Tal Education Group (NYSE: TAL)

BUY: $ 66.5

Equity Research Division

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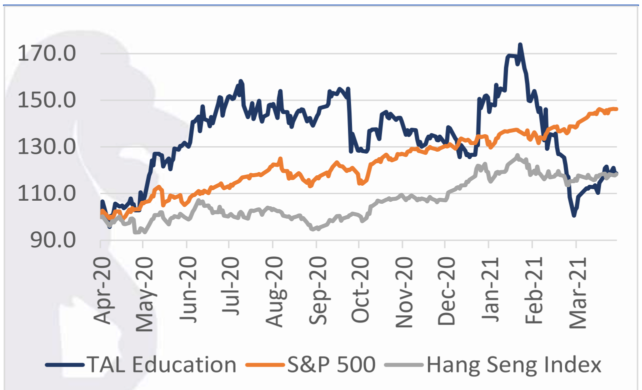
Basic Information	
Last Closed Price	$54.20
12M Target Price	$66.48
+/- Potential	+22.66%
Bloomberg Ticker	TAL US EQUITY
GICS Sector	Consumer Discretionary
GICS Sub-Industry	Consumer Discretionary Services

12 Month Price Performance



Source: CapitalIQ, rebased at 100 on April 28, 2020.

Company Description

TAL Education Group is a leading K-12 after-school tutoring services provider in China. TAL Education Group offers comprehensive tutoring services to students from pre-school to the twelfth grade through three flexible class formats: small classes, personalized premium services, and online courses. The company's learning center network currently covers over 110 cities in China.

Key Financials	
Market Cap	$34.2 bn
Basic Shares O/S	399.5 mn
52-Wk Low	$48.53
52-Wk High	$90.96

$ million	**FY20A**	**FY21A**	**FY22E**	**FY23E**
Gross profit	1,805	2,447	3,594	4,859
YoY growth	29.02%	35.57%	46.87%	35.19%
EBITDA	253	N/A	865	1,169
EBITDA margin	7.71%	N/A	13.02%	13.02%
EBIT	137	-438	641	867
NOPAT	104	N/A	481	650

Key Executives	
Yunfeng Bai	Chairman, President
Bangxin Zhang	CEO, Director

We are initiating coverage of TAL Education Group with a BUY rating and a $66.48 12M target price.

4Q2021 Earning Highlights

- Revenues +58.9% to $1.367 bn versus $857 mn in Q4 2020 and analyst expectations of $1.201 bn
- Student enrollment increased 44% to 6,690,950 from 4,646,040 in Q4 2020
- Operating costs increased +84.8% to $1.662 bn from Q4 2020's $899 mn
- Cash doubled to $5.937B from $2.219B in Q4 2020
- Total physical network increased from 871 learning centers in 70 cities as of February 29, 2020 to 1,098 learning centers in 110 cities as of February 28, 2021.

SUMMARY

Our recommendation is "Buy" because we believe that TAL's shares are currently underpriced by the market. We performed DCF analysis and obtained the target price of $66.48. To check the results, we performed asset-side and equity-side market multiples analysis using LTM ratios. The average price across the different multiples is $34.87, which is far lower than the DCF target price and recent close prices. The reasons behind this market sentiment include strained US-China relationship and the bearish policy restricting K-12 after school tutoring issued by China's Ministry of Education in April in addition to uncertainty brought by the pandemic. The divergence between current market sentiment and corporate cash flow is evidence that China's K-12 after school tutoring companies are undervalued in the US stock market. When the short-term bearish factors dissipate, TAL's share price, with its dominant position in K-12 AST in China, is likely to have a notable upside. Therefore, we base our recommendation primarily on the DCF, which provides a longer term view.

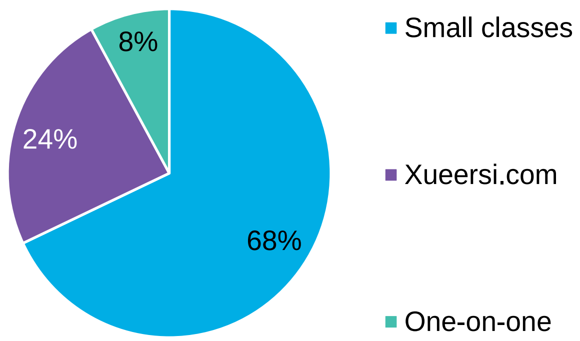
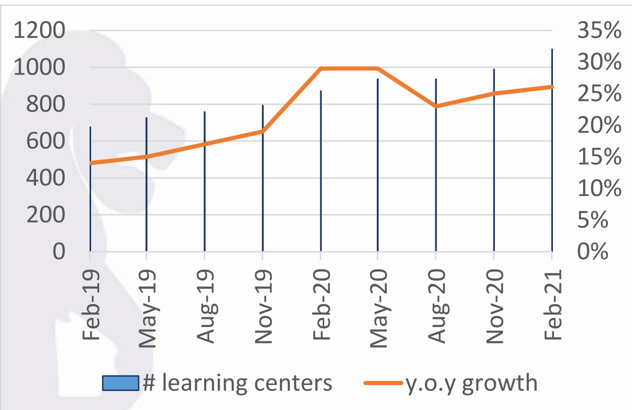


Figure 1: Revenue breakdown by service line, 4Q2020

Source: Company reports

Figure 2: TAL Education network expansion



Source: Company reports.

