

GSX Techedu Inc. (GSX US)-Winner under an intensive environment

April 9, 2020

INVESTMENT SUMMARY

- We expect market size of online big class could grow 400% in the next five years. We estimate that market share of online big class can increase from 3.5% to 20% in after school tutoring sector in 2025 and reach a market size of RMB 200bn.
- Key drivers for the market share increase are: (1) online big class is taking back the market share that loss by offline big class, and (2) low-tier cities penetration.
- We suggest GSX will take 25% of online big class market by 2025 amid near-term intensive competition. Main reasons are: (1) product differentiation helps GSX to stand out; and (2) internal and external marketing channels ensure GSX can efficiently acquire students. We initiate GSX with BUY rating with TP of US\$50.

Research Team



Shawn Yang
Manging Director

Jiayuan Weng
Shan Xu

+852 21856112
research@blue-lotus.cn

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GSX Techedu Inc. (NYSE:GSX)

Winner under an intensive environment

- The pandemic accelerates the online big class penetration as after school tutoring demand is still strong despite a difficult time. We expect the total exam-orientated AST could grow 70% and reach RMB 1,000bn in next 5 years.
- The key driver for the AST market growth is low-tier cities' penetration. Currently, the exam-orientated AST penetration rate is 41% in 2019 and we expect it to reach 53% in 2025, which mainly is due to low-tier cities' AST penetration.
- We believe online big class sector and GSX will benefit from the low-tier cities' penetration. Initiate BUY with TP US\$50.

Still much potential on the online big class market

Currently, online big class only takes about 3.5% of the total after school tutoring (AST) market share in 1Q20. However, we expect the online big class could reach to 20% of the AST market share in 2025 because: (1) online big class is taking back the market share that was lost to offline big class; (2) low-tier cities have large demand for the high quality teachers; and (3) the pandemic also accelerated the online big class penetration rate.

Winner under an intensive competition

According to our tracking data, we see online big class companies launched an intensive marketing campaign. We expect the online big class market will still have intensive competition in current years. However, we expect 3-4 online big class companies will survive and take 90% of the online big class market share. GSX will be one of the winners as (1) its product has differentiation by targeting low-tier cities and high school students, and (2) its two kinds of marketing channel, external and internal, allow it to acquire students more efficiently.

Pandemic accelerates the penetration rate

We believe the pandemic accelerates the online big class penetration rate by allowing more parents and students to experience the online education, especially in the low-tier cities. We also see that GSX is exploring more internal marketing channels. Currently, GSX has more than 3.8mn followers on the Kwai account, which bring more upside for its internal marketing channel.

Summary financial data

Highlights	2018A	2019A	2020E	2021E	2022E
Revenues (US\$ mn)	397	2,115	6,050	10,864	15,120
Non-GAAP operating profit (RMB mn)	19	216	710	1,356	2,246
GAAP net income (RMB mn)	19	217	622	1,171	1,925
Non-GAAP EPADS (RMB)	(0.21)	1.07	3.38	6.30	10.10
P/E (non-GAAP)	(1,959)	195	66	36	23

Source: Bloomberg, Blue Lotus (as of Apr 9, 2020)

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Blue Lotus Capital Advisors Limited

All prices are those current at the end of the previous trading session unless otherwise indicated. Prices are sourced from local exchanges via Reuters, Bloomberg and other vendors. Data is sourced from Bloomberg, Blue Lotus Capital Advisors Limited and subject companies. Consensus forward estimates are used in analysis. Past performance is not indicative of future results. Investors should consider this report as only a single factor in making their investment decision.

BUY **HOLD** **SELL**

Target Price: US\$ 50.0 **Current Price: US\$ 30.4**
 RIC: (NYSE:GSX) BBG: GSX US
 Market cap (US\$ mn) 7,272
 Average daily volume (US\$ mn) 40.1
 Shares out/float (m) 13.8M/N.A.

Source: Bloomberg, Blue Lotus (as of Apr 9, 2020)

Key Changes

	New	Old	Diff
BLRI Recommendation	BUY	-	-
BLRI Target Price	US\$ 50.0	-	-
2019A EPS (RMB)	1.07	-	-
2020E EPS (RMB)	3.34	-	-
2021E EPS (RMB)	5.50	-	-

Source: Blue Lotus (as of Apr 9, 2020)

BLRI vs. The Street

No. of Bloomberg Recommendations	12
Target price vs. Bloomberg mean	5.9%
1-year-fwd EPS vs. Bloomberg mean	10.4%
Bloomberg recommendation	4.77

Source: Bloomberg Recommendation, Blue Lotus (1=SELL,5=BUY) (as of Apr 9, 2020)

Price performance and volume data



Source: Bloomberg, Blue Lotus (as of Apr 9, 2020)

