

Company Report

China Merchants Securities (HK) Co., Ltd.
Hong Kong Equity Research

Youdao (DAO US)

Positive outlook on strong device performance

- Youdao has adapted to policy change last year relatively better than peers thanks to its lowest K-9 revenue exposure
- Leveraging its technology background, Youdao has established a solid position in smart devices and featured STEAM courses
- Mgmt. reaffirmed improving outlook from shipment ramp up after a tough 2Q impacted by lockdown led logistics issues

Stable educational offering, least impacted by policy changes

Youdao's financial and share price performance have weathered last year's policy changes better than peers, thanks to its lower revenue proportion (c.33%) from discontinued K-9 academic tutoring business, vs. c.60% for New Oriental (EDU US) and Gaotu (GOTU US) and c.70% for TAL (TAL US). In the current new chapter, Youdao strategically focuses on three main businesses: 1) Smart devices, such as dictionary pen and learning pad; 2) STEAM courses, such as chess, coding and reading etc.; 3) Adult education, such as Kaoyan, English, professional courses etc.

Smart devices leader with enhancing product matrix

Legacy products: Dictionary pen (词典笔) has become Youdao's flagship product since its first debut in 2018, and ranked No.1 in its category in JD and Tmall 618 events for three consecutive years, with cumulative sales volume surpassing 3mn. Youdao continues to launch upgraded version for this product every year and recently launched new X5 generation. We note favorable user reviews highlighting translation, word scan accuracy, and ease of use, we believe some strengths are brought over from Youdao's leading dictionary site. **New products:** With its success from dictionary pen, Youdao also proactively expanded its product matrix to listening pod (听力宝) in Sept 2019, smart light (智能学习灯) in Apr 2022, and learning pad (学习平板) in Aug 2022 to fulfill various needs. Mgmt. is optimistic on the ramp up of these new products. Smart devices business currently accounts for c.25% of total revenue. 2Q22 growth slowed to +16% yoy hampered by logistics issues due to lockdown, while mgmt. expects a better growth for 2H22E driven by: 1) Reduced logistic issues; 2) Season strength from "back to school" and shopping festivals; 3) Company already observed strong growth rate jump in June coming out of April/May challenges. Mgmt. also expects better margin performance as penetrating to higher-price product mix, as well as scale increase.

Exploration in STEAM and adult education

STEAM: Youdao offered various courses such as chess, coding, reading, arts etc. among which chess (有道纵横) has been a blockbuster product since its launch in Apr 2020, leveraging AI technology to provide better practice effectiveness, reaching >1.6mn user base. **Adult:** Youdao's adult education 2Q22 revenue declined yoy amid macro headwinds hurting language and interest courses. Mgmt. highlighted future strategy is to focus on key categories like Kaoyan, which tracked +30% qoq gross billings growth in 2Q22 to mitigate weaker subjects.

Better outlook in 2H22E

Mgmt. remains confident on 2H22E growth recovery outlook driven by new product/courses ramp up, as well as loss narrowed from operating leverage and prudent cost control. Youdao is currently trading at 0.7x next 12-mo P/S (based on Bloomberg consensus).

Financials

Year ended 31 Dec (RMB mn)	2017	2018	2019	2020	2021*
Revenue	456	732	1,305	3,168	4,016
Growth (%)		61%	78%	143%	27%
Gross profit	162	216	371	1,454	1,989
Non-GAAP OP	-130	-219	-601	-1,806	-943
Non-GAAP NI	-134	-238	-612	-1,711	-889
Growth (%)		78%	158%	179%	-48%
Non-GAAP EPADS (RMB)	-2.04	-2.78	-6.42	-15.16	-7.37
P/S (x);	9.5	5.9	3.3	1.4	1.1
ROE(%)	13.9	29.0	322.5	309.4	83.1

Sources: Company data, CMS (HK); share price as of Sept. 20, 2022; *Continued business

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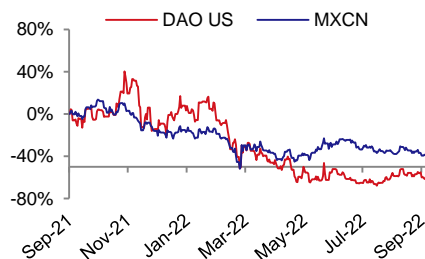
WHAT'S NEW

