

# Baidu (BIDU US)

## Monetization of LLM the next key to watch

Baidu announced (22 Aug) its 2Q23 results: revenue was RMB34.1bn, up 15% YoY, 1/2% higher than our forecast/Bloomberg consensus estimates. Non-GAAP net income was RMB8.0bn, ahead of our forecast/Bloomberg consensus estimates at RMB6.1/5.9bn, driven by stronger than expected revenue growth of high-margin Baidu Core ads business, and one-off foreign exchange gain. We lift our SOTP based TP by 3% to US\$201.0 to reflect better than expected recovery of core ads business. Maintain BUY. Catalysts: 1) license approval to push for large scale monetization of large language model (LLM); 2) better than expected ads revenue growth; and 3) progress update on Apollo Self Driving (ASD) monetization.

- **Recovery of core ad business better than expected.** Baidu Core revenue was up by 14.0% YoY to RMB26.4bn in 2Q23 (78% of total revenue), and was 1% better than our estimate, thanks to better-than-expected recovery in advertising business, aided by ongoing recovery of offline activities. In June 2023, MAUs of Baidu app were 677mn, up 8% YoY (1Q23: 4%). We forecast Baidu Core ads business revenue to achieve two-year CAGR of 1.7% in 2H23, improving from 1.4% in 1H23, thanks to a low base and continuous recovery of offline activities.
- **Cloud business sustained non-GAAP profitability.** Non-ad revenue was up 12% YoY to RMB6.8bn and accounted for 25.8% of Baidu Core revenue (2Q22: 26.3%). Baidu Cloud revenue reached RMB4.5bn in 2Q23, up 5% YoY (1Q23: 8%; 2Q22: 32%), and sustained non-GAAP operating profitability. In 2Q23, rides provided by Apollo Go were more than 714,000, up 149% YoY and 8% QoQ.
- **Ernie Bot has accumulated early mover advantage.** Management noted that Baidu's foundation model is still waiting for green light from regulatory authorities to push for large scale monetization on consumer-end, while it believes Baidu's advantage in developing generative AI and large language model lies in vast amount of high-quality data accumulated and full stack AI capabilities with four layered architectures. According to IDC, Baidu's Ernie 3.5 excels peers in many areas, such as algorithm, industry coverage, developer tools, and ecosystem. We see the license approval to push for large scale monetization of LLM model one of the key catalysts for Baidu in 2H23.
- **Better than expected ads business recovery and improving margin of cloud business drove a beat on margin.** Baidu's GPM was 52.5% in 2Q23, up 3.7pp YoY and was 3.0pp better than our forecast. Non-GAAP OPM for Baidu Group/Baidu Core was 24.7%/21.5%, better than our forecast at 23.1%/20.1%, thanks to better-than-expected recovery of high margin advertising business. We forecast Baidu Core non-GAAP OP to grow 1% YoY to RMB6.7bn in 3Q23, driven by the growth in ads business, and operating efficiency improvement of cloud business, while partly offset by the investment to drive user growth, in order to lay a more solid foundation for long-term development.

### Earnings Summary

(YE 31 Dec)	FY21A	FY22A	FY23E	FY24E	FY25E
Revenue (RMB mn)	124,493	123,675	136,834	148,673	164,502
YoY growth (%)	16.3	(0.7)	10.6	8.7	10.6
Adjusted net profit (RMB mn)	18,830.0	20,680.0	25,709.5	25,731.3	29,890.4
EPS (Adjusted) (RMB)	53.53	58.90	72.50	71.84	82.62
Consensus EPS (RMB)	na	na	64.00	72.02	82.10
P/E (x)	42.3	40.1	16.2	16.8	14.2
ROE (%)	5.1	3.4	8.1	7.1	7.6

Source: Company data, Bloomberg, CMBIGM estimates

### BUY (Maintain)

**Target Price** US\$201.00  
 (Previous TP US\$195.00)  
**Up/Downside** 60.9%  
**Current Price** US\$124.92

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### Stock Data

Mkt Cap (US\$ mn)	43,862.5
Avg 3 mths t/o (US\$ mn)	223.5
52w High/Low (US\$)	160.22/76.57
Total Issued Shares (mn)	351.1

Source: FactSet

### Shareholding Structure

Robin Yanhong Li	16.5%
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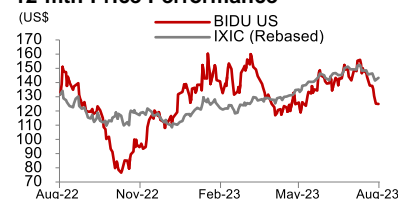
Source: HKEx

