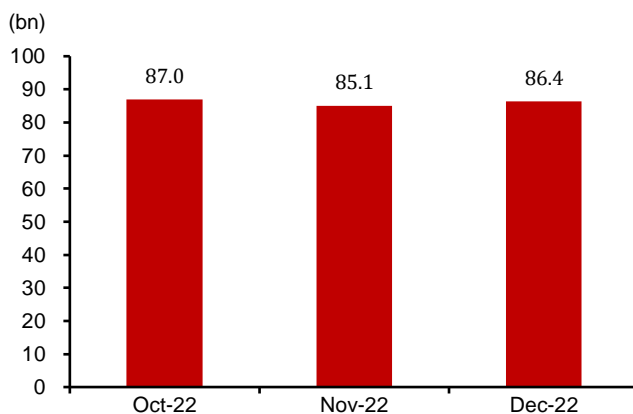
Source: Similarweb, CMBIGM

Figure 33: Google: search market share
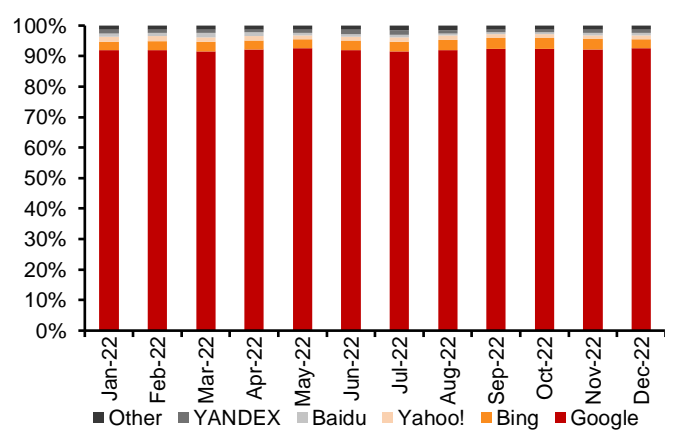
Source: StatCounter, CMBIGM

YouTube is Alphabet's another key ad property, riding on the tailwind of ad budget shift from TV to online video platforms. According to Statista and eMarketer, total video ad spending reached US$79.7bn in 2022 and is expected to grow at a 17% CAGR over 2022-2024E. Video ad spending will reach US$110bn in 2024E and account for 61% of total video+TV ad spending, versus 26% in 2018. YouTube ads revenue was up 16% YoY to US$9.2bn in 4Q23. We are positive on the long-term growth of YouTube, as YouTube is well-positioned to capture the opportunities in the video advertising market.

Figure 34: YouTube: ad revenue
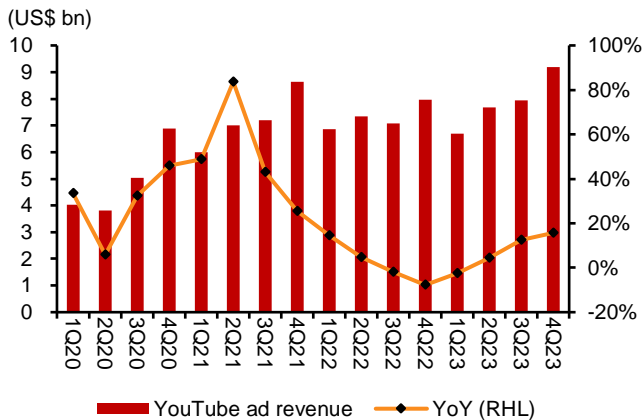
Source: Company data, CMBIGM

Figure 35: North America: Video vs TV ad spending
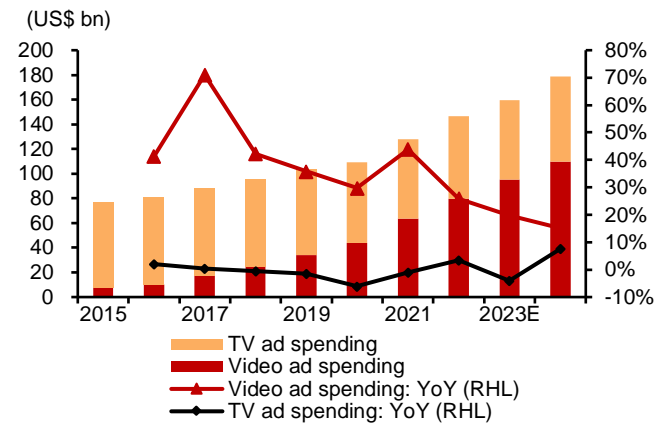
Source: eMarketer, Statista, CMBIGM

Google Cloud: driving revenue growth and profitability improvement

Google Cloud is the third largest platform by revenue in the global public cloud market, per Canalys. The platform offers a comprehensive set of cloud solutions to facilitate enterprise transformation, including: 1) Data Cloud: BigQuery analysed hundreds of exabytes per month as of Dec 2021; 2) Open Infrastructure Cloud: over 2bn Kubernetes pods were created in July 2022, up 75% YoY; 3) Collaboration Cloud: Google Workspace is the world's most popular productivity tool with >3bn MAUs; 4) Trusted Cloud: over 6mn websites are protected by Google Cloud's reCAPTCHA. Google Cloud continued to enrich its product portfolio to satisfy customer demand. In 1H22, 1,300 products and features were released, up 25% YoY.

Figure 36: Google Cloud: strong product development
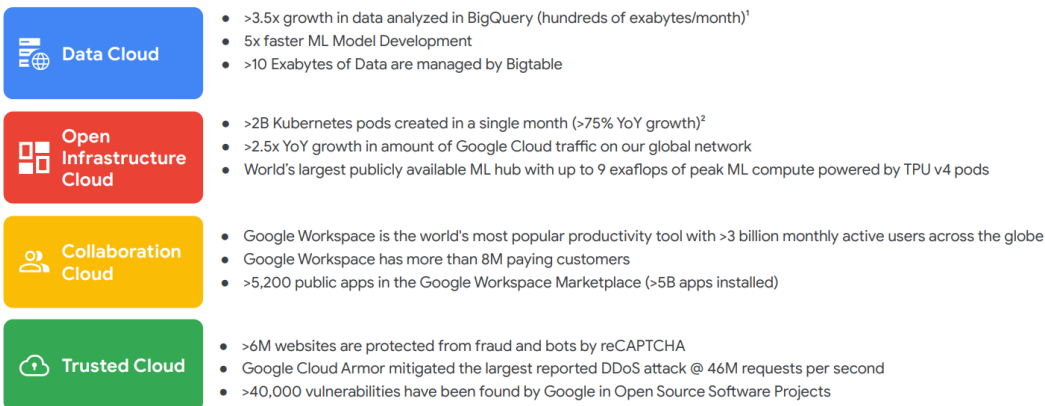
Source: Company data, CMBIGM

Google Cloud has accumulated a large customer base across different industries and countries. The company saw rapid growth across both new customers and existing customers, supported by its enriching product portfolio and improving go-to-market effort. In 2021, 70% of the top 100 tech unicorns already adopted Google Cloud services. The number of customers spending over US$1mn through the marketplace grew by 6x in 2021.

Figure 37: Google Cloud: diversified customer base

Source: Company data, CMBIGM

Google Cloud has delivered strong revenue growth and margin improvement since 2019. Google Cloud's revenue reached US$9.2bn in 4Q23, representing a 34% CAGR over 4Q20-4Q23. Google Cloud's OPM improved from -62% in 1Q20 to +9% in 4Q23, mainly due to economies of scale and enhanced operating efficiency.

Figure 38: Google Cloud: revenue trend
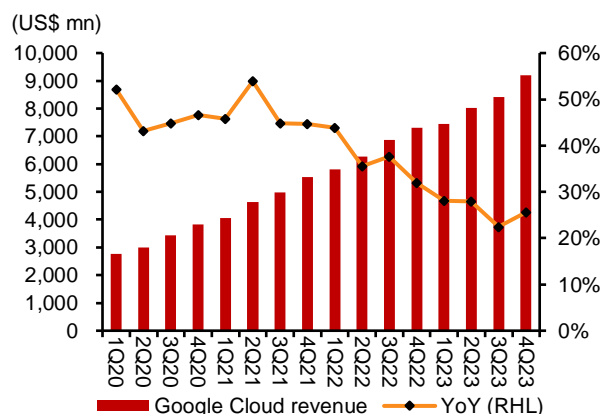
Source: Company data, CMBIGM

Figure 39: Google Cloud: OPM trend
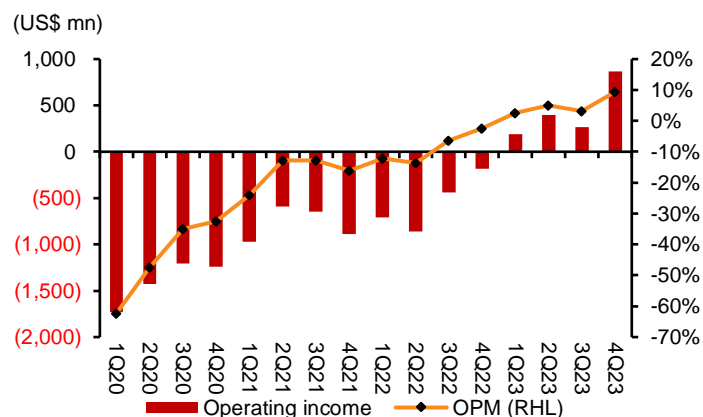
Source: Company data, CMBIGM

Google Cloud's operating margin still had a gap against leading cloud platform AWS, given its relatively low economies of scale and front-end loaded investments (Google Cloud OPM vs AWS OPM in 3Q23: +3.2% VS +30.3%). Looking ahead, as Alphabet continues to focus on enhancing the scale and operating efficiency of its cloud business, we expect it to narrow the margin gap against AWS.

Figure 40: Google Cloud: margin comparison with AWS
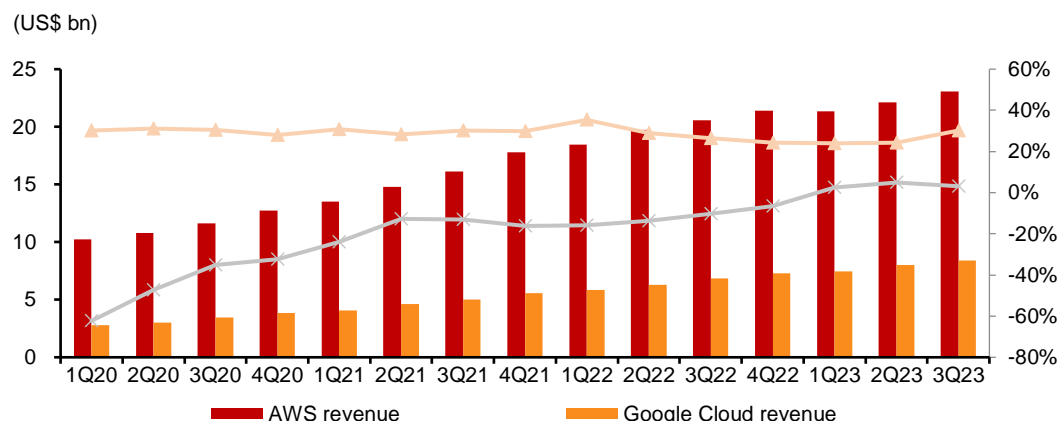
Source: Company data, CMBIGM

Google AI: emphasize AI-first strategy

Alphabet has developed extensive AI projects and applications via its AI department and subsidiary DeepMind. Alphabet offered a wide range of AI models and applications to different end-users, including developers, researchers, and businesses. For developers, Alphabet provided tools like ML kits and TensorFlow.js, which have become one of the most common tools for machine learning. For business, Alphabet offered tools like Cloud AI and Cloud AutoML, allowing enterprises to access quality machine learning services with manageable costs.

AI has become a more prevalent tool for Alphabet to enhance its operating efficiency and business performance. Looking ahead, the management expects that Alphabet will use AI and automation to improve productivity for operational tasks, as well as the efficiency of technical infrastructure. AI was also used to enhance Alphabet's search query matching and ad performance. According to management, AI's better understanding in human intent of language, combined with advances in bidding prediction, facilitated advertisers to see an average of 35% more conversions when they upgrade exact match keywords to broad match in campaigns using a target CPA.

Figure 41: Alphabet's AI tools

Segment	Tools	Introduction
Developers	ML Kit	Bring Google's machine learning expertise to mobile developers through Firebase
	Fairness Indicators	A tool built on top of Tensorflow Model Analysis that enables regular computation and visualization of fairness metrics for binary and multi-class classification
	TensorFlow.js	Browser-based Java script library for training and deploying ML models
	Colaboratory	Google research project created to help disseminate machine learning education and research
Researchers	Crowdsource	Help grow the Open Image Dataset
	Dataset Search	Enable users to find datasets stored in thousands of repositories across the web
Business	Cloud AI	Provide modern machine learning services, with pretrained models and a service to generate tailored models
	Cloud AutoML	Train high quality custom machine learning models with minimum effort and machine learning expertise

Source: Company data, CMBIGM

Figure 42: Alphabet: AI development

Date	Event
Jun-17	Google Research published the article "Attention Is All You Need" and proposed the Transformer Model, which became the cornerstone for the development of Generative AI
Oct-19	Alphabet rolled out BERT, which is a neural network-based technique for NLP pre-training based on the Transformer Model
May-21	Alphabet unveiled LaMDA, Language Model for Dialog Application, which is a pre-trained NLP model based on Transformer with ability to generate natural dialogue
May-22	Alphabet launched self-developed Imagen, a text-to-image diffusion model with a deep level of language understanding.
Feb-23	Alphabet invested US$300mn in Anthropic, which is developing Claude, an AI Chatbot
Feb-23	Alphabet launched its self-developed generative AI chatbot Bard, which is powered by LaMDA and thought to be the rival to ChatGPT
Aug-23	On Alphabet Next conference: 1) Alphabet expanded Vertex AI, an unified machine learning (ML) platform to over 100 models; 2) Alphabet announced partnership with Nvidia to re-invent cloud infrastructure for generative AI.
Dec-23	Alphabet introduced Gemini, its most capable and general model ever built.

Source: Company data, CMBIGM

Global cloud sector with a TAM of US$600bn

Global cloud market also represents enormous opportunities for Alphabet, with an estimated TAM of US$600bn in 2023E. Enterprises continue to step up investments in digital transformation to improve operating efficiency despite the macro headwinds. Global public cloud spending is expected to increase by 21% YoY to US$600bn in 2023E, with SaaS/IaaS/PaaS/other accounting for 35/26/23/16% of the total spending, according to Gartner.