Company Overview

Founded in 2003, TAL Education is one of the leading K-12 after-school tutoring providers in China. The firm offers tutoring services to students from pre-school to the twelfth grade via small classes, one-on-one personalized premium services, and online courses. The Company's main brands are www.xueersi.com (online classes), Xueersi Peiyou, Mobby, Firstleap (small classes), Izhikang and Shunshun Liuxue (personalized premium service). In the fourth-quarter of fiscal 2020, TAL's small classes account for 68% of its revenue, one-on-one 8%, and Xueersi.com 24% (Figure 1). Its tutoring services cover the core academic subjects in China's school curriculum, such as Math (K-12), English (K-12), Chinese (K-12), Physics (Grade 8-12), Chemistry (Grade 9-12), and Biology (Grade 10-12). In the fourth-quarter of fiscal year 2021, current normal priced long-term course student enrolment was 6.69 million.

TAL Education also provides consulting services for overseas studies and preparation courses for major standardized tests, as well as operates several online community platforms including www.jzb.com (together with the Jiazhang Bang app) and www.mmbang.com (together with the Mama Bang app). The company mainly operates its businesses in Mainland China and Hong Kong. As of February 28, 2021, its educational network spans 1,098 learning centers in 110 cities throughout China, with expansion clocking double-digit growth in the past two years (Figure 2).

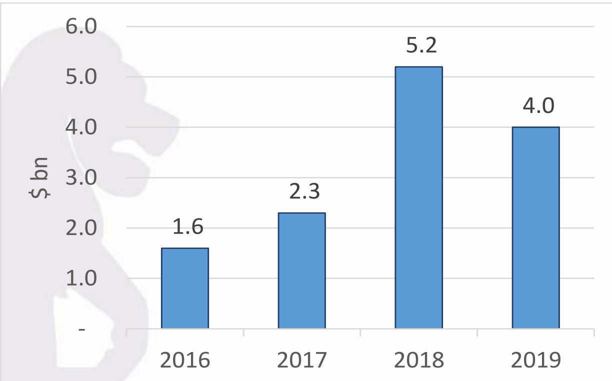
Industry Outlook

The COVID-19 epidemic in 2020 has determined a boom in the online education industry, due to schools shutting down for months as it first spread. In China's online education space, there are online education providers who offer different types of services such as: 1) education tools; 2) K-12 education tutoring services; 3) language learning; and 4) professional test bank and exam preparation online providers. According to Frost & Sullivan, only 10% of the total tutoring market consists of online education in 2020, or $4.4 billion worth. It expects China's online education market to more than triple to CNY 696 billion ($99.3 billion) in 2023, from CNY 203 billion in 2019, which implies 36% CAGR from 2019-23.

Catalysts for growth

The continuous increase in student enrollment of after-school tutoring is primarily attributable to increasing middle classes in China, where parents are willing to spend 20% to 50% of their disposal income on their children's education. Furthermore, The South China Morning Post estimates that more than 60% of primary schoolers are tutored outside the classroom in key subjects such as English, Literature and Maths. Funding into China's EdTech ecosystem remains robust (Figure 3) and has spawn several unicorns (Figure 4).

Figure 3: Total funding into EdTech in China



Source: Barclays research, UN, UNESCO, The World Bank, Minerva IMS analysis

Figure 4: EdTech Unicorns in China

New Oriental GSX Zuoyebang Yuanfudao VIPKID

Source: Minerva IMS analysis

Although the market still expects the overall China online education segment to grow strongly in the mid-term, we believe that competition in the online education market will remain intense, with crowded acquisition channels.

Rivalry

This view is based on the fact that after-school education in China remains a large and highly fragmented market, where the top 10 players in the market in aggregate account for less than 10% of the total market share. The two dominant leaders are TAL Education (1.93% of the total after-school tutoring revenue) and New Oriental Education (2.80% of the total after-school tutoring revenue), together accounting for less than 5% of the total market share, while the top five players only account for 6.4%. In 2019, TAL Education's online market share is 9.8% which is much higher than New Oriental Education at 0.9%. The total revenue CAGR of after-school tutoring education in China was 13.3% from 2012-18 versus TAL 2018 revenue growth of 64.4% year over year and EDU growth of 36%, both far exceeding the industry average. Tech giants have also accelerated to enhance their presence in the education field since 2019. For example, Tencent formed Tencent Education in May 2019, with 20+ integrated products. Although the barrier of entry is quite low due to rather homogeneous product offerings, the brand reputation, high-quality teacher resources, and strong academic track records offered by the prominent players, including TAL, constitute significant economic moat against new entrants. In 2020, competition has been quite heated. The level of promotion in online K12 soared at an unprecedented pace since late autumn (despite non-peak seasonality), which drove cost-per-lead (traffic acquisition cost) to jump to Rmb800-Rmb1,000/promo user, nearly 4x from a year ago and 2x from summer peak only several months ago. Worse yet, conversion rates generally seem to have deteriorated to about 10%-15% (vs. 15%-20% in prior semesters), in turn pushing up customer acquisition cost (CAC) to Rmb5k-Rmb10k per paying user (vs. Rmb2k-Rmb4k during summer peak). This, in fact, is nearly 1-2 years' worth of tuitions (Rmb4-Rmb6k/year); it goes without saying that no online K12 operator can make profits from new users even on a unit/LTV basis, at this level. Regardless, given the difficulty in product differentiation, marketing and promotion remain the most cost-effective way to gain a competitive edge. Therefore, we do not expect significant reduction in marketing spending during the forecast period.