### Share Performance

	Absolute	Relative
1-mth	-11.7%	-8.2%
3-mth	-0.8%	-6.5%
6-mth	-8.9%	-22.3%

Source: FactSet

### 12-month Price Performance



Source: FactSet

Figure 1: Baidu: quarterly financial results

(RMBbn)	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	CMBI estimates	Diff%
<b>Baidu Group</b>													
Online marketing	20.7	18.1	20.8	21.1	20.7	16.9	18.3	19.9	19.6	18.0	21.1	20.6	2.6%
YoY growth (%)	-0.3%	27.0%	17.8%	4.2%	0.1%	-6.4%	12.3%	-5.3%	-5.6%	6.2%	15.4%	0.1	
Other services	9.6	10.0	10.5	10.9	12.4	11.5	11.4	12.6	13.5	13.2	13.0	13.1	-1.2%
YoY growth (%)	17.7%	20.9%	26.1%	35.4%	29.4%	14.4%	8.1%	15.9%	9.2%	14.7%	14.0%	0.2	
Total revenue	30.3	28.1	31.4	31.9	33.1	28.4	29.6	32.5	33.1	31.1	34.1	33.7	1.1%
YoY growth (%)	4.8%	24.8%	20.4%	13.1%	9.3%	1.0%	-5.4%	1.9%	0.0%	9.6%	14.9%	13.6%	
Gross profit	15.7	13.1	15.5	15.8	15.8	12.9	14.5	16.3	16.1	16.0	17.9	16.7	7.3%
Operating profit	5.0	2.8	3.5	2.3	2.0	2.6	3.4	5.3	4.6	5.0	5.2	5.1	1.7%
Non-GAAP net profit	6.9	4.3	5.4	5.1	4.1	3.9	5.5	5.9	5.4	5.7	8.0	6.1	31.5%
YoY growth (%)	-25%	39%	5%	-27%	-41%	-10%	3%	16%	32%	48%	44%	10%	
GPM (%)	52.0%	46.7%	49.3%	49.5%	47.7%	45.3%	48.8%	50.0%	48.8%	51.3%	52.5%	49.5%	3.0 ppt
OPM (%)	16.4%	9.9%	11.0%	7.2%	5.9%	9.2%	11.5%	16.3%	13.9%	16.0%	15.3%	15.2%	0.1 ppt
Non-GAAP NPM (%)	22.7%	15.3%	17.1%	15.9%	12.3%	13.7%	18.7%	18.1%	16.2%	18.4%	23.5%	18.1%	5.4 ppt
<b>Baidu Core</b>													
Revenue	23.1	20.5	24.0	24.7	26.0	21.4	23.2	25.2	25.7	23.0	26.4	26.1	1.3%
YoY growth (%)	6.4%	34.2%	27.0%	15.3%	12.4%	4.4%	-3.7%	2.3%	-1.2%	7.6%	14.0%	12.5%	
Non-GAAP OP	8.0	5.1	6.5	5.8	4.8	3.7	5.1	6.7	5.5	5.4	6.5	6.0	8.5%
Non-GAAP NP	7.5	4.9	5.9	5.9	4.6	3.8	5.4	5.8	4.9	5.3	7.7	5.8	33.1%
YoY growth (%)	24.3%	7.8%	5.1%	21.8%	38.6%	21.9%	-8.3%	-1.5%	6.3%	38.5%	41.2%	6.1%	
Non-GAAP OPM (%)	34.8%	24.7%	26.9%	23.6%	18.7%	17.2%	22.1%	26.4%	21.4%	23.3%	24.7%	23.1%	1.6 ppt
Non-GAAP NPM (%)	32.6%	23.8%	24.7%	23.7%	17.8%	17.8%	23.5%	22.8%	19.2%	22.9%	29.1%	22.2%	7.0 ppt

Source: Company data, Bloomberg, CMBIGM

## Changes in forecast and valuation

Figure 2: Baidu forecast revision

RMB bn	Current			Previous			Change (%)		
	2023E	2024E	2025E	2023E	2024E	2025E	2023E	2024E	2025E
Revenue	136.8	148.7	164.5	137.3	149.5	165.6	-0.4%	-0.6%	-0.7%
Gross Profit	69.1	75.3	85.3	67.6	74.6	84.1	2.3%	0.8%	1.5%
Non-GAAP net profit	25.7	25.7	29.9	23.6	26.5	30.8	8.8%	-2.9%	-2.9%
Gross Margin	50.5%	50.6%	51.9%	49.2%	49.9%	50.8%	1.3 ppt	0.7 ppt	1.1 ppt
Non-GAAP net margin	18.8%	17.3%	18.2%	17.2%	17.7%	18.6%	1.6 ppt	-0.4 ppt	-0.4 ppt