Company update

NON-RATED

Price (Sept. 20, 2022) USD4.9

Price Performance



Source: Bloomberg

%	1m	6m	12m
DAO US	(5.8)	(46.6)	(61.1)
MXCN	(5.2)	(15.4)	(30.2)

Sector: Education

Hang Seng Index (Sept. 20, 2022)	18,781
HSCEI (Sept. 20, 2022)	6,405

Key Data

52-week range (USD)	17.8 – 4.1
Market cap (USD mn)	617.3
Avg. daily volume (mn)	0.2
BVPS (RMB)	-6.71

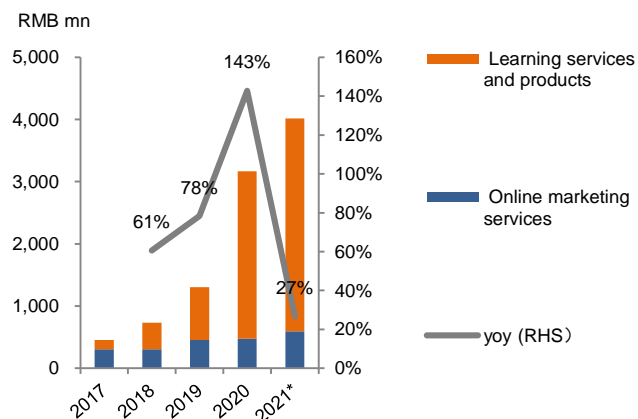
Shareholding Structure

NetEase	53.0%
Others	27.8%
No. of shares outstanding (mn)	126
Free float	19.2%

Sources: Company data, Bloomberg

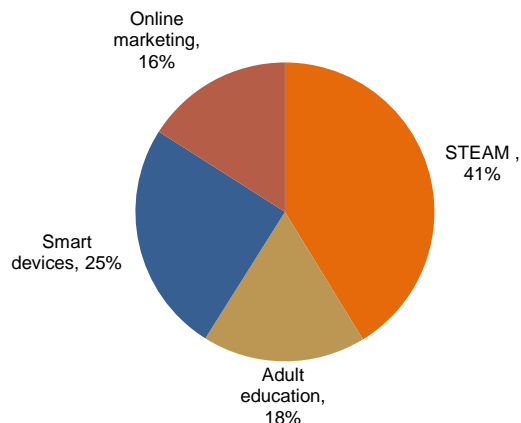
Focus charts

Figure 1: Revenue growth by segment



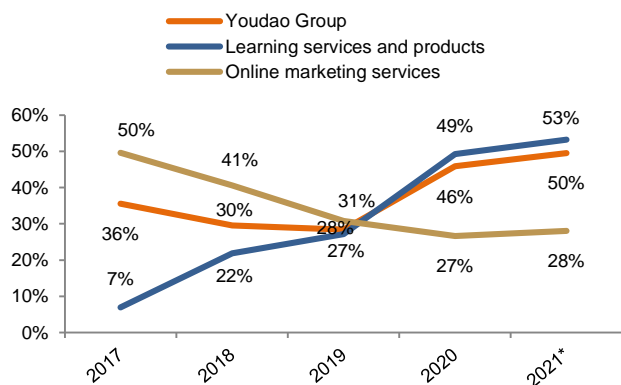
Sources: Company data, CMS (HK); *Continued business

Figure 2: Revenue breakdown in 2Q22



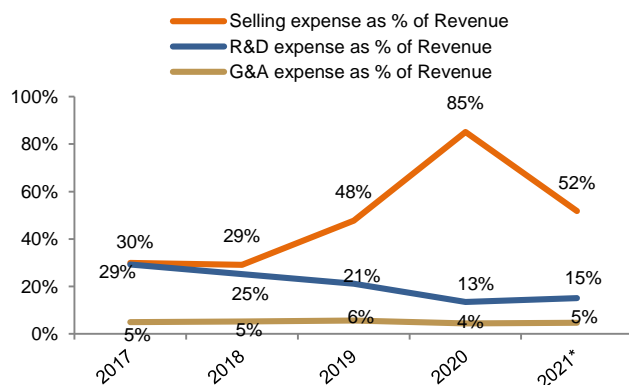
Sources: Company data, CMS (HK)