Regulation

China's education sector is highly influenced by government policies. Recently, there have been a few new, stringent rules on licensing and operations in after-school tutoring in China, which would require providers to fulfill fire safety, space requirement, and obtain both operating licenses and education permits. Teachers within these institutions will be required to be licensed, also with restrictions on teaching intended to reduce pressure on students. For example, these after-school providers will not be allowed to teach ahead of the curriculum and must follow the national curriculum, starting with the basics. With a focus on online education, China's Ministry of Education recently stated in January that it will tighten supervision on online education marketing in response to the large number of advertisements by online education institutions pressuring students to take online courses (see above). In addition to marketing, it also pointed out other issues arising from the expansion of online education, such as excessive prepayments, high charges without timely refunds, and misleading tutoring ads. Regardless, the extent of its oversight remains to be seen.

SWOT Analysis

Strengths

Highly skilled workforce – TAL invests heavily into training its workforce and it's one of the market leaders in this regard. This results in higher customer satisfaction and more motivated workers.

Product innovation – TAL has a very successful track record with product innovation and meeting the demand conditions of the market. This allows the company to keep evolving and not become outdated. Their next big innovation will be integrating AI to improve their teaching services.

Automation of activities – TAL has automated its teaching activities over the last few years, which brought more consistency to the quality of their services and has strengthened the TAL's brand.

Availability of cash – TAL has a lot of cash at hand, close to $5.1 billion, hence it has the necessary funds to make investments in the future. This fact represents a great opportunity and the firm should take advantage of this situation.

Weaknesses

Marketing of products – Even though products usually provide good sales numbers, the unique selling proposition and the positioning within the market is often not very clear, leaving opportunities for competitors to exploit.

Integrating companies acquired through mergers – TAL has had some problems integrating new companies they acquire due to clashes in corporate culture.

Opportunities

Government Regulation – The Chinese government has been implementing less regulations and allowing more free trade enabling companies like TAL to access new, unsaturated markets.

Threats

Increased competition – TAL's competitors are investing heavily in marketing and promotions as well as product innovation and have created notable product differentiation. This places pressure on TAL to respond in kind or lose market share and/or profitability.

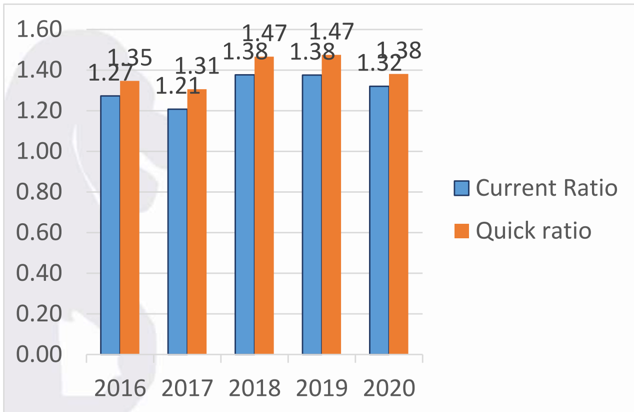
Financial Analysis

Overall, TAL's financial status is healthy, with a clean balance sheet and steady cash inflows. TAL Education is in a healthy financial position - it has been generating net cash since 2010 and has strong cash flow - which should enable it to pay dividends. TAL Education's operating cash flow steadily increased in 2014-19 primarily due to strong growth in tuition from both existing schools and new schools.

Liquidity

TAL's stable liquidity is another one of its financial strengths. Over the last five years, the Quick ratio was at an average 1.32 and never dropped below 1.2, which means TAL was never in danger of not being able to meet its short-term liabilities. The Current ratio, similarly, was at an average of 1.4 indicating that TAL doesn't hold a lot of inventories, which fits with their business model as they are mostly a consumer services company.

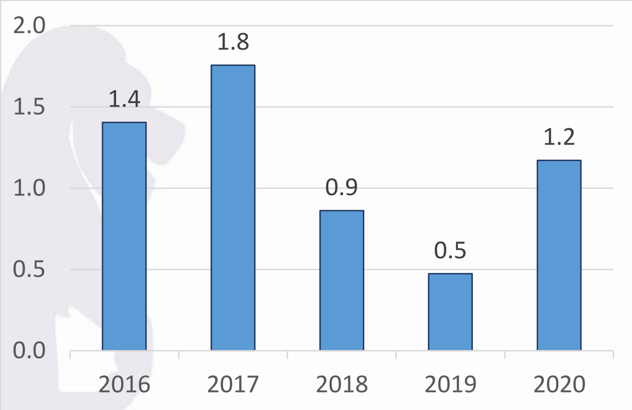
Figure 5: Liquidity ratios



Solvency

TAL's capital structure has changed quite a bit over the last five years. In 2016, its debt to equity ratio was 1.41, however, it kept fluctuating, reaching a high of 1.76 in 2017 and then dropping to 0.47 just two years later in 2019. TAL's debt was never an issue for the company as the highest its cost of debt was in 2019, when it was a very low at 1.5%, and the company never had any difficulty meeting these debt payments.