Figure 43: Global public cloud spending
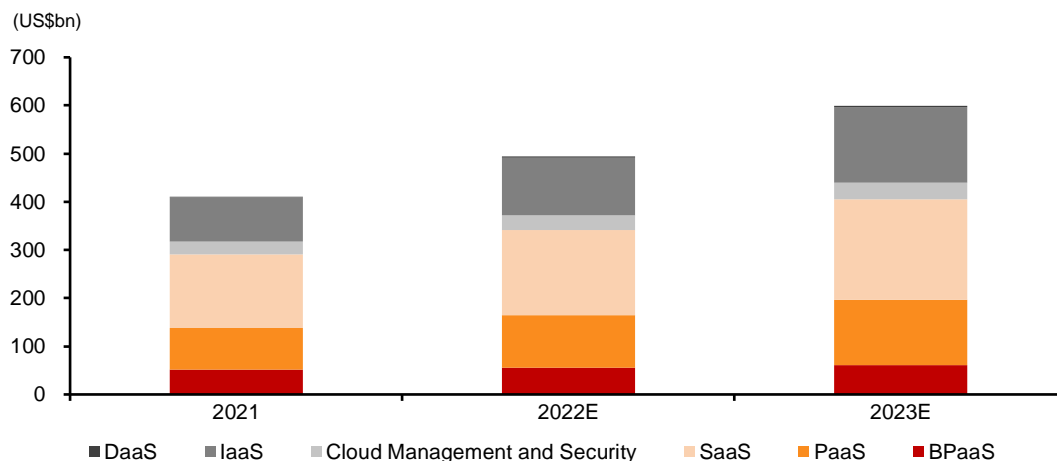
Source: Gartner, CMBIGM

Google Cloud has been ranking the 3rd place in global cloud market and we expect it to maintain its position. Global cloud infrastructure spending recorded a CAGR of 28% over 2Q20 to 2Q23 and reached US$72.4bn in 2Q23, as per Canalys. Global cloud market further consolidates. AWS/Azure/Google Cloud had market share of 30/26/9% in 2Q23, versus 31/20/6% in 2Q20.

Figure 44: Global cloud infrastructure spending
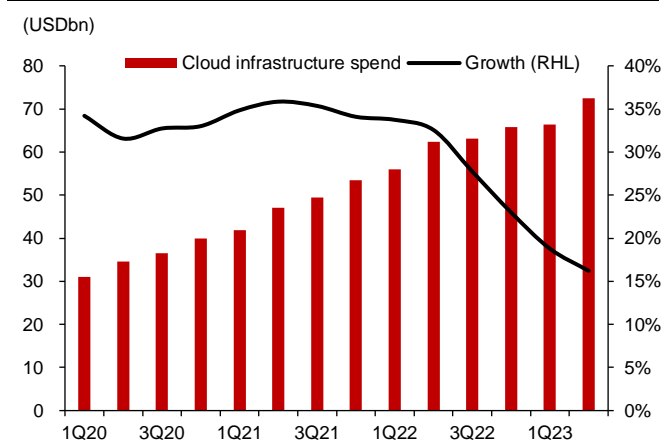
Source: Canalys, CMBIGM

Figure 45: Global cloud market share
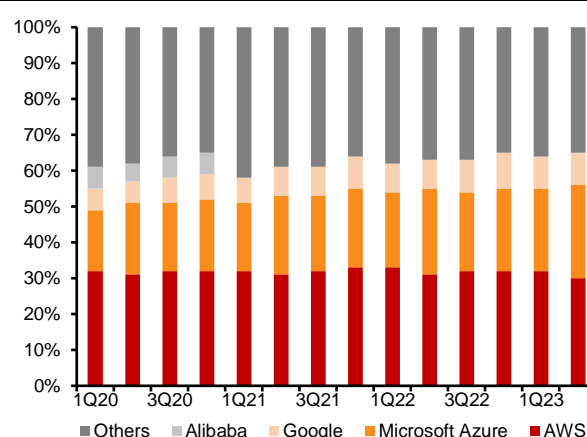
Source: Canalys, CMBIGM

Google Cloud continues to invest to narrow its revenue gap against Microsoft Cloud and AWS. Google Cloud's revenue was equivalent to 35% and 36% of that of Microsoft Intelligent Cloud and AWS, but delivered faster YoY growth of 22% in 3Q23 (vs. Microsoft Cloud/AWS: +19/12% YoY). Google Cloud focuses on providing enterprises with AI cloud solutions, a relatively unique position to help enterprises improve data management, work collaboration, cybersecurity and digital infrastructure. The company introduced a number of tools to enhance the AI capabilities of its cloud platforms, such as Vertex AI (Google's unified ML platform) and Duet AI (AI efficiency tools). However, given its initial massive

investment and lower economies of scale, Google Cloud had a lower OPM of 3.2% in 3Q23, compared to 48.4/30.3% of Microsoft Cloud/AWS OPM.

AWS adopted a developer-focused approach and generated most of its revenue from digital infrastructure services. AWS is in the lead of the global cloud infrastructure (IaaS + PaaS) market but is less competitive in the area of SaaS solutions for enterprises. In comparison, Microsoft Cloud adopts an enterprise-focused approach and focuses on offering enterprise-level SaaS solutions. Due to higher revenue contribution from SaaS solutions, Microsoft Intelligent Cloud has a higher margin profile versus AWS.

Figure 46: Major cloud platforms: revenue YoY	Figure 47: Major cloud platforms: OPM
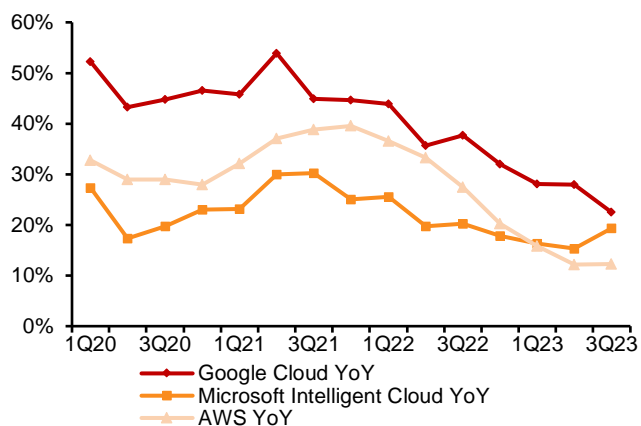
Source: Company data, CMBIGM
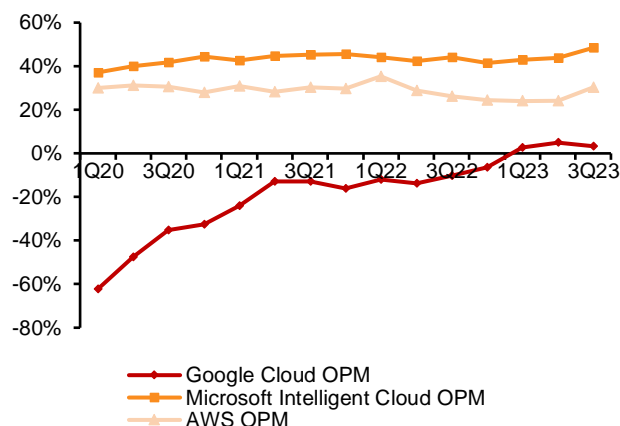
Source: Company data, CMBIGM

Alphabet: financials forecasts and valuation

We expect total revenue to grow 12/11/10% YoY in 2024/2025/2026E despite the macro headwinds, mainly driven by rising online penetration of customer acquisition, growing demand for enterprise digitalisation. We estimate FY24-FY26E revenue CAGR of 9/22/22% for the Google service/Google Cloud/Other bets segments, which will account for 84.8/14.5/0.7% of Alphabet total revenue in 2026E.

Net income grew by 23% YoY to US$73.8bn in 2023, primarily attributable to Alphabet's effort in product prioritization and organisation optimization. Total headcount was down 4% YoY to 183k in 4Q23. Looking ahead in 2024E, Alphabet will continue to optimize its organisational structure and maintain disciplined expense control, while stepping up investments in strategic areas such as AI. We forecast net income to grow by 13/14/11% YoY to US$83.7/95.0/105.7bn in FY24/25/26E.

Figure 48: Alphabet: revenue trend
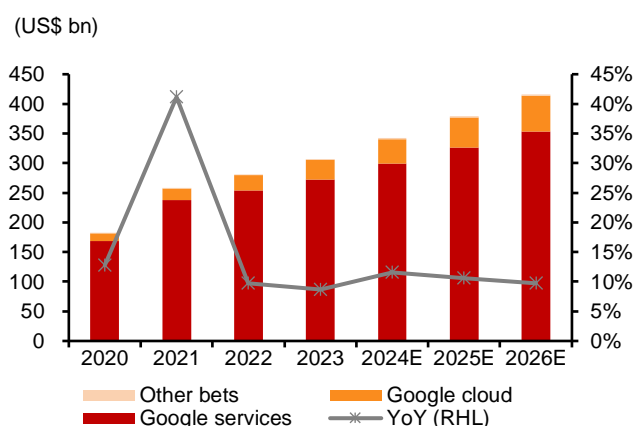
Source: Company data, CMBIGM estimates

Figure 49: Alphabet: net income
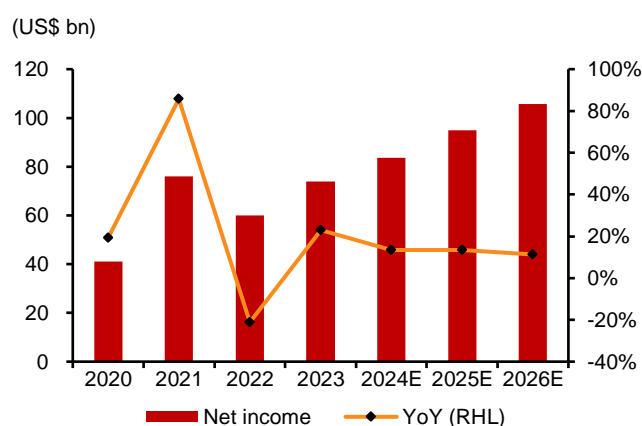
Source: Company data, CMBIGM estimates

Figure 50: Alphabet: key financial forecast

(US$ mn)	2022	2023	2024E	2025E	2026E
Total revenue	**282,836**	**307,394**	**343,045**	**379,475**	**416,533**
YoY	9.8%	8.7%	11.6%	10.6%	9.8%
Google services	253,528	272,543	299,579	326,378	353,110
YoY	6.7%	7.5%	9.9%	8.9%	8.2%
Google cloud	26,280	33,088	41,231	50,465	60,411
YoY	36.8%	25.9%	24.6%	22.4%	19.7%
Other bets	1,068	1,527	1,985	2,382	2,763
YoY	41.8%	43.0%	30.0%	20.0%	16.0%
Operating income	**74,842**	**84,293**	**96,159**	**109,283**	**120,209**
YoY	-4.9%	12.6%	14.1%	13.6%	10.0%
Net income	**59,972**	**73,795**	**83,655**	**94,985**	**105,718**
YoY	-21.1%	23.0%	13.4%	13.5%	11.3%
S&M expense ratio	9.4%	9.1%	8.7%	8.4%	8.1%
R&D expense ratio	14.0%	14.8%	14.6%	14.3%	14.0%
G&A expense ratio	5.6%	5.3%	4.9%	4.8%	5.3%
Operating margin	26.5%	27.4%	28.0%	28.8%	28.9%
Net income margin	21.2%	24.0%	24.4%	25.0%	25.4%

Source: Company data, CMBIGM estimates

Figure 51: Alphabet: CMBIGM estimates vs consensus

US$ bn	CMBIGM			Consensus			Diff. (%)		
	FY24E	FY25E	FY26E	FY24E	FY25E	FY26E	FY24E	FY25E	FY26E
Revenue	343.0	379.5	416.5	343.7	382.2	415.8	-0.2%	-0.7%	0.2%
Gross Profit	192.9	213.6	234.3	194.9	216.3	237.4	-1.0%	-1.2%	-1.3%
Operating Profit	96.2	109.3	120.2	99.7	113.5	116.7	-3.6%	-3.7%	3.0%
Net profit	83.7	95.0	105.7	84.4	95.8	107.2	-0.9%	-0.8%	-1.4%
EPS (US$)	6.6	7.5	8.4	6.8	7.8	8.9	-2.0%	-3.8%	-5.9%
Gross Margin	56.2%	56.3%	56.3%	56.7%	56.6%	57.1%	-0.5 ppt	-0.3 ppt	-0.8 ppt
Operating Margin	28.0%	28.8%	28.9%	29.0%	29.7%	28.1%	-1.0 ppt	-0.9 ppt	0.8 ppt
Net margin	24.4%	25.0%	25.4%	24.6%	25.1%	25.8%	-0.2 ppt	0.0 ppt	-0.4 ppt

Source: Bloomberg, CMBIGM estimates

Google Service (87% of FY24E total revenue)

Google Service's revenue growth accelerated to 8% YoY in 2023, mainly due to resilient growth of Google Search, recovery of YouTube ad demand and solid growth of Google subscription business. As the macro environment and ad demand recover, we forecast Google Service's revenue to grow by 10/9/8% YoY in FY24/FY25/FY26E. Among different ad properties, we expect Google Search to deliver resilient performance and grow at a CAGR of 9% over FY24-26E, given its unique value proposition for advertisers acquiring customers online. We forecast FY24-26E revenue CAGR of 9/6/13% for YouTube ads/Google Network Members' properties/Google subscriptions, platforms, and devices.

Figure 52: Google Service: revenue trend
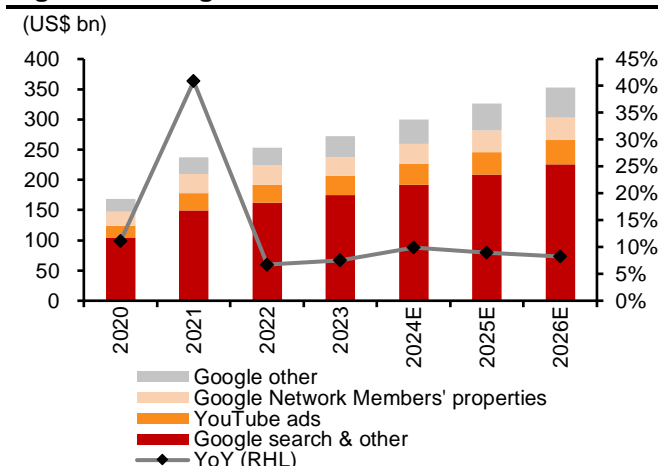
Source: Company data, CMBIGM estimates

Figure 53: Google Service: YoY growth
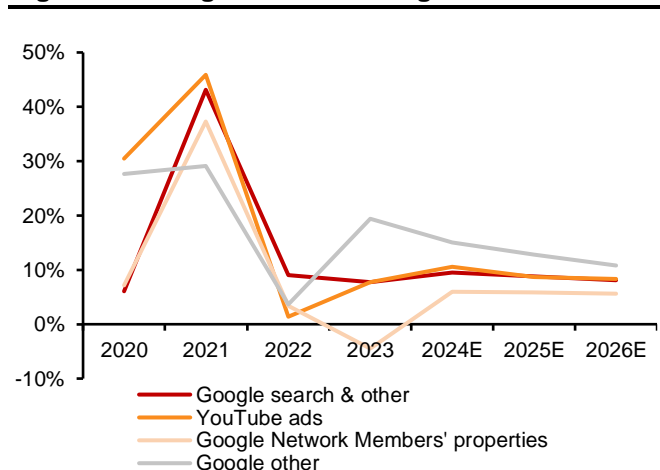
Source: Company data, CMBIGM estimates

Google Cloud (12% of FY24E total revenue)

The pandemic has accelerated enterprise digitalisation, and the demand for cloud services remains resilient amid macro headwinds. We forecast Google Cloud's revenue to increase by 25/22/20% YoY to US$41/50/60bn in FY24/FY25/FY26E, driven by enriching product portfolio and expanding customer base. We expect Google Cloud to maintain its third position in the global public cloud market.