Source: CMBIGM estimates

**Figure 3: Baidu Core business segment forecast revision**

RMB bn	Current			Previous			Change (%)		
	2023E	2024E	2025E	2023E	2024E	2025E	2023E	2024E	2025E
Revenue	105.0	114.3	128.9	105.2	114.5	129.1	-0.2%	-0.2%	-0.2%
Non-GAAP Operating Profit	23.9	25.0	29.3	23.1	26.3	30.5	3.3%	-5.1%	-4.0%
Non-GAAP net profit	24.2	23.8	27.5	22.1	24.4	28.2	9.5%	-2.6%	-2.3%
Non-GAAP OPM	17.4%	16.8%	17.8%	16.8%	17.6%	18.4%	0.6 ppt	-0.8 ppt	-0.6 ppt
Non-GAAP NPM	17.7%	16.0%	16.7%	16.1%	16.3%	17.0%	1.6 ppt	-0.3 ppt	-0.3 ppt

Source: CMBIGM estimates

## SOTP valuation of US\$201.0 per ADS

Our SOTP based target price is US\$201.0, which comprises, per ADS:

- 1) US\$68.9 (prior US\$63.0) for Baidu Core (main business, excluding Apollo and Baidu Cloud, mainly including the core search and feed ads business), based on unchanged 7.0x 2023E non-GAAP PE. The lift in valuation is mainly due to a lift in non-GAAP net income forecast.
- 2) US\$22.8 (unchanged) for Apollo ASD, based on 2.0x 2030E revenue, and discounted back using a 13.0% WACC.
- 3) US\$37.9 (prior US\$38.3) for Baidu Cloud, based on unchanged 4.8x 2023E PS. It is in line with the target multiple that we are giving to its Chinese cloud peers, but below the average of 7.7x (Fig.5) for overseas comparable companies because its cloud revenue is on a smaller scale.
- 4) US\$58.3 net cash (prior US\$57.9).
- 5) US\$13.0 (prior US\$13.1) for iQIYI and other investments, with a 30% holding discount applied to the share price of US\$18.6 as of market close on 23 Aug 2023.

Figure 4: Baidu: SOTP valuation

Segment	NOPAT (US\$mn)	Valuation method/multiple	Valuation (RMBmn)	Valuation (US\$mn)	Baidu's stake	Valuation of Baidu's stake (US\$mn)	USD/ADS	Valuation as % of total (%)
<b>Core business and cash</b>								
1) Baidu core (ex-Apollo and Cloud)	3,493	7.0x 2023E PE	169,304	24,448	100.0	24,448	68.9	34.3
2) Apollo ASD			55,926	8,076	100.0	8,076	22.8	11.3
3) Baidu Cloud (ex-ASD)		4.8x 2023E PS	93,122	13,447	100.0	13,447	37.9	18.9
4) Net cash			143,253	20,686	100.0	20,686	58.3	29.0
<b>Valuation of core business and cash</b>						<b>66,658</b>	<b>188.0</b>	<b>93.5</b>
<b>iQIYI and strategic investment</b>								
1) iQIYI		Market value	34,451	4,975	51.5	2,562	7.2	
2) Trip.com group		Market value	177,800	25,675	10.8	2,773	7.8	
3) Uxin		Market value	505	73	9.1	7	0.0	
4) HAND Enterprise Solutions		Market value	9,319	1,346	5.3	71	0.2	
5) Kuaishou		Market value	235,483	34,005	3.1	1,056	3.0	
6) Yusys Technologies		Market value	15,260	2,204	5.1	113	0.3	
<b>Valuation of iQIYI and investments</b>						<b>6,582</b>	<b>18.6</b>	
<b>Valuation of iQIYI and investment (with 30% holding discount)</b>						<b>4,607</b>	<b>13.0</b>	<b>6.5</b>
<b>Total Baidu valuation (US\$mn)</b>						<b>71,265</b>		
<b>Number of ADS outstanding (mn)</b>						<b>355</b>		
<b>Valuation per ADS (US\$)</b>						<b>201.0</b>		

Source: Company data, CMBIGM estimates

Note: 1) American depositary share (ADS); iQIYI (IQ US); Trip.com Group (TCOM US); Uxin (UXIN US); HAND Enterprise solution (300170 SH); Kuaishou (1024 HK); Yusys Technologies (300674 SH); 2) data as of 23 Aug 2023 market close.