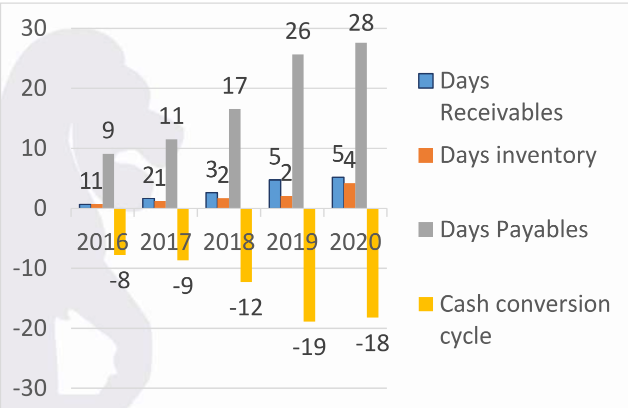
Figure 6: Debt-to-equity ratio



Cash Conversion Cycle

TAL's negative cash conversion cycle indicates that it is very good at negotiating the terms of its payables and receivables. It also indicates that TAL is good at managing inventories. As a result, TAL doesn't have to borrow money in the short term like most companies to cover the cash conversion cycle. TAL is able to use these funds that are available to them to potentially get some non-operating interest income, which generated about $73 million in 2020.

Figure 7: Cash conversion cycle



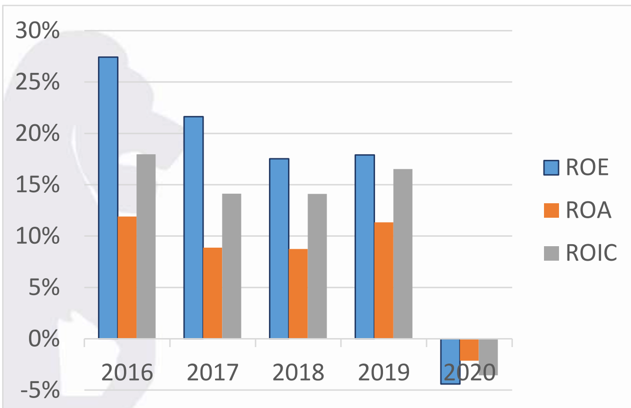
Source: Capital IQ

Profitability

TAL's profitability performance over the last five years has been good compared to the industry. However, the performance had registered a slightly downward trend until it took a big hit in the 2020 fiscal year. The ROE in 2016 was 27.42%, then 21.62% in 2017 and further decreased to 17.52% in 2018, where it stagnated in 2019. In 2020, however, due to COVID, the industry was heavily affected and TAL recorded a -4.41% ROE, but still managed to outperform the industry, whose average was at (6.92%). The 2020 fiscal year ended on the 29th of February of 2020, in which TAL suffered most in the 4th quarter, since the net income in the 4th quarter of 2019 went from US$99.6 million to a net loss of US$90.1 million in 2020. This is due to the lockdowns happening in January and February in China, however, even before COVID, TAL was struggling to keep up their profitability from previous years. This resulted in the first three quarters of the 2020 fiscal year, which were independent of COVID, delivering only a $6.5 million net income compared to $267.6 million net income in the year prior. The reason for this according to the company's CFO is linked to "*building a more sustainable business model*". The ROTA behaved similarly to the ROE, being slightly above the rest of the market, however dropping sharply in 2020 compared to previous years.

As for 2021, TAL is expectedly to perform relatively poorly. In the first nine months of 2021 fiscal year, they have made a loss of US$43.6 million compared to a US$19.6 million net income in the same period last year. This is mostly attributable to the economic crisis instigated by COVID-19. As of November 30, 2020, TAL held close to US$5.1 billion in cash and cash-equivalents, which they will be looking to use in the future as investment opportunities arise.

Figure 8: Profitability ratios



Source: Thomson ONE

Valuation

Our analysis followed two main approaches:

- An intrinsic valuation regarding the DCF model (FCFF)
- A relative valuation with market multiple of comparable companies

Free Cash Flow to Firm Approach

In the set of the different indirect evaluation methods, we chose the DCF asset side model to conduct the analysis. The DCF asset side allows to compute the value of the Equity indirectly starting from the Enterprise value which is obtained discounting the expected future cash flows from operations. We decided to use this approach because the Company presents some peculiar characteristics that make the FCFF model better in capturing the intrinsic value. In fact, even though the amount of debt is relatively low, it has an unstable trend over time which makes difficult to estimate it for future periods.

Proceeding step by step, the first element we computed was the cost of equity, which is based on the following assumptions:

- RISK FREE RATE (2.24%): the recent 20-year US Treasury Bond yield was chosen.
- EQUITY RISK PREMIUM (4.94%): it represents the premium an investor will require to invest in the stock instead of investing in the risk-free security.
- ADJUSTED BETA (1.031): it represents the risk specifically attached to the company, comparing the performance of the market with the performance of the company.