Figure 54: Google Cloud: revenue forecast
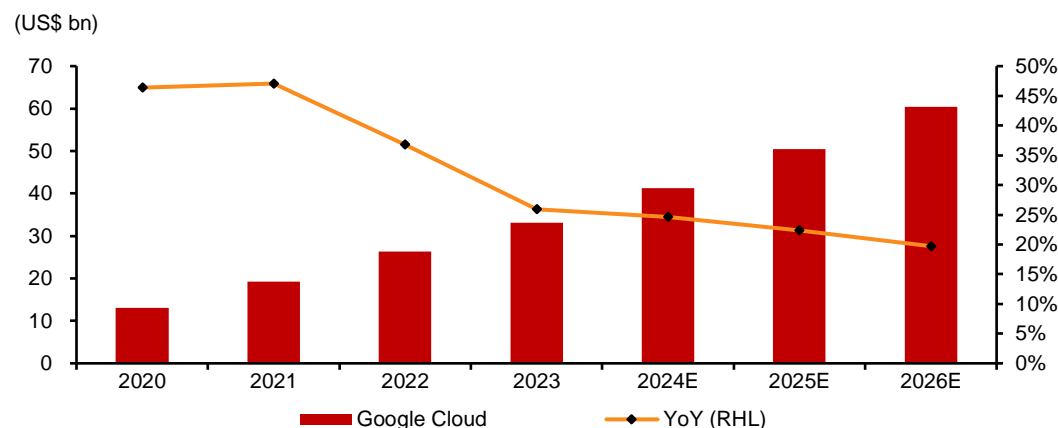
Source: Company data, CMBIGM estimates

Operating efficiency and margin analysis

Alphabet's NPM increased by 2.8ppts to 24.0% in FY23, mainly due to Alphabet's effort in product prioritization and organisation optimization. The company announced in Jan 2023 to lay off 12,000 employees (c.6% of total headcount), which we expect to unleash operating leverage in FY23/FY24E. Total headcount was down 4% YoY to 183k in 4Q23. We estimate NPM to recover from 24.0% in FY23 to 24.4/25.0/25.4% in FY24/25/26E.

Figure 55: Alphabet: margin trend
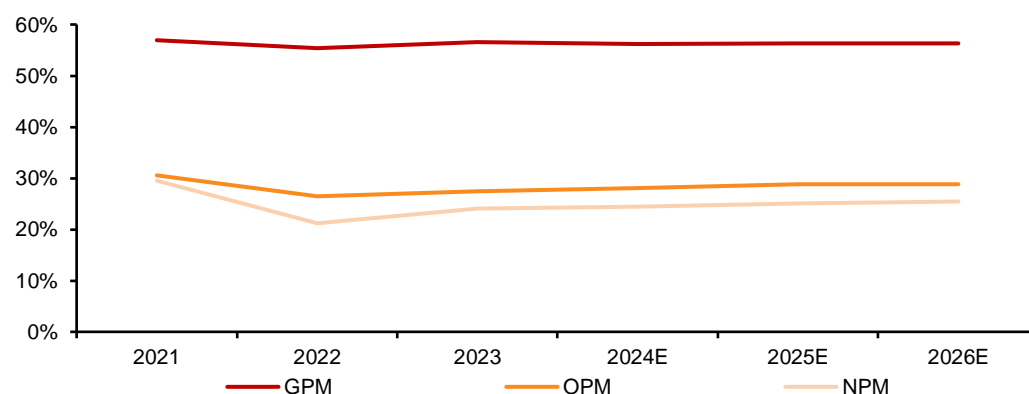
Source: Company data, CMBIGM estimates

Catalyst 1: generative AI to drive business growth

Alphabet is one of the leading platforms in the field of Generative AI, which is likely to significantly enhance the search experience in the long term. In 2017, Google Research launched the Transformer Model, which has become the cornerstone for the development of Generative AI. After that, Alphabet has launched several pre-trained language models based on Transformer, including BERT and LaMDA. Both models have already been widely adopted by Google Search to improve user experience, and Alphabet also plans to further expand the application of these models in order to strengthen its competitive edge against competitors like Microsoft.

Alphabet introduced Gemini, its most capable multimodal model, in December 2023. Gemini was optimized for three different sizes: Gemini Ultra, Gemini Pro and Gemini Nano. From natural image, audio and video understanding to mathematical reasoning, Gemini Ultra's performance exceeds GPT-4 results on 30 of the 32 widely-used academic benchmarks used in large language model (LLM) research and development.

Generative AI began to drive revenue growth of Google Cloud, although the amount remains insignificant. Google Cloud offers Vertex AI platform to help customers build and deploy. Vertex AI already helped customers deploy over 130 Gen AI models, including PaLM, Med-PaLM, Sec-PaLM and Gemini, as well as other partner models. Vertex AI saw its API request increased by c.6x from 1H23 to 2H23.

Figure 56: MMMU benchmark performance: Gemini Ultra vs GPT-4V
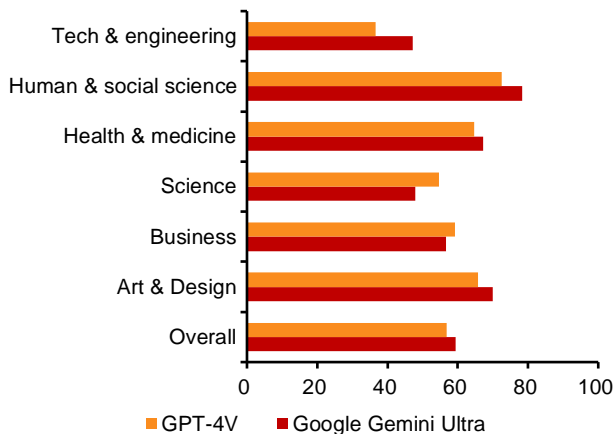
Source: CB Insights, CMBIGM

Figure 57: MMMU benchmark performance comparison and timeline
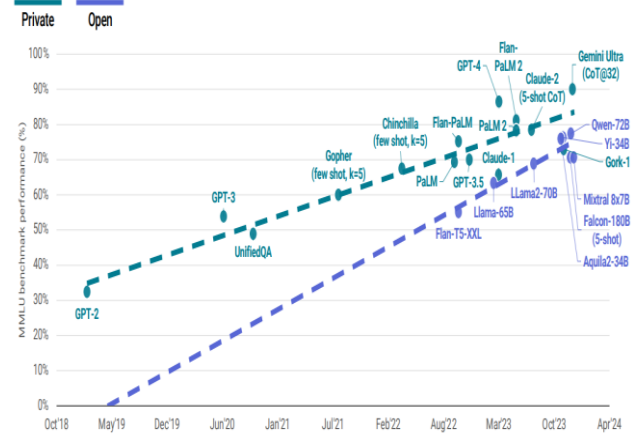
Source: CB Insights, CMBIGM

Catalyst 2: enhanced operating efficiency to support margin

Alphabet remain committed to its framework to control operating expenses and improve operating efficiency, while making investments to support long-term growth. Key contributors to its moderating expenses include: 1) product and process prioritization to reallocate resources to growth priorities; 2) organizational structure optimization to remove layers and drive velocity. Both initiatives led to moderating headcount growth. Alphabet's total headcount was down 4% to 183k in 2023, and overall OPM was up by 1ppt YoY to 27.4% in 2023.

Figure 58: Alphabet: margin trend
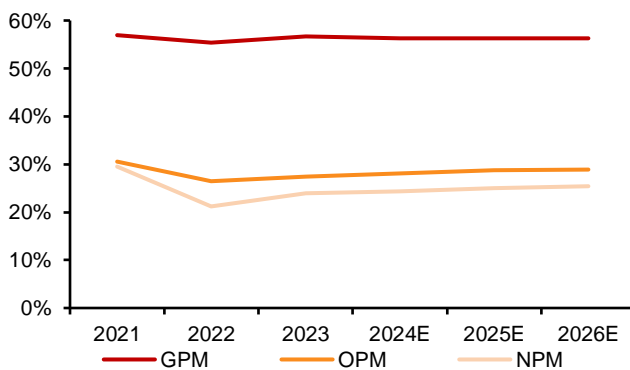
Source: Company data, CMBIGM

Figure 59: Alphabet: no of employees
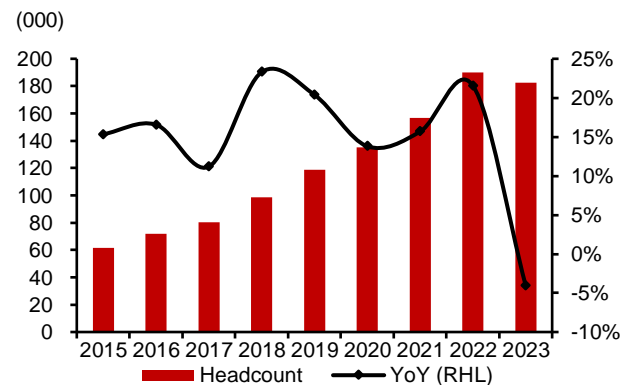
Source: Company data, CMBIGM estimates

Catalyst 3: improving shareholder return

Alphabet continues to improve shareholder return over the past few years. Total amount of shares repurchased by Alphabet grew by 5% YoY to US$62bn in 2023, which is equivalent to 5.4% of its market cap at the beginning of 2023 (2022: 3.1%). Alphabet's strong cash generation capability can support its initiatives to enhance shareholder return. Per Bloomberg consensus, Alphabet's free cash flow is expected to reach US$86/97/115bn in FY24/25/26E, equivalent to 5/5/6% of current market cap.

Figure 60: Alphabet: total share repurchases
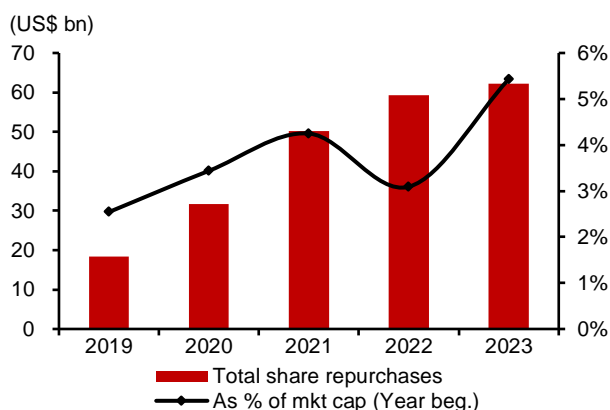
Source: Company data, CMBIGM

Figure 61: Alphabet: free cash flow
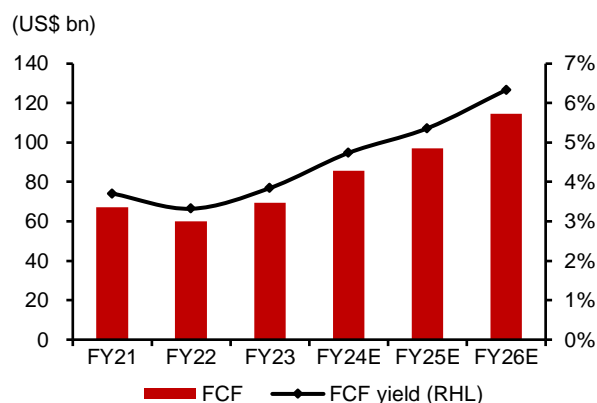
Source: Company data, Bloomberg, CMBIGM

Valuation

We value Alphabet at US$2,175bn (US$172.2 per share) based on 26x 2024E P/E. Our target PE multiple is a premium to the sector average (23x), reflecting Alphabet's leadership in global advertising market and its potential to leverage AI to revitalize its businesses.

Figure 62: Alphabet: target valuation

P/E valuation (US$mn)	2024E
Net income	83,655
Target 2024E P/E	26
Target equity valuation	2,175,027
Valuation per share (US$)	172.2

Source: Company data, CMBIGM estimates

Figure 63: Global online ad platforms: valuation comparison

Companies	Ticker	Price (LC)	PE(x) 2023E	2024E	2025E	PS (x) 2023E	2024E	2025E	EPS CAGR 23-25E
Global ads									
Alphabet	GOOGL US	140.5	23.2	19.5	16.9	6.9	6.1	5.3	18%
Meta	META US	473.3	31.7	23.0	20.0	9.0	7.6	6.8	29%
Pinterest	PINS US	35.3	33.5	27.5	21.8	7.8	6.6	5.6	39%
Snap	SNAP US	11.2	NA	NA	32.9	4.0	3.5	3.1	32%
Average			**29.5**	**23.3**	**22.9**	**6.9**	**6.0**	**5.2**	
Global tech									
Microsoft	MSFT US	404.1	42.0	34.8	30.3	14.2	12.3	10.7	12%
NVIDIA	NVDA US	726.1	NA	NA	34.0	66.6	30.2	18.7	70%
Amazon	AMZN US	169.5	44.5	34.4	27.4	3.1	2.7	2.5	70%
Tesla Inc	TSLA US	200.0	NA	NA	49.3	6.5	5.8	4.8	0%
Salesforce	CRM US	289.7	NA	35.3	30.0	9.1	8.1	7.2	27%
Netflix Inc	NFLX US	584.0	47.8	33.9	27.5	7.5	6.6	5.9	26%
Adobe Inc	ADBE US	546.7	34.3	30.5	26.9	12.8	11.5	10.3	14%
Intuit Inc	INTU US	655.7	46.1	40.0	34.5	12.8	11.4	10.2	18%
Uber	UBER US	78.4	NA	47.3	31.0	4.4	3.8	3.2	NA
ServiceNow	NOW US	765.0	NA	NA	47.7	17.5	14.4	11.9	30%
Average			**42.9**	**36.6**	**33.9**	**15.4**	**10.7**	**8.5**	

Note: data as of 16 Feb
Source: Bloomberg, CMBIGM

Risks: intensified competition from other search engines like Microsoft Bing, investments in AI and other new initiatives lead to margin erosion, and macro headwinds weigh on ad revenue growth.