Figure 3: Gross profit margins



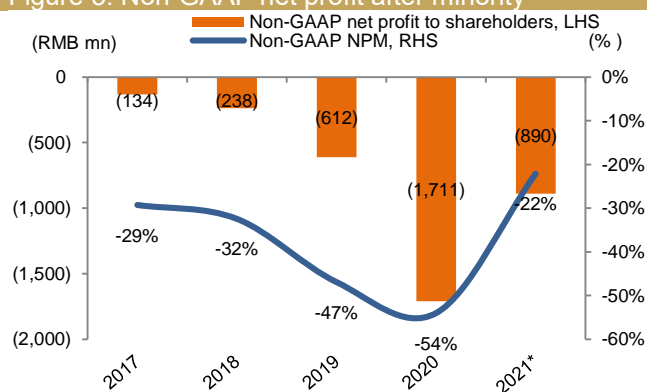
Sources: Company data, CMS (HK); *Continued business

Figure 4: Operating expenses as of revenue



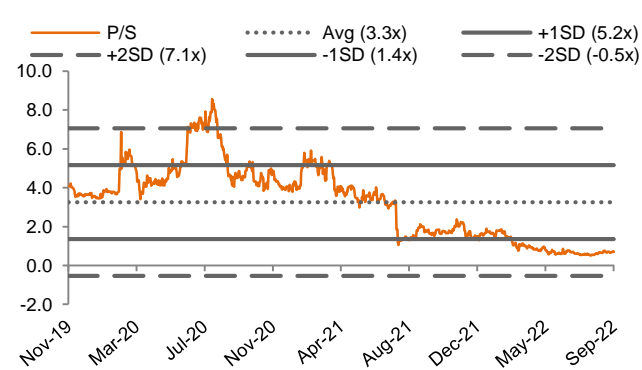
Sources: Company data, CMS (HK); *Continued business

Figure 5: Non-GAAP net profit after minority



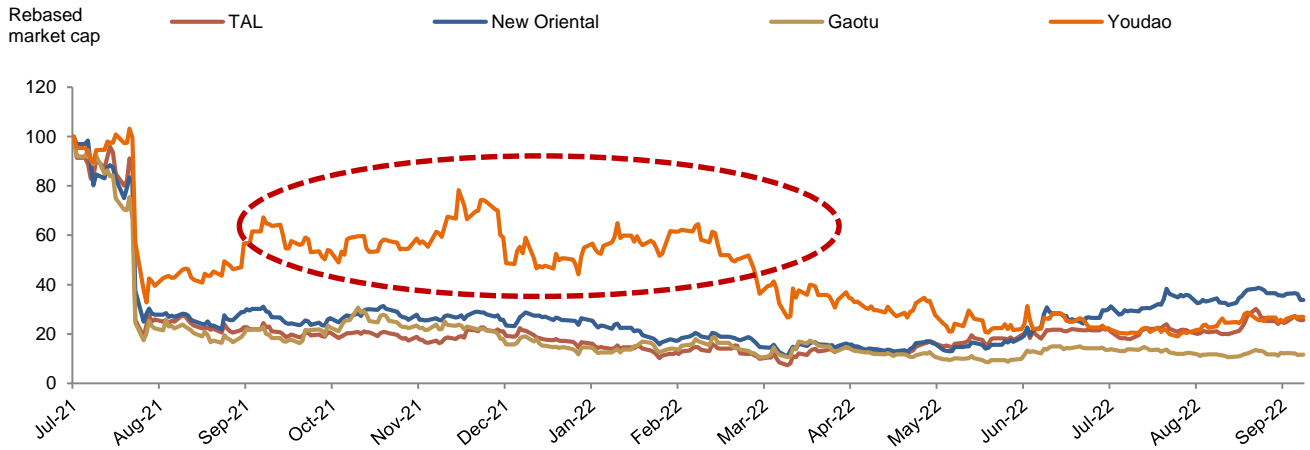
Sources: Company data, CMS (HK); *Continued business

Figure 6: P/S range



Sources: Bloomberg, Company data, CMS (HK)

Figure 7: Youdao's share price was relatively defensive after the major policy change in end-Jul 2021, thanks to its lowest exposure to K-9 business (c.33%) vs. c.60-70% of peers



Sources: Company data, Bloomberg, CMS (HK)