The next step was to decide on the cost of debt:

- COST OF DEBT (2.44%): based on the rating computed according to the interest coverage ratio (AA-)

For what concerns the Country Risk Premium (CRP), this premium has already been incorporated in the high ERP of 4.94%. Finally, the weighted average cost of capital was 7.16%.

Beta Computation: Beta is a coefficient that expresses how much the return of the security is captured by the return of the market portfolio; in brief, we consider the systematic risk of the security. To compute the Beta equity of the company, we used the market model introduced by W. Sharpe, which describes this coefficient as the ratio between the covariance of market index returns and stock returns, and the variance of the market index in a given period (estimation window).

We put in comparison the security's return with both the HANG SENG-INDEX (HSI) and the S&P 500 INDEX (SPX) separately, which were considered the Market Indexes. In doing so, we applied, as required by the model, an OLS regression between the streams of returns of the stock and market index. We considered three different return's frequencies and estimation windows:

- 5 year monthly
- 2 year weekly
- 2 year daily

To assess the most reliable and significant regression, we considered the regression line with higher Adjusted R^2. This factor measures how much of the security returns (dependent variable Y) is explained by movements of the independent variable X (the market index), in terms of variance.
In other words, the higher values of Adjusted R^2 the more the variance of stock returns is captured by the market variability of stocks' returns. As following, we report the plots showing the six regressions we performed, after which we moved to the model with the highest Adjusted R^2, which in our case is represented by the 2-years weekly regression with HSI.

In the valuation, a two-stage growth period is applied. Given the positive news on the Covid-19 vaccine, a higher growth rate of revenues is assumed for the period 2022-2026. The second stage consists of stable growth, in which NOPAT grows by 5.62% constantly (coherent with the expected growth in GDP of China). To estimate the stable growth rate, the historical averages of ROC and Reinvestment Rate were calculated. Based on the findings, a constant ROC (20.99%) and a constant Reinvestment Rate (26.8%) were multiplied to obtain a stable growth rate.

Figure 9: Comparables business overview

Company Name	No. of Employees	No. of Learning Centers	Market Cap	Ent Value
K-12 AST				
New Oriental	69,438	1,361	27,804.6	23,873.9
OneSmart	12,667	480	434.2	790.2
Puxin	11,732	446	360.2	663.2
RISE	3,621	512	197.1	275.0
China Beststudy	7,097	268	249.7	216.5
China Online				
51 Talk	2,479	-	463.0	276.6
Koolearn	10,466	-	2,061.8	1,663.6
GSX	22,570	-	7,932.0	6,876.7
Youdao	-	-	3,362.4	3,326.3
17 Education	3,156	-	1,379.1	971.9
TAL	45,271	871	37,670.9	35,882.4

Source: Capital IQ. Data as of April 27, 2021.

Figure 10: Comparables finance overview

Company Name	Revenues	EBIT	Net Income Margin	ROA	ROE
K-12 AST					
New Oriental	3,578.68	399.0	11.55%	4.5%	13.2%
OneSmart	530.29	(55.9)	(21.22%)	(3.2%)	(96.1%)
Puxin	447.8	(26.6)	(1.11%)	(2.3%)	(10.8%)
RISE	147.8	(21.3)	(13.82%)	(3.3%)	(25.1%)
China Beststudy	260.27	6.2	7.68%	0.9%	16.0%
China Online					
51 Talk	316.75	16.2	7.15%	3.6%	-
Koolearn	166.63	(136.1)	(68.67%)	(17.5%)	(34.2%)
GSX	1,098.67	(270.6)	(19.55%)	(15.6%)	(38.2%)
Youdao	488.44	(278.5)	(55.34%)	(54.3%)	-
17 Education	199.6	(205.7)	(103.52%)	(38.7%)	(117.5%)
TAL	4,495.76	(330.7)	(2.58%)	(2.3%)	(3.7%)

Source: Capital IQ.
**Financial data in millions US$*
**Latest FY is 2020 except for New Orient, Koolearn, and OneSmart (2019)*

Peer Analysis

After the first approach, we checked and compared our forecasts obtained through the DCF analysis, we have performed a market multiple analysis. The purpose of the method is to double-check the target price we identified with the FCFF approach. Hence, we collected data for market multiples of a set of comparables.
As China's top K-12 after-school tutoring (AST) service provider, TAL Education group mainly offers tutoring services to K-12 students covering various academic subjects (such as mathematics, physics, biology,, political science, English, and Chinese). TAL's direct competitors are New Oriental, OneSmart, Puxin, and China Beststudy which also provide onsite AST education covering various subjects, as well as RISE Education, which focuses on junior English language training. However, considering the rise of online AST education during COVID-19 and most offline AST schools also have online tutoring, comparable companies finally cover both online and offline AST service providers.

We have excluded China's K-12 school operators, higher education & vocational training providers from our analysis because their core business model is too different from TAL Education. Besides, to make the financial data as comparable as possible, we choose companies that, like TAL, have disclosed financial reports for FY2020 though their fiscal year may differ.

China AST providers:

New Oriental was founded in 1993 and is headquartered in Beijing, China. As China's largest K-12 AST provider, it offers test preparation courses to students taking language and entrance exams used by educational institutions in the US, China, and the Commonwealth countries; and AST courses for middle and high school students to enhance their exam scores, as well as for children to teach English. As of May 31, 2020, it offered educational programs, services, and products to students through a network of 104 schools, 1,361 learning centers, and 12 bookstores.