Financial Summary

INCOME STATEMENT	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec (US$ mn)						
Revenue	257,637	282,836	307,394	343,045	379,475	416,533
Cost of goods sold	(110,939)	(126,203)	(133,332)	(150,148)	(165,836)	(182,194)
Gross profit	146,698	156,633	174,062	192,897	213,638	234,339
Operating expenses	(67,984)	(81,791)	(89,769)	(96,739)	(104,356)	(114,130)
Selling expense	(22,912)	(26,567)	(27,917)	(29,845)	(31,876)	(33,739)
Admin expense	(13,510)	(15,724)	(16,425)	(16,809)	(18,215)	(22,076)
R&D expense	(31,562)	(39,500)	(45,427)	(50,085)	(54,265)	(58,315)
Others	0	0	0	0	0	0
Operating profit	78,714	74,842	84,293	96,159	109,283	120,209
Other income/expense	12,020	(3,514)	1,424	3,430	3,795	4,165
Pre-tax profit	90,734	71,328	85,717	99,589	113,078	124,374
Income tax	(14,701)	(11,356)	(11,922)	(15,934)	(18,092)	(18,656)
After tax profit	76,033	59,972	73,795	83,655	94,985	105,718
Net profit	76,033	59,972	73,795	83,655	94,985	105,718
Adjusted net profit	91,409	79,334	96,255	107,668	121,548	134,876

BALANCE SHEET	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec (US$ mn)						
Current assets	188,143	164,795	171,530	219,003	285,863	374,094
Cash & equivalents	20,945	21,879	24,048	64,888	127,158	210,908
Account receivables	39,304	40,258	47,964	54,597	59,187	63,668
Inventories	1,170	2,670	0	0	0	0
Financial assets at FVTPL	118,704	91,883	86,868	86,868	86,868	86,868
Other current assets	8,020	8,105	12,650	12,650	12,650	12,650
Non-current assets	171,125	200,469	230,862	252,259	273,921	295,473
PP&E	97,599	112,668	134,345	155,742	177,404	198,956
Right-of-use assets	12,959	14,381	14,091	14,091	14,091	14,091
Deferred income tax	1,284	5,261	12,169	12,169	12,169	12,169
Investment in JVs & assos	29,549	30,492	31,008	31,008	31,008	31,008
Intangibles	1,417	2,084	2,084	2,084	2,084	2,084
Goodwill	22,956	28,960	29,198	29,198	29,198	29,198
Other non-current assets	5,361	6,623	7,967	7,967	7,967	7,967
Total assets	359,268	365,264	402,392	471,262	559,784	669,567
Current liabilities	64,254	69,300	81,814	92,219	98,556	104,952
Account payables	6,037	5,128	7,493	8,269	8,951	9,637
Tax payable	0	0	0	0	0	0
Other current liabilities	12,284	12,278	13,013	17,859	19,316	20,798
Accrued expenses	45,933	51,894	61,308	66,091	70,289	74,517
Non-current liabilities	43,379	39,820	37,199	37,199	37,199	37,199
Long-term borrowings	14,817	14,701	13,253	13,253	13,253	13,253
Obligations under finance leases	11,389	12,501	12,460	12,460	12,460	12,460
Deferred income	535	599	911	911	911	911
Other non-current liabilities	16,638	12,019	10,575	10,575	10,575	10,575
Total liabilities	107,633	109,120	119,013	129,418	135,755	142,151
Capital surplus	61,774	68,184	76,534	51,344	38,545	36,212
Retained earnings	191,484	195,563	211,247	294,902	389,887	495,605
Other reserves	(1,623)	(7,603)	(4,402)	(4,402)	(4,402)	(4,402)
Total shareholders equity	251,635	256,144	283,379	341,844	424,030	527,415
Total equity and liabilities	359,268	365,264	402,392	471,262	559,784	669,567

CASH FLOW	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec (US$ mn)						
Operating						
Profit before taxation	**90,734**	**71,328**	**85,717**	**99,589**	**113,078**	**124,374**
Depreciation & amortization	11,555	15,287	11,946	21,484	25,772	30,515
Tax paid	(14,701)	(11,356)	(11,922)	(15,934)	(18,092)	(18,656)
Change in working capital	(1,523)	(2,235)	(3,845)	3,772	1,747	1,916
Others	5,587	18,471	19,850	24,013	26,563	29,157
Net cash from operations	**91,652**	**91,495**	**101,746**	**132,923**	**149,067**	**167,307**
Investing						
Capital expenditure	(24,640)	(31,485)	(32,251)	(42,881)	(47,434)	(52,067)
Acquisition of subsidiaries/ investments	(2,618)	(6,969)	(495)	0	0	0
Others	(8,265)	18,156	5,683	0	0	0
Net cash from investing	**(35,523)**	**(20,298)**	**(27,063)**	**(42,881)**	**(47,434)**	**(52,067)**
Financing						
Net borrowings	(1,236)	(1,196)	(760)	0	0	0
Share repurchases	(50,274)	(59,296)	(61,504)	(49,203)	(39,363)	(31,490)
Others	(9,852)	(9,265)	(9,829)	0	0	0
Net cash from financing	**(61,362)**	**(69,757)**	**(72,093)**	**(49,203)**	**(39,363)**	**(31,490)**
Net change in cash						
Cash at the beginning of the year	26,465	20,945	21,879	24,048	64,888	127,158
Exchange difference	(287)	(506)	(421)	0	0	0
Cash at the end of the year	**20,945**	**21,879**	**24,048**	**64,888**	**127,158**	**210,908**
GROWTH	**2021A**	**2022A**	**2023A**	**2024E**	**2025E**	**2026E**
YE 31 Dec						
Revenue	41.2%	9.8%	8.7%	11.6%	10.6%	9.8%
Gross profit	50.0%	6.8%	11.1%	10.8%	10.8%	9.7%
Operating profit	90.9%	(4.9%)	12.6%	14.1%	13.6%	10.0%
Net profit	88.8%	(21.1%)	23.0%	13.4%	13.5%	11.3%
Adj. net profit	71.6%	(13.2%)	21.3%	11.9%	12.9%	11.0%
PROFITABILITY	**2021A**	**2022A**	**2023A**	**2024E**	**2025E**	**2026E**
YE 31 Dec						
Gross profit margin	56.9%	55.4%	56.6%	56.2%	56.3%	56.3%
Operating margin	30.6%	26.5%	27.4%	28.0%	28.8%	28.9%
Adj. net profit margin	35.5%	28.0%	31.3%	31.4%	32.0%	32.4%
Return on equity (ROE)	32.1%	23.6%	27.4%	26.8%	24.8%	22.2%
GEARING/LIQUIDITY/ACTIVITIES	**2021A**	**2022A**	**2023A**	**2024E**	**2025E**	**2026E**
YE 31 Dec						
Current ratio (x)	2.9	2.4	2.1	2.4	2.9	3.6
Receivable turnover days	55.7	52.0	57.0	58.1	56.9	55.8
VALUATION	**2021A**	**2022A**	**2023A**	**2024E**	**2025E**	**2026E**
YE 31 Dec						
P/E	1.1	25.1	20.5	21.4	18.8	16.9
P/E (diluted)	1.1	25.3	20.6	21.6	19.0	17.1
P/B	0.3	5.9	5.3	5.2	4.2	3.4

Source: Company data, CMBIGM estimates. Note: The calculation of net cash includes financial assets.

Meta (META US)

Innovation to revitalize growth prospects

Meta is one of the leading social media platforms in the world, in terms of both user community and monetization. Facebook MAU and DAU reached 3.1bn and 2.1bn respectively in 4Q23, with DAU/MAU ratio staying above 66% from 1Q20 to 4Q23. With multi-year investments in AI and machine learning in addition to extensive social media insights, Meta also has one of the most advanced ad techs that could deliver better-than-peer ROI. Despite the intensive competition in the global ad market, we expect Meta to expand its market share from 21.4% in FY22 to 22.1% in FY24E. Initiate at BUY with target price of US$547.6, based on 28x 2024E P/E.

- **Innovation to drive long-term growth.** In a bid to keep up with users' interests and fending off rising competition, Meta continues to innovate and launch new products to satisfy user demand and enrich monetization methods. We expect monetization of short-video product Reels and e-commerce product Shop to create increment revenue of US$25.6bn by FY26, which account for 19% of Meta FY23 total revenue. 1) Reels – US$10.3/19.4/35.9bn revenue under bear/base/bull case; 2) Shops – US$2.0/6.1/16.1bn under bear/base/bull case. Overall, we expect Meta's total revenue to bottom out from FY23 onwards, mainly due to low-base effect, diminishing impact from IDFA policy and enhanced monetization of innovative products. We forecast ad revenue to grow at a CAGR of 11% over FY24-26E.

- **AI and Metaverse capture new growth opportunities.** AI and Metaverse remain Meta's investment priorities. The company introduced its open-source large language model Llama 2 in July 2023. Through the open-source method, Meta is able to improve its AI model in a more efficient way, which in turn will enhance Meta's user experience and its ad monetization efficiency in our view. For the Metaverse initiatives, Meta launched its first mainstream MR headset Quest 3 in 3Q23, which will become a key driver of its Reality Labs business from FY24 onwards. We forecast other non-ad revenue to grow 19/16/12% YoY to US$3.5/4.1/4.6bn in FY24/25/26E, mainly driven by growth of headset sales.

- **Strong operating leverage to support 18% earnings CAGR over FY24-26E.** We expect Meta to unleash operating leverage in FY23E. The company reduced its workforce by 11,000 in Nov 2022 and 11,000 in Mar 2023, with total headcounts down by 22% YoY to 67,317 as of Dec 2023. Driven by more prudent control on expenses and optimization of organizational structure, we expect Meta to deliver a net income CAGR of 18% over FY24-26E, with NPM rising from 29.0% in FY23 to 34.7% in FY26E.

Earnings Summary

(YE 31 Dec)	FY22A	FY23A	FY24E	FY25E	FY26E
Revenue (US$ mn)	116,609	134,901	153,062	168,812	182,734
YoY growth (%)	(1.1)	15.7	13.5	10.3	8.2
Net profit (US$ mn)	23,200.0	39,098.0	50,185.3	56,720.0	63,032.1
YoY growth (%)	(41.1)	68.5	28.4	13.0	11.1
EPS (Reported) (US$)	8.63	15.19	19.50	22.04	24.49
Consensus EPS (US$)	8.63	15.19	19.92	23.04	27.24
P/S (x)	10.4	9.0	8.0	7.2	6.7
P/E (x)	20.9	17.2	24.3	21.5	19.3

Source: Company data, Bloomberg, CMBIGM estimates

BUY

Target Price	US$547.60
Up/Downside	15.7%
Current Price	US$473.32

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Stock Data

Mkt Cap (US$ mn)	1,218,325.7
Avg 3 mths t/o (US$ mn)	7,111.4
52w High/Low (US$)	484.03/169.54
Total Issued Shares (mn)	2574.0

Source: FactSet

Shareholding Structure

Mark Zuckerberg	14.0%
The Vanguard Group	6.9%

Source: Company data

Share Performance

	Absolute	Relative
1-mth	23.4%	19.8%
3-mth	39.2%	26.1%
6-mth	67.1%	40.8%

Source: FactSet

12-mth Price Performance
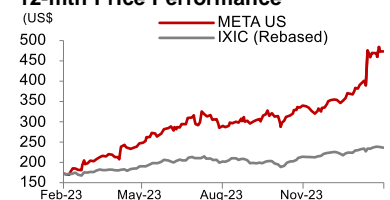
Source: FactSet

Investment thesis

Strong competitive moat in global social media and ad sector

Meta is the leading social media platform in the world, with strong competitive edges in terms of both user community and monetization. Facebook MAU and DAU reached 3.1bn and 2.1bn respectively in 4Q23, with DAU/MAU ratio staying above 66% from 1Q20 to 4Q23. With multi-year investments in AI and machine learning in addition to extensive social media experience insights, Meta also has one of the most advanced ad techs that could deliver better-than-peer ROI for merchants. Ad ARPU in developed markets like North America and Europe reached US$66 and US$22 in 4Q23. Looking forward, the global ad market spending is expected to grow at a CAGR of 8% over 2023-2025E and reach US$1.1tn in 2025E, mainly driven by the expanding digital ad market, as more merchants are acquiring customers via digital channels. Despite the intensive competition in the global ad market, we expect Meta to expand its market share from 21.4% in FY22 to 22.1% in FY24E.

Innovative products to drive long-term growth

Meta continues to innovate and launch new products to satisfy user demand, enrich monetization methods and fend off competition. We expect incremental revenue of US$25.6bn from Reels and Shop by FY26E, which account for 19% of Meta FY23 total revenue. 1) Reels – US$10.3/19.4/35.9bn revenue under bear/base/bull case: Reels has experienced rapid development since its launch in FY21, which already accounted for 20% of Instagram user time spend in FY22. Under our base case, we expect Reel's DAU penetration rate to reach 50%, daily user time spend to reach 32 minutes and eCPM of US$3.5 (similar to Stories). These assumptions translate into incremental revenue of US$19.4bn; 2) Shops – US$2.0/6.1/16.1bn under bear/base/bull case: Meta continues to optimize its e-commerce product Shops to create a close-loop e-commerce ecosystem. With reference to eBay AOV and monetization rate, we expect Shops to generate US$6.1bn revenue in the long term.

AI and Metaverse development to capture new growth opportunities

AI and Metaverse remain Meta's investment priorities. The company introduced its open-source large language model Llama 2 in July 2023. Through the open-source method, Meta is able to improve its AI model in a more efficient way, which in turn will enhance Meta's user experience and ad monetization efficiency in our view. For the Metaverse initiatives, Meta launched its first mainstream MR headset Quest 3 in 3Q23, which will become a key driver of its Reality Labs business from FY24 onwards in our view. We forecast other non-ad revenue to grow 19/16/12% YoY to US$3.5/4.1/4.6bn in FY24/25/26E, mainly driven by growth of headset sales.

Business model offers room for margins stabilization

We expect Meta to unleash its operating leverage from FY23 onwards. The company reduced its workforce by 11,000 in Nov 2022 and 11,000 in Mar 2023, with total headcounts down by 22% YoY to 67,317 as of Dec 2023. Driven by more prudent control on expenses and optimization of organizational structure, we expect Meta's NPM to increase from 29.0% in FY23 to 32.8/33.8/34.7% in FY24/25/26E. Overall, we estimate net income to grow by 28/14/13% YoY to US$50/57/64bn in FY24/25/26E. The company is committed to enhancing shareholder returns, and repurchased US$20bn in 2023, which is equivalent to c.6% of total market cap at the beginning of 2023. And the company still had c.US$80bn available and authorized for share repurchases (c.7% of market cap), and initiated its first ever cash dividend program in January 2024. We value Meta at US$1,405bn (US$547.6 per share) based on 28x 2024E adjusted net income. Our target P/E multiple is a premium to the sector average (23x), reflecting Meta's strong leadership in global social media space and capability to further unleash operating leverage.

Meta: leader in global social ad sector

Facebook, Meta now has an umbrella of social media products, commercial infrastructure and VR headset, with large user base. In social media vertical, Meta has developed a comprehensive product portfolio: 1) Facebook, as a comprehensive social media platform, covers over 2.9bn users and 9mn active advertisers worldwide; 2) Messenger/WhatsApp further complement Meta's social product portfolio and satisfy user demand for instant messaging with acquaintance; 3) Instagram, a UGC platform with focus on video and image content; 4) Reels, a short video platform embedded in Instagram and Facebook.

Beyond social products, Meta also continues to enhance its commercial infrastructure like advertising and e-commerce, to capture the digitalisation trend in the commercial space. Meta launched the Facebook Marketplace (2016) and Shops (2020) to facilitate the commercial transactions on Instagram and Facebook.