Figure 8: Youdao smart devices business: Youdao became a leader in dictionary pen segment, and continues to enhance its product matrix to other devices such as listening pod, smart light, and smart learning pad. At the same time, Youdao's product price is also penetrating to higher range, which should help margin improvement

Products shown:

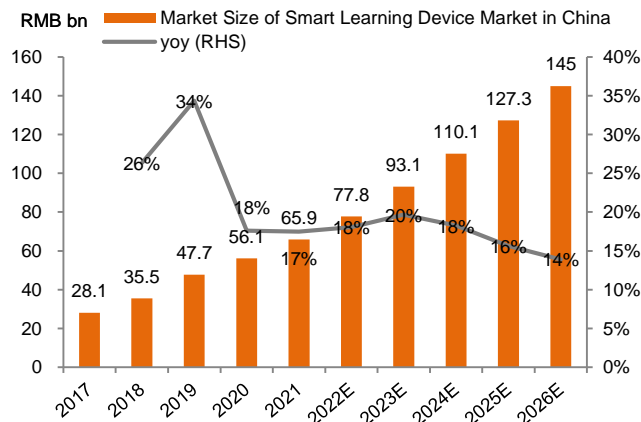
- Youdao Pocket Translator (2017.12)
- Youdao Super Dictionary (2020.09)
- Youdao Listening Pod (2021.09)
- Youdao Smart Light (2022.04)
- Youdao Smart Learning Pad (2022.08)

Promotional banners:

- Dictionary pen X3:** 12期分期免息, 前200名送, 9月21日20点-24点, 打卡立减至高减100元, 限时优惠价999元, 限时优惠下单立省300 (9.20当天)
- Dictionary pen X5:** 12期分期免息, 前200名送, 9月21日20点-24点, 发布特等奖网易云音乐月卡, 限时优惠价1299元, 限时优惠下单立省100 (9.20当天)
- Listening Pod (64G):** 12期分期免息, 下单送耳机, 发布特等奖网易云音乐月卡, 限时优惠价899元, 9月21日-9月23日, 限时优惠下单立省100 (9.20当天)
- AI learning pad:** 有道AI学习机, AI精准学 作业小助手 教材同步学, 限时优惠价2??9元, 15天试用 白条免息, 晒单送学习大礼包

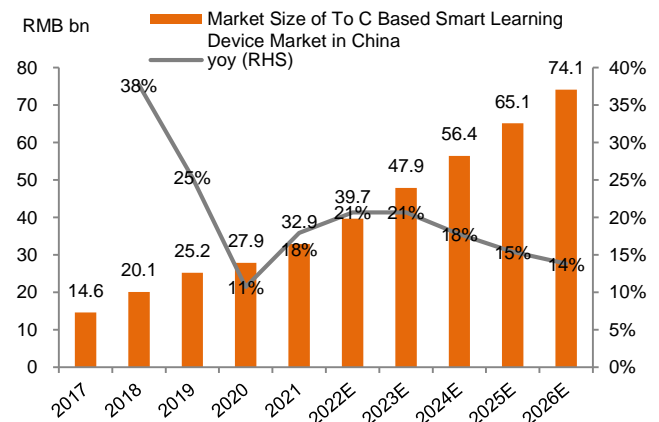
Sources: Company data, CMS (HK)

Figure 9: Market size of smart learning devices market in China



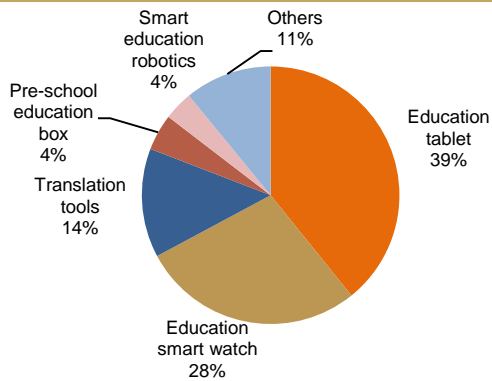
Sources: Frost & Sullivan, CMS (HK)

Figure 10: Market size of ToC smart learning devices market in China



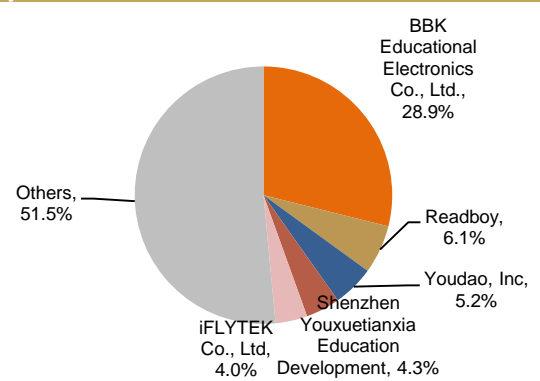
Sources: Frost & Sullivan, CMS (HK)