OneSmart, founded in 2007 and headquartered in Shanghai, provides tutoring services for the students of kindergarten and primary, middle, and high schools (K12) in China. As of August 31, 2020, the company operated a network of 480 learning centers across 40 cities in China.

Puxin, founded in 2014 and headquartered in Beijing, provides K-12 and study-abroad tutoring services in China. Its K-12 tutoring services offer result-oriented educational services in various forms, such as classroom-based AST, full-time tutoring for preparation of university entrance exams, art college admission exams; online courses in a large-class setting to help students enhance their academic results through group class and personalized tutoring courses; full-time tutoring services to high school students preparing for university entrance exams and art college admission exams; English tutoring services for children from kindergarten to grade six; and extra-curricular courses, such as painting, calligraphy, music, and science. As of December 31, 2019, it operated 446 learning centers, which include 334 K-12 and 112 study-abroad learning centers.

Rise, founded in 2017 and headquartered in Beijing, provides junior English language training services under the RISE brand in China, Hong Kong, and Singapore. As of December 31, 2020, it had a network of 512 learning centers comprising 92 self-owned learning centers and 420 franchised learning centers.

China Beststudy, founded in 1997 and headquartered in Guangzhou, offers small group and individualized tutoring services to enhance students' academic performance, which covers academic subjects taught in primary schools, middle schools, and high schools in China; talent education services to cultivate the all-round development of students; and full-time test preparation programs to help middle school and high school graduates achieve admission to their preferred schools. As of December 31, 2020, it had a total of 268 education centers.

China Online AST providers:

GSX, incorporated in 2014 and headquartered in Beijing, is a technology-driven education company, provides online K-12 AST services in China. Its K-12 AST courses cover various K-12 academic subjects, including mathematics, English, Chinese, physics, chemistry, biology, history, geography, and political science.

China Online Education (51 Talk), founded in 2011 and headquartered in Beijing, provides online English language education services to students in China and the Philippines. The company operates online and mobile education platforms that enable students to take live interactive English lessons with international foreign teachers.

Koolearn, founded in 2005 and headquartered in Beijing, provides online extracurricular education services in China. It operates through three segments: College Education, K12 Education, and Pre-school Education. The College Education segment offers college test preparation and overseas test preparation courses to college students and working professionals. The K12 Education segment provides AST courses and preparation courses for high school and national college entrance exams. The Pre-school Education segment offers online educational content delivered through its Donut English-learning and child education apps and Donut live online English classroom courses.

17 Education, incorporated in 2012 and headquartered in Beijing, is an education technology company providing K-12 online education service in China. It also offers online K-12 large-class AST services on the development of course syllabi and content and adaptation for live class areas.

Figure 11: Comparables' Multiples

Comparables	EV/Revenues			P/B
	LTM	CY 2020	NTM	LTM
K-12 AST				
New Oriental	6.18x	6.64x	4.50x	5.40x
OneSmart	1.54x	1.54x	1.18x	9.80x
Puxin	1.48x	1.48x	1.16x	5.30x
RISE	1.86x	1.86x	1.15x	2.70x
China Beststudy	0.83x	0.83x	0.67x	2.00x
China Online				
51 Talk	0.87x	0.87x	0.67x	NM
Kooleam	9.07x	9.07x	5.29x	9.10x
GSX	6.26x	6.26x	3.74x	9.30x
Youdao	6.81x	6.81x	3.54x	NM
17 Education	4.87x	4.87x	2.10x	4.20x
TAL	7.98x	8.99x	5.70x	7.50x

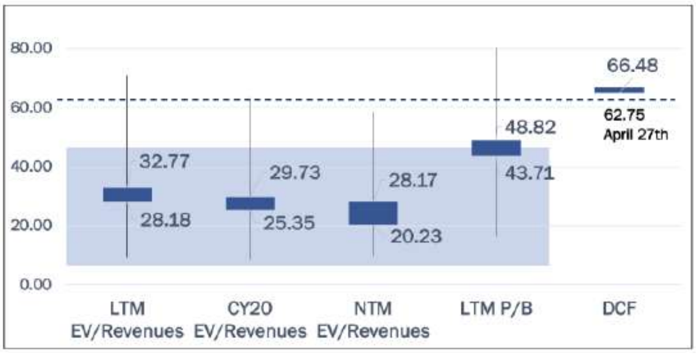
**Data as of April 27, 2021*
**NM: negative EBIT/EBITDA/EPS*
Source: Minerva Investment Management Society Estimates

Figure 12: Comparables multiple value range

Comparables	EV/Revenues			P/B
	LTM	CY 2020	NTM	LTM
High	9.07x	9.07x	5.29x	9.80x
Low	0.83x	0.83x	0.67x	2.00x
Mean	3.98x	4.02x	2.40x	5.98x
Median	3.36x	3.36x	1.64x	5.35x
Q1	1.33x	1.33x	1.03x	3.08x
Q3	6.40x	6.68x	3.93x	9.25x

**Data as of April 27, 2021*
Source: Minerva Investment Management Society Estimates

Figure 13: Football Field



**Implied share price in US$, value range from median to mean*
Source: Minerva Investment Management Society Estimates

Market Multiples Approach

We decided to get the equity and asset side multiples as both are relevant to assess the relative value of companies and applicable to the education industry.