Figure 64: Meta: major products

Segment	Product	Launch time	Introduction
Social	Facebook	2004	Comprehensive social media platforms
	Messenger	2004	Instant messaging apps based on social relationships on Facebook
	Whatsapp	2009	Instant messaging platforms
	Instagram	2010	Social media platforms focusing on video and image content
Payment	Facebook Payment	2019	Online payment tools
Video	Reels	2020	Short video platform embedded in Instagram and Facebook
E-commerce	Facebook Marketplace	2016	Online marketplace
	Shops	2020	Online shops where merchants can offer products on Facebook/Instagram
VR/AR	Meta Quest	2019	VR headset
	Horizon Worlds	2021	VR gaming and social platforms

Source: Company data, CMBIGM

Figure 65: Meta: monetization products

Segment	Monetization	Products
Family of Apps (ad and e-commerce revenue from Facebook, Instagram, and other apps)	Ad revenue = DAU * time spend * ad load * eCPM	**Image ads** **Video ads** **Carousel ads** **Collection ads**
	E-commerce revenue = no. of buyers * purchase frequency * AOV * take rate	**Instagram Shops** **Facebook Marketplace**
Reality Labs (Meta Quest sales revenue and other VR/AR-related sales revenue)	Hardware sales = sale volume * prices	**Meta Quest**

Source: Company data, CMBIGM

According to Similarweb, Meta's Facebook is the largest social media platform in the world. In 4Q23, Facebook MAU reached 3.1bn, up 3% YoY; DAU reached 2.1bn, up 5% YoY. Facebook users showed strong stickiness, with DAU/MAU ratio staying above 66% from 1Q20 to 4Q23. North America/Europe/Asia-Pacific/Rest of World accounted for 9/13/45/33% of total MAU in 4Q23. Monetization level was high in the US & Canada and Europe. Ad ARPU in North America/Europe/Asia-Pacific/Rest of World reached US$66/22/5/4 respectively in 4Q23.

Figure 66: Meta: MAU trend

Source: Company data, CMBIGM
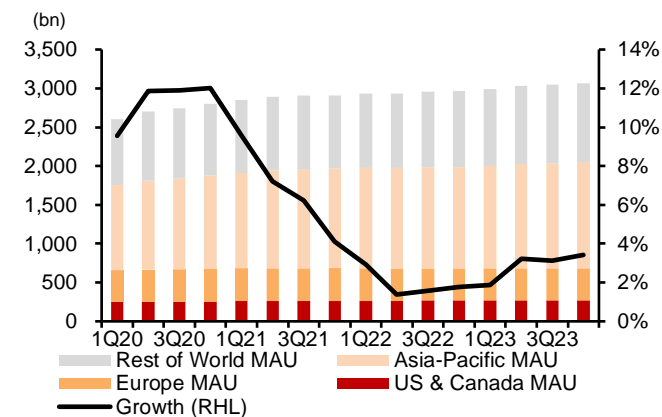
Figure 67: Meta: MAU growth

Source: Company data, CMBIGM
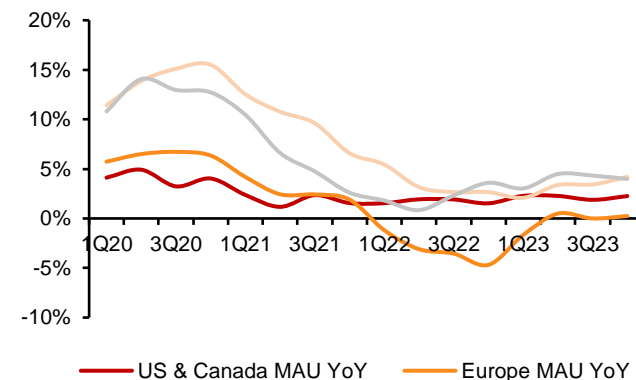
Facebook's MAU penetration in North America and Europe already reached 72/55% in 2023, with user growth slowing down, per World Bank and our estimate. However, Facebook's user penetration in Asia (ex-China)/Rest of World remained at 40/48%, and still has ample room to improve. Looking ahead, the Asia/Rest of World Region will become the key driver of Meta's user base.

Figure 68: Facebook: user penetration in different regions (2023)

Source: World Bank, Company data, CMBIGM
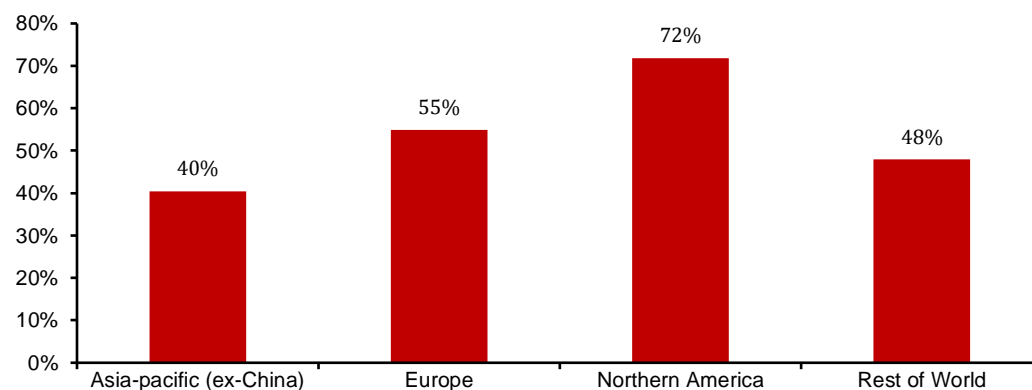
Meta's total revenue rebounded by 16% YoY to US$135bn in 2023, primarily attributable to the low base, improved ad targeting capabilities and enhanced Reels monetization. Advertising and others revenue were up 16% YoY and largely flat YoY respectively in 2023, accounting for 98/2% of total revenue.

Meta's GPM was 80.8/78.3/80.8% over FY21-FY23. GPM contraction in FY22 was mainly due to the investments in its short-video product Reels, which remain under-monetized. GPM recovered to 80.8% in FY23 thanks to the improved monetization of Reels and other products.

Figure 69: Meta: total revenue trend
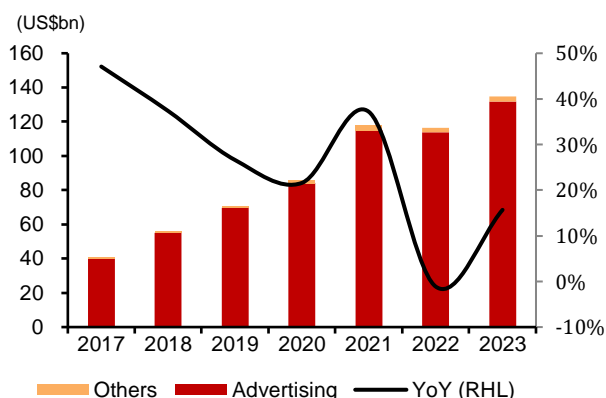
Source: Company data, CMBIGM

Figure 70: Meta: margin trend
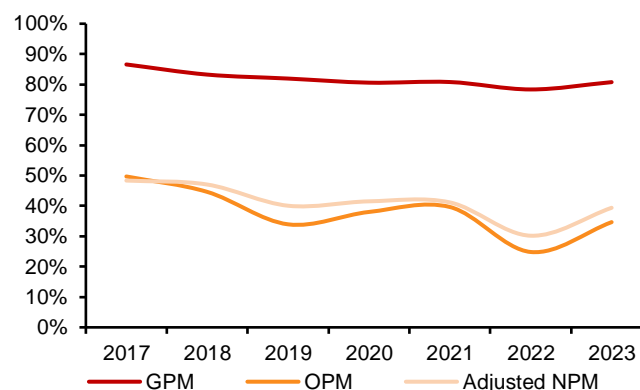
Source: Company data, CMBIGM

Meta's total revenue growth was resilient in FY23. North America/Europe/Asia-Pacific/Rest of World revenue grew by 12/20/15/25% YoY, and each accounted for 45/23/20/12% of Meta's total revenue in FY23.

Figure 71: Meta: total revenue trend by region
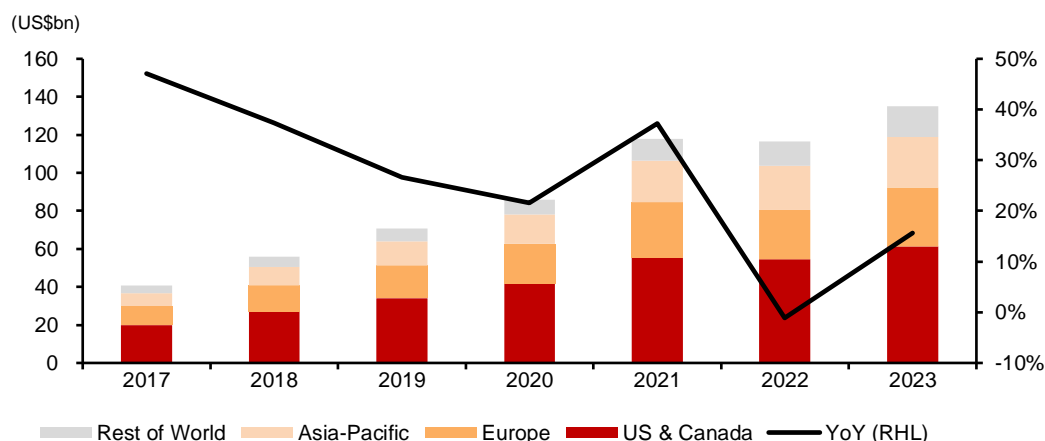
Source: Company data, CMBIGM

Innovative products and generative AI to drive long-term growth

Since its launch in 2020, Meta's short video product Reels saw rapid engagement growth and monetization improvement. In 2Q21, management cited that Video account already accounted for half of all-time spent on Facebook and Reels is the largest contributor to engagement growth on Instagram. In 1Q22, Reels accounted for over 20% of the time spent on Instagram. The annual revenue run rate of Reels has surpassed US$10bn in 2Q23, and Reels began to contribute to Meta's net revenue growth in 4Q23.

Figure 72: Meta: updates on Reels development

Quarter	Management comments on Reels development
1Q21	"Reels is starting to get traction and doing well on Instagram."
2Q21	1) "Video now accounts for almost half of all-time spent on Facebook and Reels is already the largest contributor to engagement growth on Instagram; 2) "...begun to make ads available globally on Reels."
3Q21	"...expanding access to Reels ads on Instagram to more advertisers with automatic placement and new creative formats"
4Q21	1) "Reels is now our fastest growing content format"; 2)"Right now, Reels monetizes at a lower rate than Feed and Stories, but we expect this to improve over time".

1Q22	1) Reels already makes up more than 20% of the time that people spend on Instagram
2Q22	"...saw a more than 30% increase in the time that people spent engaging with Reels across Facebook and Instagram."
3Q22	"There are now more than 140 billion Reels plays across Facebook and Instagram each day, a 50% increase from 6 months ago."
4Q22	1)"The Reels plays across Facebook and Instagram have more than doubled over the last year"; 2) "on track to bring the overall Reels revenue headwind to a neutral place by the end of this year or early next year"
2Q23	"…seeing good progress on Reel monetization as well with the annual revenue run rate across apps, now exceeding US$10 billion, up from US$3bn last fall…"
3Q23	"On Reels, we have continued to improve monetization and are now at a level where Reels is neutral to overall revenue…"
4Q23	"People reshare Reels 3.5bn times every day. Reels is now contributing to our net revenue across our apps."

Source: Company data, CMBIGM

AI remains Meta's investment priority and the company continues to make progress in generative AI in 2023. The company introduced its open-source large language model Llama 2 in July 2023. The company adopted an open-source approach to promote safety, transparency and access of its large language model. Through opening source, Meta is able to improve and fix vulnerabilities of the AI model in a more efficient way.

Apart from Llama 2, Meta also introduced a number of generative AI tools to help improve efficiency of daily work and life. For instance, Meta launched SeamlessM4T, the first all-in-one multilingual multimodal AI translation and transcription model, which provides translations for up to 100 languages depending on the task. The company also fully rolled out Meta AI assistant and other AI chat experiences in the US at the end of 2023 and began testing more than 20 gen AI features across Meta's Family of Apps. We expect Meta to launch more AI tools going forward, based on its advanced R&D and AI capabilities.

Figure 73: Meta: updates on generative AI development

| Date	Product	Overview
Aug 2023	Code Llama	Code Llama is an AI model built on top of Llama 2, fine-tuned for generating and discussing code. Free for research and commercial use.
Aug 2023	SeamlessM4T	SeamlessM4T is the first all-in-one multilingual multimodal AI translation and transcription model. This single model can perform speech-to-text, speech-to-speech, text-to-speech, and text-to-text translations for up to 100 languages depending on the task.
Aug 2023	AudioCraft	AudioCraft lets content creators easily generate high-quality audio and music from text. AudioCraft consists of three models: 1) MusicGen, which can generate music from text prompts; 2) AudioGen, which can generate audio from text prompts; 3) EnCodec, which allows higher quality music generation with fewer artifacts.
Jul 2023	Llama 2	Llama 2 is the next generation of Meta's open-source large language model. Free for research and commercial use.
Sep 2023	Meta AI assistant	Meta AI can give users real-time information and generate photorealistic images from the text prompts in seconds to share with friends.

Source: Company data, CMBIGM

Meta: financials forecasts and valuation

Meta's total revenue rebounded by 16% YoY to US$135bn in FY23, mainly due to low-base effect, diminishing impact from IDFA policy and enhanced monetization of Reels. We forecast total revenue to increase by 13/10/8% YoY to US$153/169/183bn in FY24/25/26E. Advertising/others revenue will account for 97/3% of total revenue in FY26E.

Meta's net income grew by 69% YoY to US$39bn in FY23, primarily attributable to the enhanced operating efficiency and reaccelerating ad revenue growth. Looking ahead, we expect Meta will continue to focus on quality earnings growth. We estimate net income to grow by 28/14/11% YoY to US$50/57/63bn in FY24/25/26E, with net margin up from 29.0% in FY23 to 35% in FY26E.