Our target price translates into 19.2/19.4x 2023/2024E PE on non-GAAP basis, or 13.6/13.7x if excluding net cash. Our previous target price of US\$195.0 translated into 20.3x 2023E PE.

Figure 5: Cloud computing: peers valuation comps

Companies	Ticker	Price	Revenue growth (YoY%)			PS(x)		
		(US\$)	2023E	2024E	2025E	2023E	2024E	2025E
Microsoft	MSFT US	321.9	9.0	12.2	13.5	10.7	9.5	8.4
Google	GOOG US	128.9	7.8	11.5	15.0	6.4	5.8	5.0
Salesforce	CRM US	209.0	11.9	10.9	11.2	5.9	5.3	4.8
<b>Average</b>						<b>7.7</b>	<b>6.9</b>	<b>6.1</b>

Source: Bloomberg, CMBIGM

Note: data as of 22 Aug 2023

## Financial Summary

INCOME STATEMENT	2020A	2021A	2022A	2023E	2024E	2025E
YE 31 Dec (RMB mn)						
Revenue	107,074	124,493	123,675	136,834	148,673	164,502
Cost of goods sold	(55,158)	(64,314)	(63,935)	(67,725)	(73,412)	(79,160)
Gross profit	51,916	60,179	59,740	69,110	75,261	85,342
Operating expenses	(37,576)	(49,661)	(43,829)	(48,319)	(52,251)	(57,687)
SG&A expense	(18,063)	(24,723)	(20,514)	(24,630)	(26,910)	(29,775)
R&D expense	(19,513)	(24,938)	(23,315)	(23,689)	(25,341)	(27,913)
Operating profit	14,340	10,518	15,911	20,790	23,010	27,654
Share of (losses)/profits of associates/JV	(2,248)	(932)	(1,910)	(1,001)	(633)	(261)
Adjusted EBITDA	27,504	24,914	29,663	34,288	36,823	42,324
Net Interest income/(expense)	2,255	2,130	3,332	4,355	3,122	3,373
Foreign exchange gain/loss	(660)	100	(1,484)	1,070	856	685
Other income/expense	9,403	(1,038)	(5,737)	1,083	1,094	1,105
Pre-tax profit	23,090	10,778	10,112	26,297	27,448	32,556
Income tax	(4,064)	(3,187)	(2,578)	(5,609)	(6,824)	(7,946)
After tax profit	19,026	7,591	7,534	20,688	20,624	24,610
Minority interest	(3,446)	(2,635)	(25)	868	1,313	1,638
Net profit	22,472	10,226	7,559	19,820	19,311	22,972
Adjusted net profit	22,020	18,830	20,680	25,709	25,731	29,890

BALANCE SHEET	2020A	2021A	2022A	2023E	2024E	2025E
YE 31 Dec (RMB mn)						
Current assets	183,342	213,315	212,850	237,528	265,730	298,455
Cash & equivalents	35,782	36,850	53,156	78,069	104,082	133,919
Restricted cash	758	10,821	11,330	11,330	11,330	11,330
Account receivables	8,668	9,981	11,733	10,122	10,998	12,169
Other current assets	138,134	155,663	136,631	138,007	139,320	141,038
Non-current assets	149,366	166,719	178,123	176,864	179,512	182,228
PP&E	17,508	23,027	23,973	28,017	32,018	36,109
Intangibles	8,457	8,947	8,095	2,792	1,439	64
Goodwill	22,248	22,605	22,477	22,477	22,477	22,477
Other non-current assets	101,153	112,140	123,578	123,578	123,578	123,578
Total assets	332,708	380,034	390,973	414,392	445,242	480,683
Current liabilities	68,385	74,488	79,630	85,382	88,273	90,588
Short-term borrowings	3,016	4,168	5,343	5,343	5,343	5,343
Account payables	36,716	41,384	38,014	42,362	43,991	44,618
Other current liabilities	28,653	28,936	36,273	37,676	38,939	40,627
Non-current liabilities	72,480	81,594	73,538	65,093	63,738	62,977
Long-term borrowings	0	12,629	13,722	0	0	0
Bond payables	60,335	55,772	49,461	54,738	53,383	52,622
Obligations under finance leases	4,693	5,569	4,810	4,810	4,810	4,810
Deferred income	97	129	159	159	159	159
Other non-current liabilities	7,355	7,495	5,386	5,386	5,386	5,386
Total liabilities	140,865	156,082	153,168	150,475	152,011	153,564
Share capital	0	0	0	0	0	0
Capital surplus	47,213	47,548	47,748	47,948	48,148	48,348
Retained earnings	135,483	163,911	175,730	201,642	230,756	264,444
Other reserves	3,102	7,148	8,393	8,393	8,393	8,393
Total shareholders equity	185,798	218,607	231,871	257,983	287,297	321,185
Minority interest	6,045	5,345	5,934	5,934	5,934	5,934
Total equity and liabilities	332,708	380,034	390,973	414,392	445,242	480,683