The asset side multiple we considered is EV/Revenues which shows investors how much it costs to purchase a company's sales. For the equity side, we chose P/B ratios since it's one of the most diffused tools in relative valuation. It depicts the number of years the company would take to repay investors with their book value.

We initially considered multiples not limited to EV/Revenues and P/B, but found that the EBIT, EBITDA, and EPS of most comparable companies are negative on LTM, CY 2020, and NTM, make the commonly used multiples such as EV/EBIT, EV/EBITDA and P/E negative and meaningless.

For EV/Revenues, we decided to choose the values of LTM, CY 20, and NTM, mainly because TAL's fiscal year is different from that of comparable companies. The fiscal year of TAL is from February to February of each year, New Oriental and Koolearn are from May to May of each year, and OneSmart is from August, the rest of which is the same as the calendar year. While for P/B we only choose LTM value, because the book value of CY 2020 and NTM are meaningless. Once we obtained the multiples of the comparables' set, from the asset side multiples we yield EV and we have adjusted it to obtain the implied equity values of TAL. Finally, dividing the equity value by the number of outstanding shares of TAL lets us identify the set of prices implied by each multiple. For the equity side multiple, we simply multiplied the ratio by the book value per share of TAL. In the following tables, we report the results of our computations in order to set a range of implied share prices for each figure.

As results from the football field chart, we could find the average price implied from the market are very far from the target price suggested by DCF, this fact represents a sign of the weakness that characterizes the stock and it would suggests a selling the position. The divergence between the market sentiment and the company's cash flow reflects the current momentum driven by uncertainty on the market which suggests caution. In addition to the current period of emergency, we believe the reasons include deteriorating changes in US-China relations that have led to widespread undervaluation of Chinese companies listed in the US stock market, as well as a negative policy on K-12 AST issued by the Ministry of Education of China in April this year. In fact, we believe the stock will be impacted by the declining tendency of prices in the stock market and wait for a stabilization in the fundamental valuation of the company. However, given the uncertainty of valuations which are likely to be far from the fundamentals, we believe that the multiples may be biased and do not reflect the value generated by the considered firms.

Investment Risks

Given TAL Education's current dominant position and 17-year track record, we believe that the risks are limited. However, the following risks are noteworthy:

Intensified competition in the near term: fierce online competition would push up CAC, extend the online cash-burn for student acquisition. Utilization rate and student enrolment would also decrease, putting pressure on TAL's ability to hike price.

Inability to maintain consistent teaching quality during rapid expansion: the acquisition and training of high-quality teachers may not keep pace with the planned rapid expansion. Lower teaching quality, the key sustainable growth catalyst, would seriously damage brand equity and lead to erosion of market share.

Regulatory risks: policy uncertainty remains a constant risk for the sector, including risks related to corporate and listing structure, namely Variable Interest Entity (VIE) relationship and American Depository Receipts (ADR). Policy restrictions (e.g. government initiatives to discourage K12 afterschool tutoring services) may affect the company's ability to expand.

Appendices

Income statement

$ million	2016	2017	2018	2019	2020
Net revenue	**619.95**	**1,043.10**	**1,715.02**	**2,562.98**	**3,273.31**
Cost of revenue	(303.63)	(522.33)	(882.32)	(1,164.45)	(1,468.57)
Gross profit	**316.31**	**520.77**	**832.70**	**1,398.53**	**1,804.74**
Selling and marketing	(73.57)	(126.01)	(242.10)	(484.00)	(852.81)
General and administrative	(161.02)	(263.29)	(386.29)	(579.67)	(794.96)
Impairment loss on intangible assets and goodwill	-	-	(0.36)	-	(29.00)
Government subsidies	3.33	3.11	4.65	6.72	9.47
Operating profit	**85.05**	**134.59**	**208.60**	**341.58**	**137.44**
Interest income	17.73	18.13	39.84	59.61	73.00
Interest expense	(7.50)	(13.15)	(16.64)	(17.63)	(11.82)
Other income/(expense)	(2.52)	23.07	17.41	131.73	(95.30)
Gain from disposal of components	50.38	-	-	-	-
Gain from fair value change of long-term investments	1.27	-	-	-	-
Impairment loss on long-term investments	(7.50)	(8.08)	(2.21)	(58.09)	(153.97)
Profit before tax	**136.90**	**154.58**	**249.99**	**457.20**	**(50.65)**
Income tax expense	(33.48)	(34.07)	(44.65)	(76.50)	(69.33)
Loss from equity method investments	(0.67)	(8.03)	(7.68)	(16.19)	(7.67)
Net income	**102.76**	**112.49**	**194.66**	**364.51**	**(127.65)**