Figure 11: ToC smart learning device market by products in 2021



Sources: Frost & Sullivan, CMS (HK)

Figure 12: Top 5 smart learning device providers in 2021, by revenue



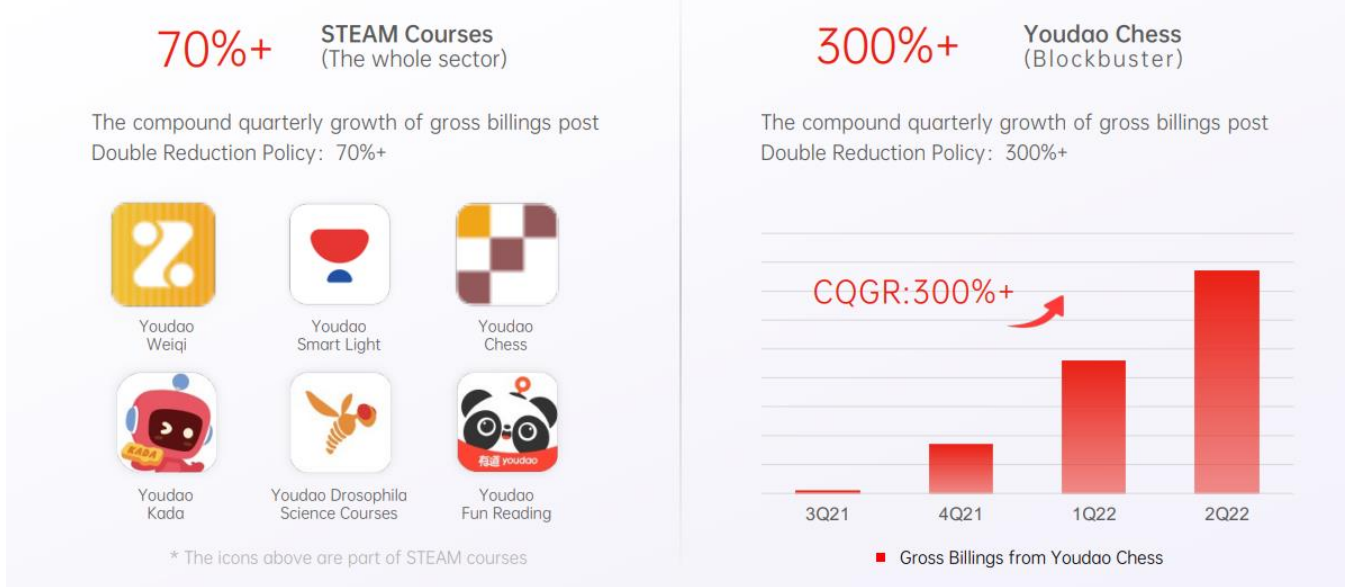
Sources: Frost & Sullivan, CMS (HK)

Figure 13: Youdao has more completed smart device product matrix compared with peers

	Dictionary pen	Learning pad	Listing pod	Printer	Smart light	Smart table	Math pod
Youdao	√	√	√	√	√		
New Oriental	√	√					
TAL		√			√		
Gaotu	√	√					
Yuanfudao	√	√		√			√
Zuoyebang	√	√		√	√	√	
Zhangmen	√	√					