Figure 74: Meta: revenue trend
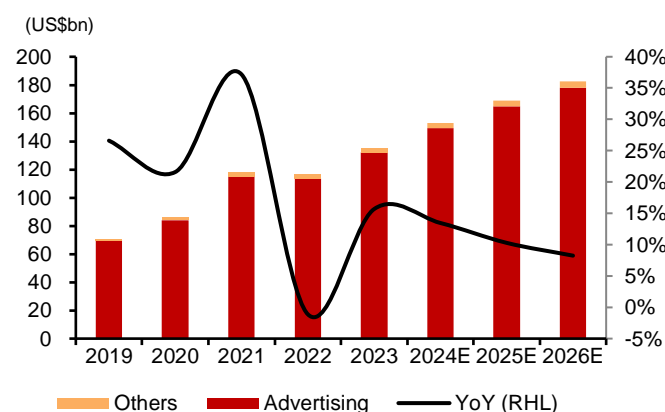
Source: Company data, CMBIGM estimates

Figure 75: Meta: net income
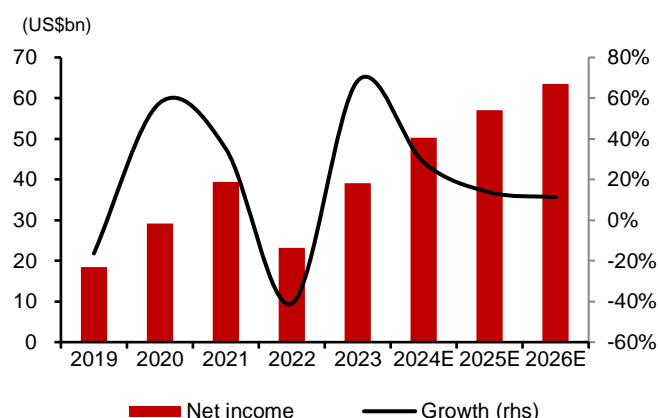
Source: Company data, CMBIGM estimates

Figure 76: Meta: key financial forecast

(US$ bn)	2022	2023	2024E	2025E	2026E
Total revenue	**116.6**	**134.9**	**153.1**	**168.8**	**182.7**
YoY	-1.1%	15.7%	13.5%	10.3%	8.2%
Advertising revenue	113.6	131.9	149.5	164.7	178.2
YoY	-1.1%	16.1%	13.3%	10.2%	8.1%
Other revenue	3.0	3.0	3.5	4.1	4.6
YoY	-0.9%	-0.5%	19.3%	15.5%	12.4%
Operating income	**28.9**	**46.8**	**58.6**	**66.2**	**73.4**
YoY	-38.1%	61.5%	25.4%	13.0%	10.8%
Net income	**23.2**	**39.1**	**50.2**	**57.1**	**63.5**
YoY	-41.1%	68.5%	28.4%	13.7%	11.3%
S&M expense ratio	9.4%	9.2%	9.1%	9.0%	9.0%
R&D expense ratio	14.0%	14.5%	14.7%	14.6%	14.6%
G&A expense ratio	5.6%	5.6%	5.4%	5.3%	5.3%
Operating margin	26.5%	26.0%	26.3%	26.8%	26.8%
Net income margin	19.9%	29.0%	32.8%	33.8%	34.7%

Source: Company data, CMBIGM estimates

Figure 77: Meta: CMBIGM estimates vs consensus

US$ bn	CMBIGM			Consensus			Diff. (%)		
	FY24E	FY25E	FY26E	FY24E	FY25E	FY26E	FY24E	FY25E	FY26E
Revenue	153.1	168.8	182.7	158.2	177.8	200.1	-3.3%	-5.0%	-8.7%
Gross Profit	124.0	136.7	148.0	127.7	143.3	161.2	-2.9%	-4.6%	-8.2%
Operating Profit	58.6	66.2	73.4	62.7	71.5	79.5	-6.5%	-7.4%	-7.8%
Net profit	50.2	56.7	63.0	52.5	59.9	68.6	-4.4%	-5.4%	-8.2%
EPS (US$)	19.5	22.0	24.5	19.9	23.0	27.2	-2.1%	-4.4%	-10.1%
Gross Margin	81.0%	81.0%	81.0%	80.7%	80.6%	80.6%	0.3 ppt	0.4 ppt	0.4 ppt
Operating Margin	38.3%	39.2%	40.1%	39.6%	40.2%	39.8%	-1.3 ppt	-1.0 ppt	0.4 ppt
Net margin	32.8%	33.6%	34.5%	33.2%	33.7%	34.3%	-0.4 ppt	-0.1 ppt	0.2 ppt

Source: Bloomberg, CMBIGM estimates

Advertising (98% of FY24E total revenue)

Meta's advertising revenue was up by 16% YoY to US$132bn in 2023, primarily due to the low-base effect and ramp-up of Reels monetization. We forecast advertising revenue to grow by 13/10/8% YoY in FY24/25/26E, with overall ad ARPU up by 12/9/8% YoY in FY24/25/26E.

Figure 78: Meta: ad revenue trend
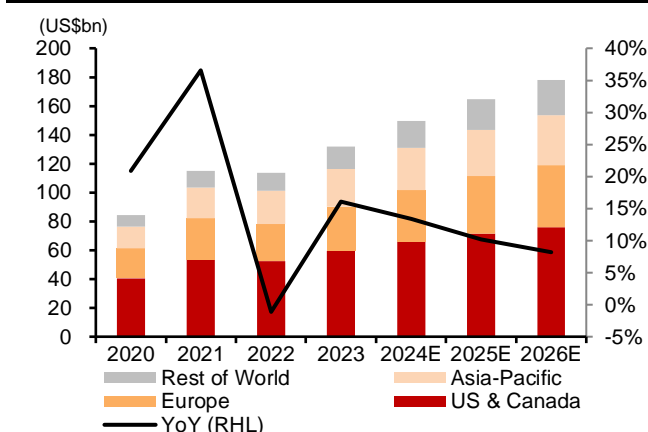
Source: Company data, CMBIGM estimates

Figure 79: Meta: ad ARPU trend
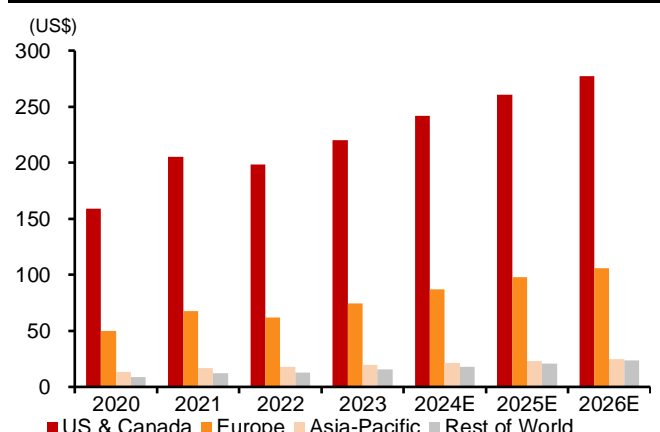
Source: Company data, CMBIGM estimates

We expect monetization of short-video product Reels and e-commerce product Shop to become key drivers of Meta's total revenue growth. We expect incremental revenue of US$25.6bn from Reels and Shop by FY26E, which account for 19% of Meta FY23 total revenue. 1) Reels – US$10.3/19.4/35.9bn revenue under bear/base/bull case: Reels has experienced rapid development since its launch in FY21, which already accounted for 20% of Instagram user time spent in FY22. Under our base case, we expect Reel's DAU penetration rate to reach 50%, daily user time spent to reach 32 minutes and eCPM of US$3.5 (similar to Stories). These assumptions translate into incremental revenue of US$19.4bn; 2) Shops – US$2.0/6.1/16.1bn under bear/base/bull case: Meta continues to optimize its e-commerce product Shops to create a close-loop e-commerce ecosystem. With reference to eBay AOV and monetization rate, we expect Shops to generate US$6.1bn revenue in the long term.

Figure 80: Meta: ad revenue growth drivers
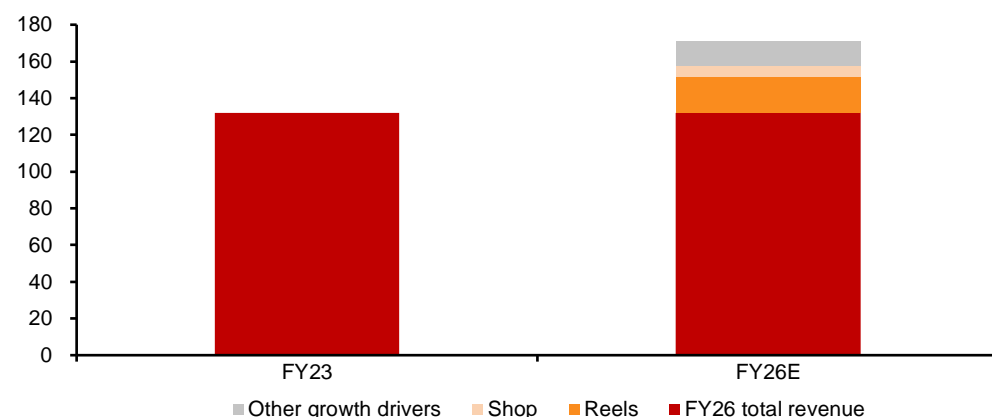
Source: Company data, CMBIGM estimates

Others (2% of FY24E total revenue)

Metaverse including VR/AR headset remains as Meta's major investment area, but with limited revenue contribution in the short term. Due to the product launch cycle and the disruption to supply chain, others revenue was largely flat YoY at US$3.0bn in FY23. Meta has established solid leadership in global VR/AR headset market, with total shipments of Meta Quest 2 surpassing 10.4mn during FY16-21.

Figure 81: Meta: others revenue forecast
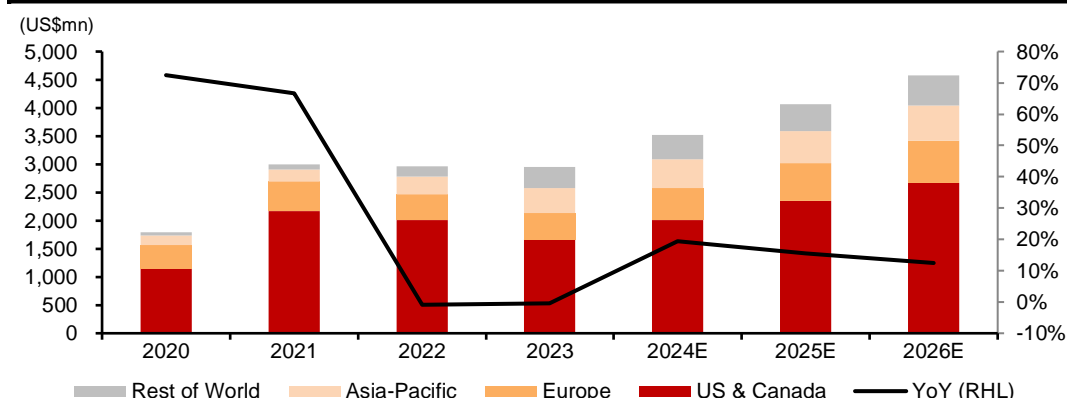
Source: Company data, CMBIGM estimates

Operating efficiency and margin analysis

Meta's NPM expanded by 9ppt YoY to 29% in FY23, mainly due to the reacceleration in revenue growth, more prudent control on expenses and optimization of organizational structure. Looking forward, we expect Meta will continue to focus on quality earnings growth, and Meta's NPM to expand from 29.0% in FY23 to 32.8/33.8/34.7% in FY24/25/26E.

Figure 82: Meta: margin trend
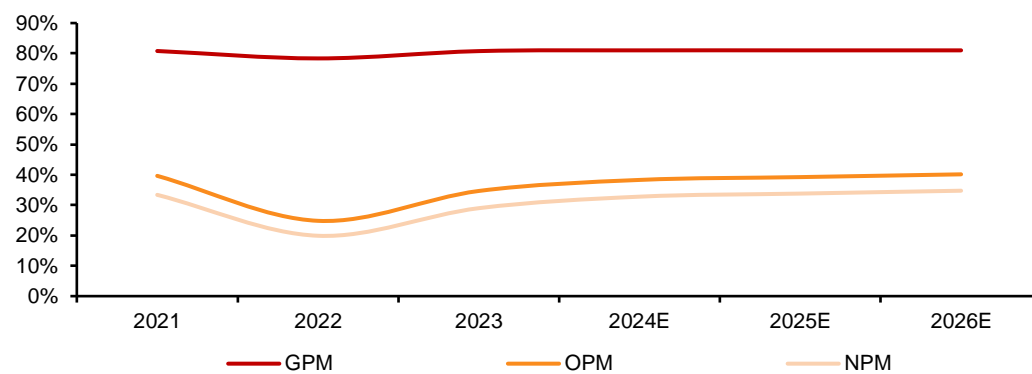
Source: Company data, CMBIGM estimates

Catalyst 1: emerging ad and e-commerce monetization opportunities

We expect monetization of short-video product Reels and e-commerce product Shop to create increment revenue of US$25.6bn by FY26E, which accounted for 19% of Meta's FY23 total revenue. 1) Reels – US$10.3/19.4/35.9bn revenue under bear/base/bull case: Reels has experienced rapid development since its launch in FY21, which already accounted for 20% of Instagram user time spent in FY22. Under our base case, we expect Reel's DAU penetration rate to reach 50%, daily user time spent to reach 32 minutes and eCPM of US$3.5 (similar to Stories). These assumptions translate into incremental revenue of US$19.4bn; 2) Shops – US$2.0/6.1/16.1bn under bear/base/bull case: Meta continues to optimize its e-commerce product Shops to create a close-loop e-commerce ecosystem. With reference to eBay AOV and monetization rate, we expect Shops to generate US$6.1bn revenue in the long term.

Figure 83: Meta: major products

| Instagram Reels	Bear	Base	Bull	Shops	Bear	Base	Bull
Instagram DAU (mn)	1,294	1,294	1,294	Family of Apps MAU (mn)	3640	3640	3640
* Reels penetration	45%	50%	55%	* Shops penetration	25%	30%	35%
Reels DAU (mn)	582	647	712	Shops MAU (mn)	910	1092	1274
* Reels daily time spent (mins)	30	32	36	* Active buyers penetration %	25%	30%	35%
Reels total time spent (mn mins)	17,469	20,704	25,621	Shops Active buyers (mn)	228	328	446
* Feeds per minute	3	3.5	4	* Purchase frequency (times)	1	1.25	1.5
Total feeds per day (mn)	52,407	72,464	102,485	Orders volume (mn orders)	228	410	669
* Ad load rate (%）	18%	21%	24%	* AOV (US$)	100	120	150
Daily ad feeds (mn)	9,433	15,217	24,596	GMV (US$mn)	22,750	49,140	100,328
* eCPM (US$)	3	3.5	4	* Ad monetization rate (US$)	4.00%	5.00%	6.00%
Reels ad revenue (US$mn)	**10,329**	**19,440**	**35,911**	* Commission rate (US$)	5.00%	7.50%	10.00%
As % of 2023 total revenue	**7.7%**	**14.4%**	**26.6%**	Shops ad revenue (US$mn)	910	2,457	6,020
				Shops commission rev. (US$mn)	1,138	3,686	10,033
				Shops total revenue (US$mn)	**2,048**	**6,143**	**16,052**
				As % of 2023 total revenue	**1.5%**	**4.6%**	**11.9%**

Source: Company data, CMBIGM estimates

Catalyst 2: optimization of organizational structure to improve operating efficiency

Meta has announced two rounds of organizational optimization since Nov 2022 in order to improve the company's operating efficiency and navigate macro headwinds. In the first round of workforce reduction announced in Nov 2022, the company laid off c.11,000 employees (13% of the total number of employees) and extended the hiring freeze through 1Q23. Meta aims to become more capital efficient and shifts its resources to smaller number of high priority growth areas including AI, ads and business platforms and metaverse. For the second round of organizational optimization announced in Mar 2023, Meta planned to further reduce the employee size by 10,000 people and to close c.5,000 open roles. The workforce reduction was largely completed in 1H23. The company will make organization flatter by removing multiple layers of management and also leaner by cancelling projects that are duplicative or lower priority.

Meta has seen significant improvement in operating efficiency since the workforce reduction. As of 31 Dec 2023, total number of employees was down by 22% YoY to 67,317. Meta's revenue per employee was up by 60% YoY to US$596k in 4Q23.