Balance sheet

$ million	2016	2017	2018	2019	2020
ASSETS					
Cash and cash equivalents	451.33	470.22	711.52	1,247.14	1,873.87
Restricted cash-current	1.08	2.73	6.27	9.23	28.08
Short-term investments	27.47	229.46	787.39	268.42	345.46
Inventory	0.60	2.82	5.27	7.75	25.83
Amounts due from related parties-current	2.59	3.42	3.23	3.34	3.64
Income tax receivables	-	2.24	15.09	7.20	11.55
Prepaid expenses and other current assets	32.04	160.22	133.24	202.63	207.35
Total current assets	**515.86**	**871.12**	**1,662.01**	**1,745.72**	**2,495.78**
Restricted cash-non-current	3.88	5.66	9.91	7.33	13.24
Amounts due from related parties-non-current	1.34	-	-	1.75	-
Property and equipment, net	114.63	154.31	246.27	287.88	366.66
Deferred tax assets	6.65	16.19	17.36	29.18	79.53
Rental deposits	17.11	32.66	47.33	56.14	72.72
Intangible assets, net	15.19	37.97	43.51	74.78	58.99
Land use rights, net	-	-	-	-	204.85
Goodwill	87.02	267.16	291.38	414.23	378.91
Long-term investments	274.36	347.73	597.61	850.70	571.60
Long-term prepayments and other non-current assets	25.32	96.11	138.19	267.40	85.28
Operating lease right-of-use assets	-	-	-	-	1,243.69
Total assets	**1,061.38**	**1,828.91**	**3,054.56**	**3,735.09**	**5,571.25**
LIABILITIES					
Accounts payable	10.40	22.64	57.61	106.49	117.77
Deferred revenue-current	280.93	504.15	824.28	433.61	780.17
Amounts due to related parties-current	4.28	3.04	8.75	24.38	4.36

Accrued expenses and other current liabilities	70.28	116.83	229.12	365.20	552.65
Income tax payable	17.19	20.48	13.64	38.74	46.65
Short-term debt and current portion of long-term debt	-	-	-	210.03	-
Bond payable, current portion	-	-	-	5.28	-
Operating lease liabilities, current portion	-	-	-	-	304.96
Total current liabilities	**383.07**	**667.14**	**1,133.39**	**1,183.72**	**1,806.56**
Deferred revenue-non-current	8.35	14.73	17.98	2.50	0.83
Amounts due to related parties-non-current	-	2.84	0.27	0.20	-
Deferred tax liabilities	1.40	13.19	20.04	17.74	7.79
Bond payable	227.83	225.15	11.08	-	-
Long-term debt	-	225.00	225.00	-	261.95
Other non-current liabilities	-	-	6.34	0.47	-
Operating lease liabilities, non-current portion	-	-	-	-	949.92
Total liabilities	**620.73**	**1,148.04**	**1,414.10**	**1,204.61**	**3,027.05**
SHAREHOLDERS' EQUITY					
Class A common shares	0.09	0.09	0.12	0.13	0.13
Class B common shares	0.07	0.07	0.07	0.07	0.07
Class A common shares issuable	-	-	-	1.98	-
Additional paid-in capital	108.40	141.97	884.72	1,485.52	1,675.64
Statutory reserve	22.98	28.41	38.32	58.69	82.71
Retained earnings	306.38	416.84	565.20	920.31	786.10
Accumulated other comprehensive income / (loss)	(0.95)	55.87	132.33	17.05	(28.91)
Non-controlling interest	3.76	36.62	19.72	46.73	28.46
Total equity	**440.74**	**680.84**	**1,640.46**	**2,530.48**	**2,544.20**
Total equity and liabilities	**1,061.38**	**1,828.91**	**3,054.56**	**3,735.09**	**5.571.25**

Valuation

$ million	2022E	2023E	2024E	2025E	2026E	*Terminal value*
Revenue	**6,642.00**	**8,978.00**	**11,484.67**	**13,858.57**	**15,718.40**	
EBITDA	**864.70**	**1,168.82**	**1,495.15**	**1,804.20**	**2,046.33**	
% margin	*13.02%*	*13.02%*	*13.02%*	*13.02%*	*13.02%*	
(-) D&A	222.39	301.96	386.27	466.11	528.66	
EBIT	**641.31**	**866.86**	**1,108.89**	**1,338.09**	**1,517.67**	
(-) Tax on EBIT	160.33	216.71	277.22	334.52	379.42	
NOPAT	**480.98**	**650.14**	**831.66**	**1,003.57**	**1,138.25**	
(-) CapEx	368.63	498.28	637.40	769.15	872.37	
(+) D&A	222.39	301.96	386.27	466.11	528.66	
(-) ΔNWC	114.17	79.17	84.95	80.45	63.03	
Unlevered FCF	**221.58**	**374.66**	**495.98**	**620.08**	**731.51**	**51,322.88**
Discount factor	0.93	0.87	0.81	0.76	0.71	0.71
DCF	**206.77**	**326.26**	**402.72**	**470.21**	**517.64**	**36,317.89**

Discounted cashflow	1,923.60
Discounted TV	36,317.89
Enterprise value	**38,241.49**
(+) Cash	2,247.41
(-) Financial debt	1,211.87
(+) Non-operating assets	667.94
(-) Minority interests	28.46
Equity value	**39,916.50**
Shares outstanding (millions)	*600.39*
Share price	**$66.48**

Assumptions			
Tax rate	25.00%	Cost of debt	2.44%
WACC	7.16%	Beta	1.031
Terminal growth rate	5.63%	Cost of equity	7.33%

Disclaimer