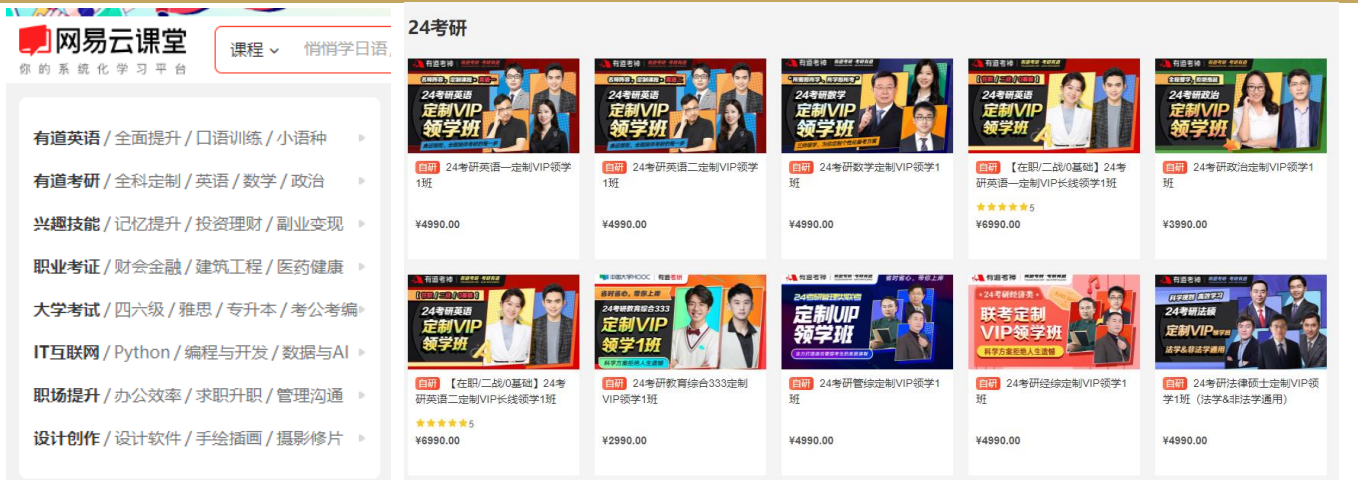
Sources: Company data, CMS (HK)

Figure 14: Youdao offered various STEAM courses including chess, coding, reading etc., among which Youdao chess is a blockbuster product with >1.6mn user base and 300%+ CQGR



Sources: Company data, CMS (HK)

Figure 15: Youdao's adult education strategy is to focus on key categories like Kaoyan



Sources: Company data, CMS (HK)

Figure 16: Education sector peer comparison

Company	CN name	Ticker	Price (local currency)	CMS			Mkt cap (USDm)	3-mth avg t/o (Loc\$m)	P/E (x)		PEG*	P/S (x)		PSG*	Sales CAGR (%)	EPS CAGR (%)
				Rating	TP(Local currency)	Up/(Dn) side (%)			FY22E	FY23E		FY23E	FY22E			
HSI			18,781					10.0	8.7	0.7	0.9	0.8	0.1	9.3	12.2	
HSCEI			6,405					8.5	7.6	0.7	0.7	0.6	0.1	9.6	11.3	
Offline tutoring - China																
NEW ORIENTAL	新东方	EDU US 9901 HK	23.3 18.9	BUY	33.0	41.6	3,954	70.7	n.a.	43.0	n.a.	1.3	1.5	n.a.	(4.3)	n.a.
TAL	好未来	TAL US	5.2	HOLD	5.0	-4.6	3,400	34.9	n.a.	n.a.	n.a.	0.8	3.4	n.a.	(48.1)	n.a.
OFFCN	中公教育	002607 CH	4.5	NR	n.a.	n.a.	3,937	220.2	33.4	22.0	n.a.	3.1	2.6	n.a.	n.a.	n.a.
EAST	东方	667 HK	2.8	NR	n.a.	n.a.	762	9.3	8.9	7.7	n.a.	1.0	0.9	n.a.	n.a.	n.a.
ONLY	昂立	600661 CH	8.3	NR	n.a.	n.a.	339	77.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
SCHOLAR	思考乐	1769 HK	0.8	NR	n.a.	n.a.	55	1.9	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
BESTSTUDY	卓越	3978 HK	0.5	NR	n.a.	n.a.	50	0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Online tutoring - China																
GAOTU	高途	GOTU US	1.3	BUY	2.3	76.9	334	5.1	41.5	8.5	0.0	0.9	0.8	0.0	21.3	188.6
KOOLEARN	新东方在线	1797 HK	27.8	HOLD	UR	n.a.	3,546	954.9	485.9	37.9	0.1	41.6	9.6	0.1	129.8	299.3
YOUDAO	有道	DAO US	4.9	NR	n.a.	n.a.	617	0.8	n.a.	36.0	n.a.	0.7	0.6	n.a.	n.a.	n.a.
SUNLAND	尚德机构	STG US	4.3	NR	n.a.	n.a.	61	0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
51 TALK	51 Talk	COE US	2.1	NR	n.a.	n.a.	46	0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Education (US listed Non-China)																
PEARSON		PSO US	10.0	NR	n.a.	n.a.	7,333	3.4	15.7	14.1	n.a.	1.6	1.5	n.a.	n.a.	n.a.
GRAHAM		GHC US	555.8	NR	n.a.	n.a.	2,692	7.7	10.4	7.3	n.a.	0.7	0.6	n.a.	n.a.	n.a.
GRAND		LOPE US	82.6	NR	n.a.	n.a.	2,641	23.9	13.5	12.6	n.a.	2.7	2.7	n.a.	n.a.	n.a.
LAUREATE		LAUR US	11.9	NR	n.a.	n.a.	1,964	9.6	12.9	9.2	n.a.	1.4	1.3	n.a.	n.a.	n.a.
ADTALEM		ATGE US	37.2	NR	n.a.	n.a.	1,683	14.8	12.9	8.8	2.2	1.1	1.1	n.a.	n.a.	4.1
K12		LRN US	41.2	NR	n.a.	n.a.	1,761	35.3	17.2	13.9	0.6	1.0	0.9	0.1	8.0	24.2
STRATEGIC		STRA US	63.5	NR	n.a.	n.a.	1,564	8.4	18.4	14.8	n.a.	1.4	1.3	n.a.	n.a.	n.a.
Average - Offline tutoring - China									14.1	18.2	n.a.	1.2	1.7	n.a.	(17.5)	0.0
Average - Online tutoring - China									263.7	27.5	0.1	14.4	3.6	0.1	75.6	244.0
Average - Tutoring - Non-China									14.4	11.5	1.4	1.4	1.4	0.1	8.0	14.1
Average (all)									55.9	16.8	0.7	3.9	1.9	0.1	17.8	103.2