Figure 84: Meta: number of employees
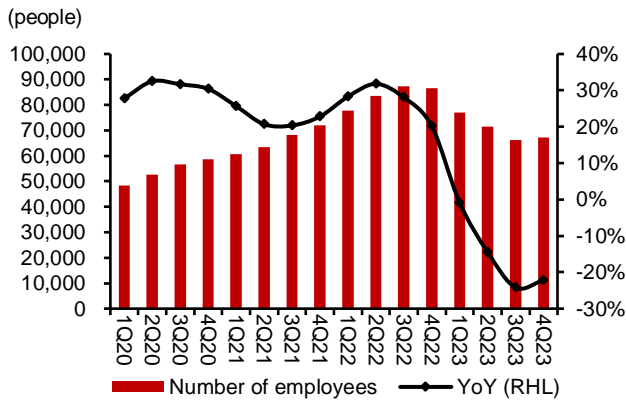
Source: Company data, CMBIGM

Figure 85: Meta: revenue per employee
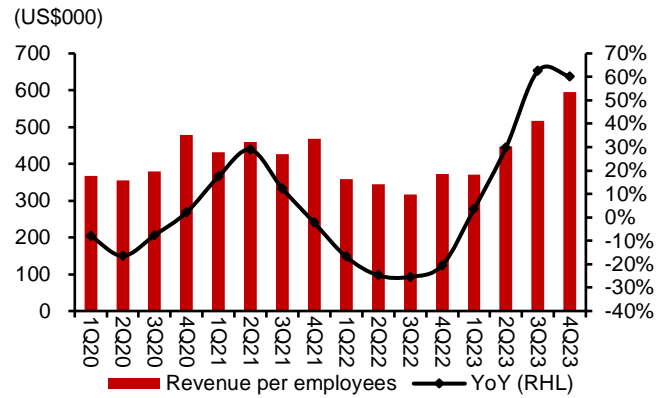
Source: Company data, CMBIGM estimates

Catalyst 3: mitigating competitive risks from TikTok

Meta has been encountered continuous competitive pressure from TikTok since 2018, especially in key markets such as North America and Europe. In 2022, TikTok's user base in North America and Europe already accounted for 64/49% of that of Facebook. TikTok US MAU delivered a CAGR of 74% over 2019-2023, while Facebook US MAU only grew at a CAGR of 2% during the same period.

Figure 86: Meta vs TikTok: MAU breakdown in 2023
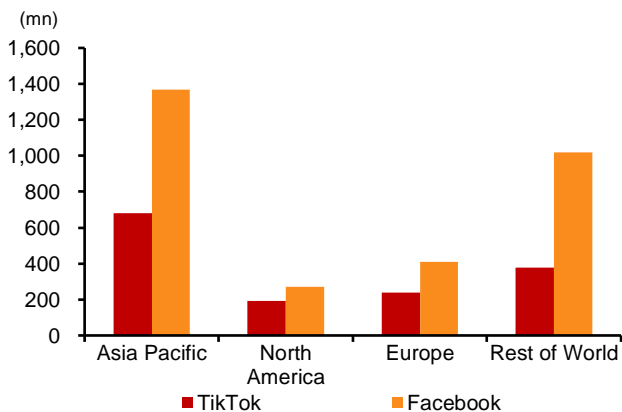
Source: data.ai, CMBIGM

Figure 87: Meta vs TikTok: MAU competition in the US
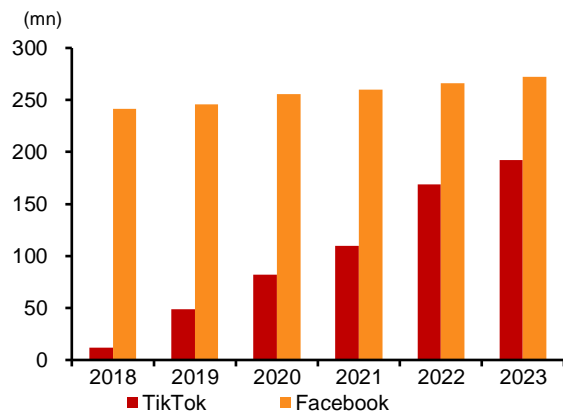
Source: data.ai, CMBIGM

To fend off the competitive pressure from TikTok, Meta launched its short video product Reels in 2020. Similar to TikTok, Reels aims to attract young audience with 15-to-60 second vertical video. Although the introduction of Reels impacts the overall engagement and monetization efficiency of Meta at first, the monetization of Reels ramps up fast, with its annual revenue run rate surpassing US$10bn in 2Q23 (vs. TikTok ad revenue of US$18bn in 2023 on eMarketer estimate) and already becoming neutral to Meta's overall revenue growth in 3Q23.

Figure 88: Instagram Reels vs other short video apps
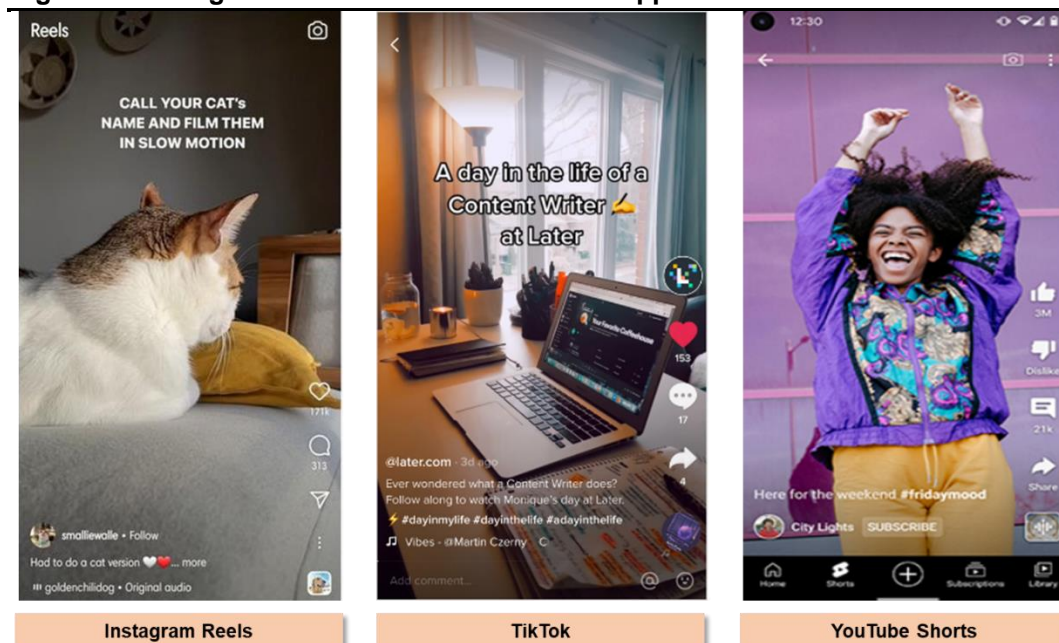
Source: Company data, CMBIGM

From FY23 onward, we expect Facebook to see less competitive pressure from TikTok as TikTok user growth is slowing down. Meta has faced heightening competitive pressure from TikTok due to TikTok's strong user growth. According to data.ai, TikTok MAU to Facebook MAU ratio climbed from 14% in 1Q19 to 53% in 3Q23, with their gap of user base significantly narrowing. In China, Douyin's user base also catches up with Weixin quickly. However, the user traffic competition gradually diminished when Douyin's MAUs surpassed 50% of Weixin's MAU in 2022 and saw decelerated growth. From the lesson learned in China's market, we expect TikTok may create less competitive pressure to Facebook in FY23, as TikTok user growth slows down.

Figure 89: Meta vs TikTok: MAU trend
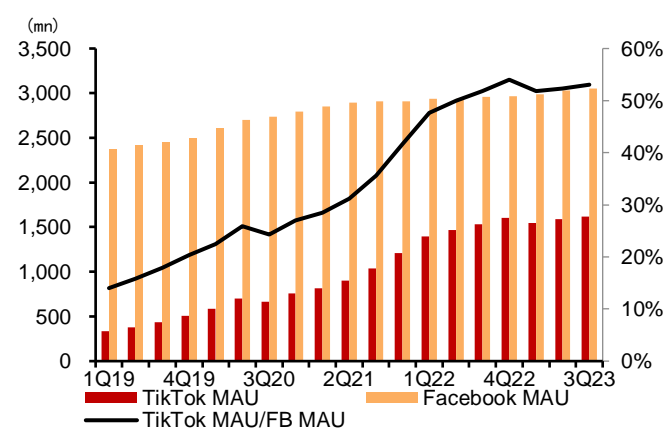
Source: data.ai, CMBIGM

Figure 90: Weixin vs Douyin: MAU trend
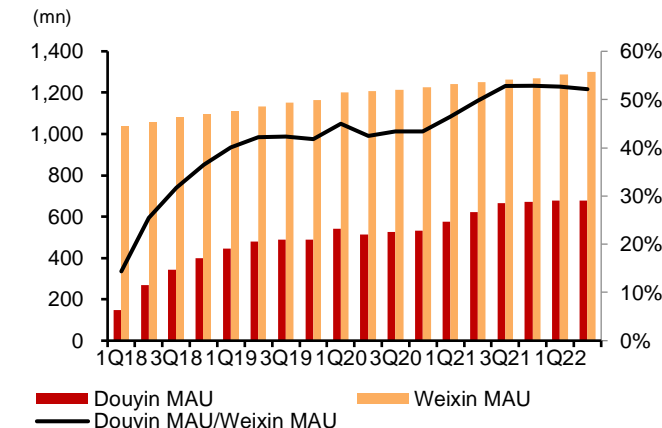
Source: QuestMobile, CMBIGM

TikTok also faced heightening scrutiny from the US and European regulatory authority, affecting its expansion in the overseas market. In 2020, India banned TikTok and other Chinese apps for national security reasons. Later in 2021-2023, the US federal government and European Parliament also banned TikTok's on the officials' devices. The US CIFUS required TikTok to sell its US business to maintain its operation in the US.

Figure 91: Overseas regulations on TikTok

| Year	Country	Policy on TikTok
2020	India	India banned TikTok and other 58 Chinese apps on national security
	US	Senate passed a legislation to ban TikTok on devices of federal staff
		President Trump signed executive order to prevent US citizens and enterprises to conduct transactions with ByteDance and Tencent Judge Carl Nichols from Federal Court ruled against Department of Commerce's restriction on TikTok
	France	French CNIL launched initial investigation on TikTok after receipt of compliant
	Denmark	Denmark investigated TikTok on its compliance with European privacy regulations
	Netherlands	Netherlands regulatory body investigate TikTok's protective measures on Children
2021	US	President Biden overruled Trump's ban on TikTok, but signed a new executive order on addressing the security risks brought by foreign software
	UK	Irish regulatory body investigated TikTok's processing of minor data
2022	US	CIFUS required TikTok to sell its US business
	UK	The UK regulatory body fined TikTok for GBP27mn due to failure to protect Children's data
	Italy	The Italian regulatory body warned TikTok on its alleged violation of European privacy regulations
2023	Europe	European Parliament banned TikTok on its staff devices
	US	The White House sets a 30-day deadline for purging TikTok from federal devices

Source: Bloomberg, CMBIGM

China social media sector has saw intensifying competitive pressure due to the rise of short-video platforms like Douyin and Kuaishou. Short video platforms already contributed the largest share of mobile user time spent (28.5%) in December 2022. Douyin and Kuaishou have been aggressively taking share of mobile user time spent, with their market share up from 12.7% and 5.7% in December 2019 to 24.5% and 10.2% in December 2022, per QuestMobile.

Figure 92: China's mobile user time spent mix by content
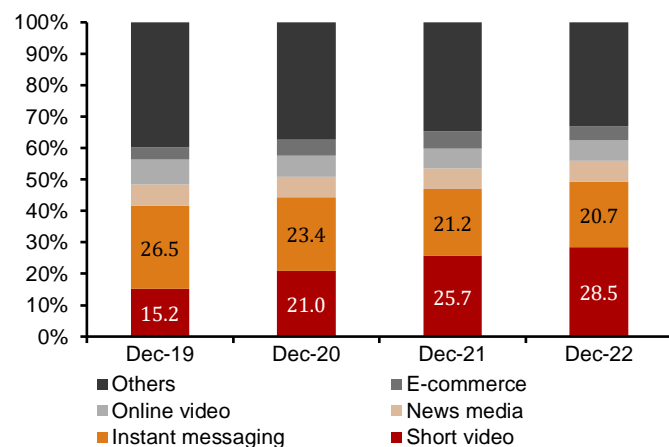
Source: QuestMobile, CMBIGM

Figure 93: China mobile user time spent mix by platforms
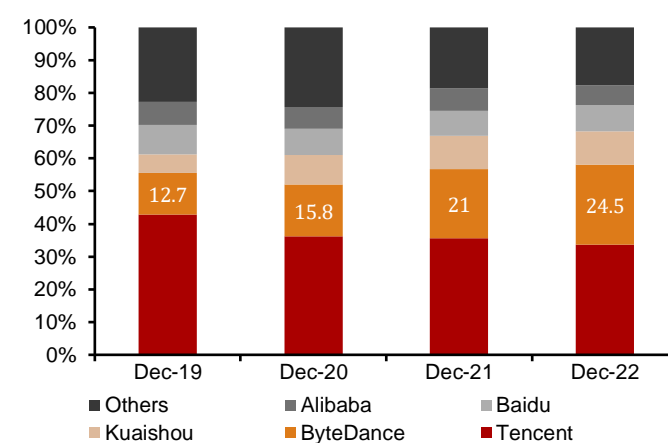
Source: QuestMobile, CMBIGM

Besides growing user base, ByteDance has developed advanced targeted marketing solution with high ROI. Its marketing solutions have several key competitive advantages: 1) abundant 1P/3P user data collected from its over 1.5bn user base and ad partners; 2) comprehensive and precise user profile generated based on frequent user activities such as video views, engagement and products purchased.

With the strong recommendation algorithm and limited disruption to user experience, short video platforms show ample monetization potential. ByteDance continues to gain online ad market share from established platforms like Tencent, with its market share up from 18.6%

in 2019 to 26.7% in 2022. In comparison, online ad market share of Tencent declined from 10.6% in 2019 to 8.8% in 2022.

Figure 94: China's online ad sector: Tencent vs ByteDance's market share
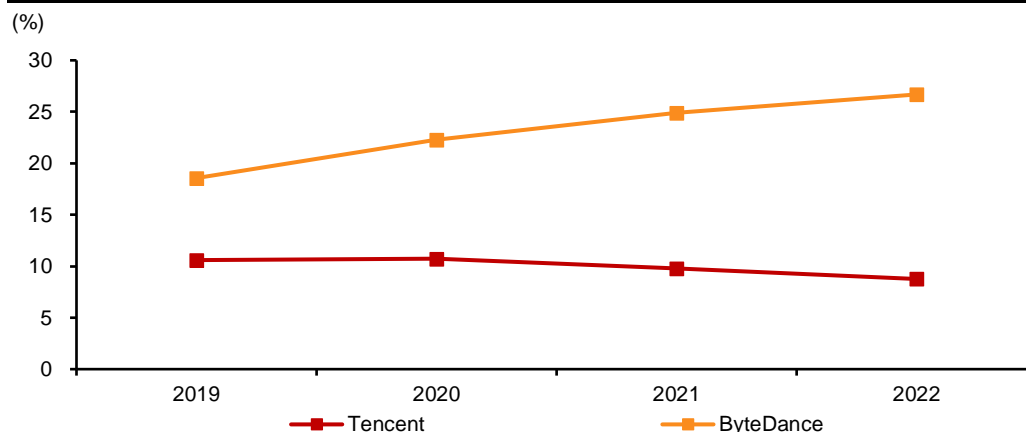
Source: iResearch, Company data, CMBIGM

Leveraging its abundant user data and advanced ad tech, Meta was more resilient in defending against ByteDance competition and maintained its market share in the global online ad sector. According to eMarketer, Meta's revenue share of the global ad market rose from 20% in 2019 to 22% in 2021, while ByteDance's market share increased from 2% in 4% during the same period.