CASH FLOW	2020A	2021A	2022A	2023E	2024E	2025E
<b>YE 31 Dec (RMB mn)</b>						
<b>Operating</b>						
Profit before taxation	23,090	10,778	10,112	26,297	27,448	32,556
Depreciation & amortization	18,180	16,438	14,725	5,700	5,742	5,654
Tax paid	(4,064)	(3,187)	(2,578)	(5,609)	(6,824)	(7,946)
Change in working capital	(18,207)	(18,691)	(16,758)	5,987	702	(574)
Others	5,201	14,784	20,669	7,221	7,263	7,851
<b>Net cash from operations</b>	<b>24,200</b>	<b>20,122</b>	<b>26,170</b>	<b>39,596</b>	<b>34,332</b>	<b>37,541</b>
<b>Investing</b>						
Capital expenditure	(5,084)	(10,896)	(8,286)	(8,286)	(8,286)	(8,286)
Acquisition of subsidiaries/ investments	(2,396)	(247)	(14)	0	0	0
Net proceeds from disposal of short-term investments	(486)	0	0	0	0	0
Others	(19,586)	(20,301)	4,356	(130)	(104)	(84)
<b>Net cash from investing</b>	<b>(27,552)</b>	<b>(31,444)</b>	<b>(3,944)</b>	<b>(8,416)</b>	<b>(8,390)</b>	<b>(8,370)</b>
<b>Financing</b>						
Net borrowings	12,390	8,840	(6,813)	(13,722)	0	0
Share repurchases	(13,054)	(7,581)	(1,925)	0	0	0
Others	6,329	22,137	2,348	6,704	72	665
<b>Net cash from financing</b>	<b>5,665</b>	<b>23,396</b>	<b>(6,390)</b>	<b>(7,018)</b>	<b>72</b>	<b>665</b>
<b>Net change in cash</b>						
Cash at the beginning of the year	34,439	36,540	47,671	65,236	89,399	115,412
Exchange difference	(212)	(943)	1,729	0	0	0
<b>Cash at the end of the year</b>	<b>36,540</b>	<b>47,671</b>	<b>65,236</b>	<b>89,399</b>	<b>115,412</b>	<b>145,249</b>
GROWTH	2020A	2021A	2022A	2023E	2024E	2025E
<b>YE 31 Dec</b>						
Revenue	(0.3%)	16.3%	(0.7%)	10.6%	8.7%	10.6%
Gross profit	16.5%	15.9%	(0.7%)	15.7%	8.9%	13.4%
Operating profit	127.4%	(26.7%)	51.3%	30.7%	10.7%	20.2%
Net profit	992.5%	(54.5%)	(26.1%)	162.2%	(2.6%)	19.0%
Adj. net profit	21.1%	(14.5%)	9.8%	24.3%	0.1%	16.2%
PROFITABILITY	2020A	2021A	2022A	2023E	2024E	2025E
<b>YE 31 Dec</b>						
Gross profit margin	48.5%	48.3%	48.3%	50.5%	50.6%	51.9%
Operating margin	13.4%	8.4%	12.9%	15.2%	15.5%	16.8%
Adj. net profit margin	20.6%	15.1%	16.7%	18.8%	17.3%	18.2%
Return on equity (ROE)	12.8%	5.1%	3.4%	8.1%	7.1%	7.6%
GEARING/LIQUIDITY/ACTIVITIES	2020A	2021A	2022A	2023E	2024E	2025E
<b>YE 31 Dec</b>						
Net debt to equity (x)	(0.5)	(0.5)	(0.5)	(0.6)	(0.6)	(0.6)
Current ratio (x)	2.7	2.9	2.7	2.8	3.0	3.3
Receivable turnover days	27.0	27.0	31.6	28.7	25.6	25.3
Payable turnover days	226.5	218.6	223.5	213.6	211.7	201.5
VALUATION	2020A	2021A	2022A	2023E	2024E	2025E
<b>YE 31 Dec</b>						
P/E	13.1	42.3	40.1	16.2	16.8	14.2
P/E (diluted)	13.2	43.2	40.5	16.3	16.9	14.4
P/B	1.6	2.0	1.3	1.3	1.1	1.0
P/CFPS	15.5	47.9	17.1	10.3	12.6	11.3

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



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