Sources: Company data, Bloomberg, CMS (HK) estimates; share price as of Sept. 20, 2022 for all markets; Note: All information of Non-rated stocks is sourced from Bloomberg. *PEG calculation: Based on FY22E P/E and FY21-23E EPS CAGR.

Financial Summary

Balance Sheet

(RMB mn)	FY17	FY18	FY19	FY20	FY21*
Year ended	31 Dec	31 Dec	31 Dec	31 Dec	31 Dec
Plant, property, equipment	13	18	25	40	80
Operating lease right-of-use assets, net	0	0	24	106	118
Goodwill	0	0	0	7	110
Other L/T assets	4	6	8	66	56
Non-current assets	17	25	57	219	364
Cash & Equivalent	40	42	173	609	323
Time deposits	0	343	1,326	0	0
Restricted Cash	0	0	0	0	750
Short term investments	0	50	121	585	504
Accounts & Receivables	65	81	201	269	248
Inventories	2	24	73	12	255
Other current assets	38	55	136	375	189
Current assets	145	595	2,030	1,851	2,270
Total assets	162	620	2,086	2,070	2,634
ST loans from NetEase Group	878	878	878	878	878
Accounts & Notes payable	20	35	63	141	161
Contract liabilities	95	178	457	894	1,066
Other current liabilities	127	210	361	1,480	929
Current liabilities	1,120	1,300	1,759	3,394	3,034
LT loans from NetEase Group	0	0	0	0	255
Long-term lease liabilities	0	0	21	80	73
Other non-current liability	0	0	27	84	75
Non-current liabilities	0	0	27	84	331
Total liabilities	1,120	1,300	1,785	3,477	3,364
Total net assets	(958)	(681)	301	(1,407)	(730)
Share capital	0	0	0	0	0
Reserves	(958)	(1,141)	301	(1,407)	(809)
Shareholder's equity	(958)	(1,141)	301	(1,407)	(809)
Mezzanine equity	0	461	0	0	79
Total Equity	(958)	(681)	301	(1,407)	(730)
Total debts	878	878	878	878	1,133
Net cash/(debts)**	(838)	(443)	742	316	444