In the long term, we see the videolization as a consistent trend in the global social media space. Short-video platforms like TikTok still have room to grow their market share, and platforms without video-content ecosystem may see erosion of market share. If TikTok's market share reaches 10% of global online ad market (ex-China) in the long term, this could represent ad revenue opportunity of US$47bn.

Figure 95: Global online ad sector: Meta vs ByteDance's market share
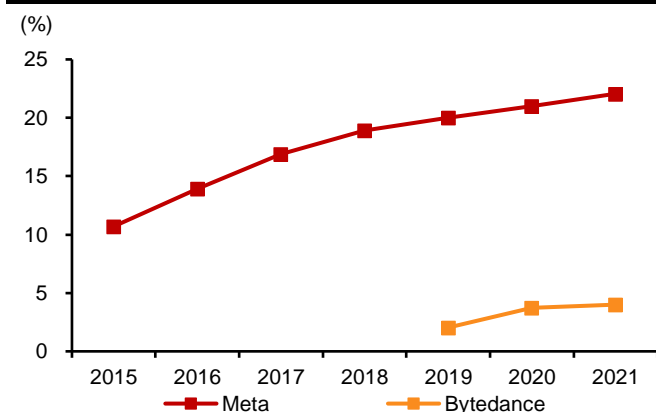
Source: eMarketer, CMBIGM

Figure 96: ByteDance: market share in China & global online ad market (2021)
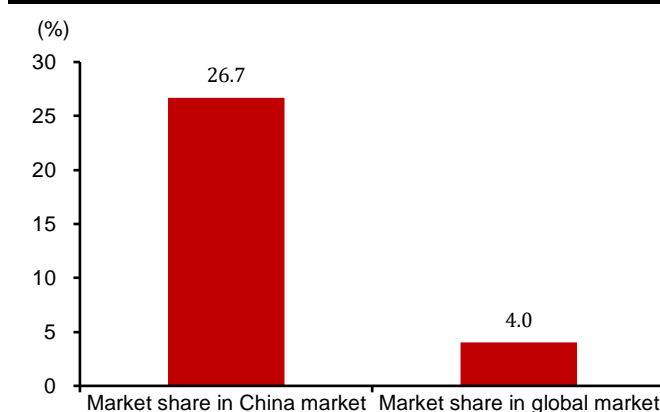
Source: eMarketer, CMBIGM

Catalyst 4: improving shareholder return

Meta was committed to improving shareholder return. The company repurchased US$20.0bn in 2023, which is equivalent to 6.3% of total market cap at the year beginning (2022: 3.0% of total market cap). As of 31 Dec 2023, Meta still had US$30.9bn available and authorized for share repurchases. And the company announced an additional US$50bn share repurchase (c.4% of market cap), and initiated its first ever cash dividend program in January 2024. Meta's strong cash generation capability can support its initiatives to enhance shareholder return. Per Bloomberg consensus, Meta's free cash flow is expected to reach US$47/55/68bn in FY24/25/26E, equivalent to 4/5/6% of current market cap.

Figure 97: Meta: total share repurchases
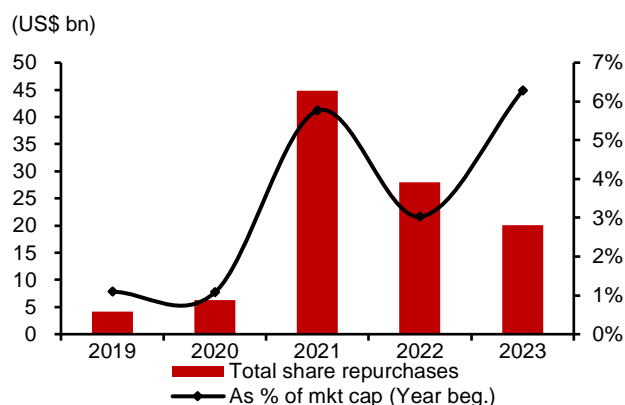
Source: Company data, CMBIGM

Figure 98: Meta: free cash flow
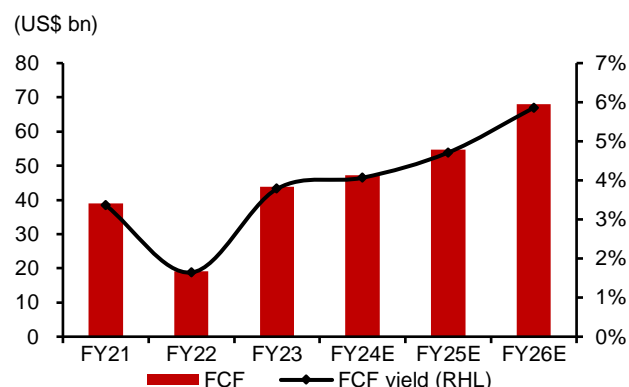
Source: Company data, Bloomberg, CMBIGM

Valuation

We value Meta at US$1,405bn (US$547.6 per share) based on 28x 2024E P/E. Our target PE multiple is a premium to the sector average (23x), reflecting Meta's strong leadership in global social media space and capability to further unleash operating leverage.

Figure 99: Meta: target valuation

P/E valuation (US$mn)	2024E
Net income	50,185
Target 2024E P/E	28
Target equity valuation	1,405,188
Valuation per share (US$)	547.6

Source: Company data, CMBIGM estimates

Figure 100: Global online ad platforms: valuation comparison

Companies	Ticker	Price (LC)	PE(x) 2023E	2024E	2025E	PS (x) 2023E	2024E	2025E	EPS CAGR 23-25E
Global ads									
Alphabet	GOOGL US	140.5	23.2	19.5	16.9	6.9	6.1	5.3	18%
Meta	META US	473.3	31.7	23.0	20.0	9.0	7.6	6.8	29%
Pinterest	PINS US	35.3	33.5	27.5	21.8	7.8	6.6	5.6	39%
Snap	SNAP US	11.2	NA	NA	32.9	4.0	3.5	3.1	32%
Average			**29.5**	**23.3**	**22.9**	**6.9**	**6.0**	**5.2**	
Global tech									
Microsoft	MSFT US	404.1	42.0	34.8	30.3	14.2	12.3	10.7	12%
NVIDIA	NVDA US	726.1	NA	NA	34.0	66.6	30.2	18.7	70%
Amazon	AMZN US	169.5	44.5	34.4	27.4	3.1	2.7	2.5	70%
Tesla Inc	TSLA US	200.0	NA	NA	49.3	6.5	5.8	4.8	0%
Salesforce	CRM US	289.7	NA	35.3	30.0	9.1	8.1	7.2	27%
Netflix Inc	NFLX US	584.0	47.8	33.9	27.5	7.5	6.6	5.9	26%
Adobe Inc	ADBE US	546.7	34.3	30.5	26.9	12.8	11.5	10.3	14%
Intuit Inc	INTU US	655.7	46.1	40.0	34.5	12.8	11.4	10.2	18%
Uber	UBER US	78.4	NA	47.3	31.0	4.4	3.8	3.2	NA
ServiceNow	NOW US	765.0	NA	NA	47.7	17.5	14.4	11.9	30%
Average			**42.9**	**36.6**	**33.9**	**15.4**	**10.7**	**8.5**	

Note: data as of 16 Feb
Source: Bloomberg, CMBIGM

Risks: intensified competition from other media like TikTok causes market share loss, investment in AI and Metaverse leads to margin erosion, and macro headwinds weigh on ad revenue growth.

Financial Summary

INCOME STATEMENT	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec (US$ mn)						
Revenue	**117,929**	**116,609**	**134,901**	**153,062**	**168,812**	**182,734**
Cost of goods sold	(22,649)	(25,249)	(25,958)	(29,082)	(32,074)	(34,719)
Gross profit	**95,280**	**91,360**	**108,943**	**123,981**	**136,738**	**148,015**
Operating expenses	**(48,527)**	**(62,415)**	**(62,192)**	**(65,358)**	**(70,509)**	**(74,660)**
Selling expense	(14,043)	(15,261)	(12,301)	(12,857)	(13,897)	(14,742)
Admin expense	(9,829)	(11,816)	(11,408)	(11,939)	(12,772)	(13,411)
R&D expense	(24,655)	(35,338)	(38,483)	(40,562)	(43,841)	(46,507)
Operating profit	**46,753**	**28,945**	**46,751**	**58,623**	**66,228**	**73,355**
Net Interest income/(expense)	531	(126)	677	419	501	800
Foreign exchange gain/loss	0	0	0	0	0	0
Other income/expense	0	0	0	0	0	0
Pre-tax profit	**47,284**	**28,819**	**47,428**	**59,042**	**66,729**	**74,155**
Income tax	(7,914)	(5,619)	(8,330)	(8,856)	(10,009)	(11,123)
After tax profit	**39,370**	**23,200**	**39,098**	**50,185**	**56,720**	**63,032**
Net profit	**39,370**	**23,200**	**39,098**	**50,185**	**56,720**	**63,032**
Adjusted net profit	**48,534**	**35,192**	**53,125**	**64,926**	**72,623**	**79,871**

BALANCE SHEET	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec (US$ mn)						
Current assets	**66,666**	**59,549**	**85,365**	**99,456**	**144,245**	**199,737**
Cash & equivalents	16,601	14,681	41,862	50,101	88,933	141,295
Account receivables	14,039	13,466	16,169	17,979	19,432	20,614
Financial assets at FVTPL	31,397	26,057	23,541	27,072	31,133	32,690
Other current assets	4,629	5,345	3,793	4,304	4,746	5,138
Non-current assets	**99,321**	**126,178**	**144,258**	**158,548**	**168,421**	**174,338**
PP&E	69,964	92,191	109,881	123,217	132,255	137,428
Investment in JVs & assos	6,775	6,201	6,141	6,141	6,141	6,141
Intangibles	634	897	788	827	869	912
Goodwill	19,197	20,306	20,654	20,654	20,654	20,654
Other non-current assets	2,751	6,583	6,794	7,709	8,502	9,203
Total assets	**165,987**	**185,727**	**229,623**	**258,004**	**312,666**	**374,075**
Current liabilities	**21,135**	**27,026**	**31,960**	**34,963**	**37,680**	**39,896**
Account payables	4,083	4,990	4,849	5,324	5,754	6,104
Other current liabilities	1,613	1,117	863	979	1,080	1,169
Lease liabilities	1,127	1,367	1,623	1,623	1,623	1,623
Accrued expenses	14,312	19,552	24,625	27,037	29,222	31,000
Non-current liabilities	**19,973**	**32,988**	**44,495**	**44,495**	**44,495**	**44,495**
Obligations under finance leases	12,746	15,301	17,226	17,226	17,226	17,226
Other non-current liabilities	7,227	17,687	27,269	27,269	27,269	27,269
Total liabilities	**41,108**	**60,014**	**76,455**	**79,458**	**82,175**	**84,391**
Capital surplus	55,811	64,444	73,253	48,446	43,671	39,832
Retained earnings	69,761	64,799	82,070	132,255	188,975	252,007
Other reserves	(693)	(3,530)	(2,155)	(2,155)	(2,155)	(2,155)
Total shareholders equity	**124,879**	**125,713**	**153,168**	**178,546**	**230,491**	**289,684**
Total equity and liabilities	**165,987**	**185,727**	**229,623**	**258,004**	**312,666**	**374,075**

CASH FLOW	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec (US$ mn)						
Operating						
Profit before taxation	**47,284**	**28,819**	**47,428**	**59,042**	**66,729**	**74,155**
Depreciation & amortization	7,967	8,686	11,178	11,413	12,799	13,738
Tax paid	(7,914)	(5,619)	(8,330)	(8,856)	(10,009)	(11,123)
Change in working capital	887	5,683	6,175	682	821	643
Others	9,459	12,906	14,662	14,741	15,903	16,839
Net cash from operations	**57,683**	**50,475**	**71,113**	**77,022**	**86,242**	**94,252**
Investing						
Capital expenditure	(18,690)	(31,431)	(27,266)	(24,789)	(21,878)	(18,954)
Acquisition of subsidiaries/ investments	(851)	(1,312)	(629)	0	0	0
Others	11,971	3,773	3,400	(4,446)	(4,854)	(2,258)
Net cash from investing	**(7,570)**	**(28,970)**	**(24,495)**	**(29,235)**	**(26,732)**	**(21,211)**
Financing						
Net borrowings	(677)	9,071	7,397	0	0	0
Share repurchases	(50,052)	(31,551)	(19,774)	(39,548)	(20,678)	(20,678)
Others	1	344	(7,123)	0	0	0
Net cash from financing	**(50,728)**	**(22,136)**	**(19,500)**	**(39,548)**	**(20,678)**	**(20,678)**
Net change in cash						
Cash at the beginning of the year	17,576	16,601	14,681	41,862	50,101	88,933
Exchange difference	(360)	(1,289)	63	0	0	0
Cash at the end of the year	**16,601**	**14,681**	**41,862**	**50,101**	**88,933**	**141,295**
GROWTH	**2021A**	**2022A**	**2023A**	**2024E**	**2025E**	**2026E**
YE 31 Dec						
Revenue	37.2%	(1.1%)	15.7%	13.5%	10.3%	8.2%
Gross profit	37.5%	(4.1%)	19.2%	13.8%	10.3%	8.2%
Operating profit	43.1%	(38.1%)	61.5%	25.4%	13.0%	10.8%
Net profit	35.1%	(41.1%)	68.5%	28.4%	13.0%	11.1%
Adj. net profit	36.0%	(27.5%)	51.0%	22.2%	11.9%	10.0%
PROFITABILITY	**2021A**	**2022A**	**2023A**	**2024E**	**2025E**	**2026E**
YE 31 Dec						
Gross profit margin	80.8%	78.3%	80.8%	81.0%	81.0%	81.0%
Operating margin	39.6%	24.8%	34.7%	38.3%	39.2%	40.1%
Adj. net profit margin	41.2%	30.2%	39.4%	42.4%	43.0%	43.7%
Return on equity (ROE)	31.1%	18.5%	28.0%	30.3%	27.7%	24.2%
GEARING/LIQUIDITY/ACTIVITIES	**2021A**	**2022A**	**2023A**	**2024E**	**2025E**	**2026E**
YE 31 Dec						
Current ratio (x)	3.2	2.2	2.7	2.8	3.8	5.0
Receivable turnover days	43.5	42.2	43.7	42.9	42.0	41.2
VALUATION	**2021A**	**2022A**	**2023A**	**2024E**	**2025E**	**2026E**
YE 31 Dec						
P/E	23.3	20.9	17.2	24.3	21.5	19.3
P/E (diluted)	23.3	21.0	17.6	24.8	21.9	19.7
P/B	7.3	3.9	4.4	6.8	5.3	4.2

Source: Company data, CMBIGM estimates. Note: The calculation of net cash includes financial assets.

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