Cashflow Statement

(RMB mn)	FY17	FY18	FY19	FY20	FY21*
Year ended	31 Dec	31 Dec	31 Dec	31 Dec	31 Dec
Pretax Income	(164)	(209)	(601)	(1,753)	(1,026)
Dep. & Amort.	3	6	11	15	30
Chg in working cap	68	123	191	712	132
Others	5	(21)	28	704	240
Net cash from operations	(87)	(100)	(372)	(322)	(624)
CAPEX	(11)	(14)	(18)	(31)	(63)
Investment	0	(87)	(216)	(1,693)	(780)
Others	(0)	(273)	(850)	2,485	886
Net cash from investments	(11)	(374)	(1,084)	761	43
Dividend paid	0	0	0	0	0
Proceeds from the issuance	51	475	1,588	0	1,499
Others	57	0	0	27	285
Net cash from financing	108	475	1,588	27	1,784
Exchange impact	0	1	0	(30)	(21)
Net change in cash	10	2	132	436	463
Opening cash	30	40	42	173	609
Adjustment	0	0	0	0	750
Closing cash	40	42	173	609	323

Sources: Company data, CMS (HK); *Continued business; **Net cash includes bank balance, ST investments and pledged bank deposits

Profit & Loss Statement

(RMB mn)	FY17	FY18	FY19	FY20	FY21*
Year ended	31 Dec	31 Dec	31 Dec	31 Dec	31 Dec
Revenue	456	732	1,305	3,168	4,016
Cost of revenue	(294)	(515)	(934)	(1,713)	(2,027)
Gross profit	162	216	371	1,454	1,989
Selling expense	(136)	(213)	(623)	(2,697)	(2,078)
R&D expense	(133)	(184)	(275)	(425)	(607)
G&A expense	(22)	(38)	(73)	(138)	(190)
Impairment loss	0	0	0	0	-57
Operating profit - as reported	(130)	(219)	(601)	(1,806)	(943)
Net interest income	(29)	(24)	(18)	(6)	(13)
Other income and gains	1	45	20	61	37
Pre-tax profit	(159)	(198)	(599)	(1,750)	(919)
Tax	(5)	(11)	(2)	(3)	(7)
Profit after tax	(164)	(209)	(601)	(1,753)	(926)
Non-controlling interests	30	0	(0)	1	31
Net profit - as reported	(134)	(239)	(637)	(1,753)	(996)
Non-GAAP Net income	(134)	(238)	(612)	(1,711)	(889)
Non-GAAP EPADS (RMB)	(2.04)	(2.78)	(6.42)	(15.16)	(7.37)

Financial ratios

	FY17	FY18	FY19	FY20	FY21*
Year ended	31 Dec	31 Dec	31 Dec	31 Dec	31 Dec
yoy					
Revenue		60.5	78.4	142.7	26.8
Gross Profit		33.7	71.2	292.4	36.8
Operating profit - as reported		68.5	174.2	200.5	-47.8
Net profit - as reported		79.1	166.4	175.0	-43.2
Non-GAAP NI		77.9	157.7	179.5	-48.1
Margins (%)					
Gross margin		35.5	29.6	28.4	45.9
OPM - as reported		(28.5)	(30.0)	(46.1)	(57.0)
NPM - as reported		(29.3)	(32.7)	(48.8)	(55.3)
NPM - Non GAAP		(29.3)	(32.5)	(46.9)	(54.0)
Effective tax rate (%)		n.a.	n.a.	n.a.	(0.2)
Current ratio (x)		0.1	0.5	1.2	0.5
Net cash/equity (%)		0.9	0.7	2.5	(22.5)
Returns (%)					
Asset turnover (x)		2.8	1.9	1.0	1.5
Financial leverage (x)		(0.2)	(0.5)	(7.1)	(3.8)
EBIT margin (%)		(28.5)	(30.0)	(46.1)	(57.0)
Interest burden (x)		1.2	0.9	1.0	1.0
Tax burden (x)		0.8	1.2	1.0	1.0
ROE (%)		13.9	29.0	322.5	309.4
P/S (x)		9.5	5.9	3.3	1.4

Investment Ratings

Industry Rating	Definition
OVERWEIGHT	Expect sector to outperform the market over the next 12 months
NEUTRAL	Expect sector to perform in-line with the market over the next 12 months
UNDERWEIGHT	Expect sector to underperform the market over the next 12 months

Company Rating	Definition
BUY	Expect stock to generate 10%+ return over the next 12 months
HOLD	Expect stock to generate +10% to -10% over the next 12 months
SELL	Expect stock to generate loss of 10%+ over the next 12 months

Analyst Disclosure

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