Research team



Shawn Yang

Managing Director

research@blue-lotus.cn

Jiayuan Weng

Shan Xu

GSX Techedu Inc.: Financial Summary

Fiscal year ends-31-Dec

Exhibit 1. Income statement

RMB (mn)	2019A	2020E	2021E
Net Revenues	2,115	6,050	10,864
Cost of Revenues	(536)	(1,382)	(2,682)
Gross profit	1,579	4,668	8,182
Selling and Marketing	(1,041)	(3,110)	(5,251)
Research and development expenses	(212)	(533)	(978)
General and Administrative	(110)	(315)	(598)
SBC	(60)	(153)	(274)
Income from operation	155	557	1,082
Non-GAAP operating income	216	710	1,356
Interest Income/Expense	10.3	7.8	7.8
Other Income/expense	6.3	16.7	16.7
Realized gains from investment	9.9	32.1	32.1
Earnings before Taxes	242	766	1,412
Provision for Income Tax	(17)	(115)	(212)
Loss from Equity Method Investments	1.3	2.4	2.4
Net Income to GSX, GAAP	225	652	1,200
Non-GAAP net income to GSX	286	804	1,474
GAAP Diluted EPADS(RMB)	1.1	3.6	6.5
Enrolment(K)	2,743	6,818	11,855

Source: GSX Inc, Blue Lotus (as of Apr 9, 2020)

Exhibit 2. Balance sheet

RMB (mn)	2019E	2020E	2021E
Current Assets	1,809	4,482	10,055
Cash and Cash Equivalents	74	1,275	4,912
Short-term Investments	1,473	1,972	3,393
Prepaid expenses and other current assets	261	1,235	1,750
Amount due from related party	0	0	0
Operating lease right-of-use assets	265	278	292
Property, equipment and software, net	82	155	333
Intangible assets, net	0	0	0
Long-term investments	1,188	1,188	1,188
Goodwill	0	0	0
Deferred tax assets	31	31	31
Rental deposit	19	19	19
Total Assets	3,395	6,153	11,919
Accrued expenses and others	229	1,674	4,056
Current portion of the consolidated VIE	1,332	3,739	5,846
Amounts due to related parties	0	0	0
Others	76	76	76
Non-current portion of the consolidated VIE	6	6	6
Deferred tax liabilities of the consolidated VIE	0	0	0
Others	194	194	194
Ordinary shares	0	0	0
Treasury stock, at cost	(87)	(87)	(87)
Total Shareholders Equity	1,557	464	1,741
Total Liabilities & Shareholders Equity	3,395	6,153	11,919

Source: GSX Inc, Blue Lotus (as of Apr 9, 2020)

Company Description

GSX Techedu Inc. provide online K12 big class after school tutoring, foreign language, professional and interest courses movies and others. In 2019, GSX had 2.7mn paid enrollment and we estimate it could reach to 12mn in 2021 due to online big class market share increase.

Industry View

We expect China's exam-orientated AST market to grow 12.1%, 12.0%, 11.8%, and 11.6% in 2020-2024, with exam-orientated penetration rate of AST rising from 43.3% to 51.1%. We estimate total AST sector to be RMB 938bn in 2024.

Exhibit 3. Cash flow statement

RMB (mn)	2019E	2020E	2021E
Net Income	227	654	1,203
Depreciation & Amort.	10	15	39
loss from equity method investments	0	0	0
loss on disposal of PPE	0	0	0
Share-based compensation	60	153	274
Change in working capital			
Accrued expenses and other liabilities	172	1,445	2,382
Deferred revenue	1,066	2,407	2,107
prepaid expenses amd other current assets	(213)	(973)	(516)
Income tax payable	17	115	212
Amount due from related parties	(1)	0	0
Other assets	0	0	0
Cash from Operation	1,338	3,816	5,701
Purchase of short-term investment	(268)	(763)	(1,140)
Proceeds from maturity	231	658	983
Purchase of PPE	(65)	(73)	(179)
Cash from Investing	(103)	(179)	(337)
Cash from Financing	0	0	0
Foreign Exchange Rate Adj.	0	0	0
Cash beginning	74	1,275	4,912
Cash End	1,275	4,912	10,276

Source: GSX Inc, Blue Lotus (as of Apr 9, 2020)

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Recent Reports

April 1st, 2020: [Xiaomi (1810 HK, BUY, TP HK\$14.5) Target Price Change]: **Light at end of tunnel...Reiterate BUY**

March 31st, 2020: [Meituan (3690 HK, HOLD, TP HK\$85) C4Q19 Review]: **Challenges are ahead amid strong 4Q19 result**

March 30th, 2020:[Blue Lotus Sector Update]: **Some platforms still have potential in live streaming**

March 27th, 2020: [Blue Lotus Sector Update]: **Coronavirus: Time to consider buying**

March 27th, 2020: [VIOMI (VIOT US, BUY, TP US\$12) Target Price Change]: **Can VIOT's gross margin recover?**

March 27th, 2020: [Huazhu (HTHT US, BUY, TP US\$37) Target Price Change]: **Domestic is recovering while Germany is suffering**

March 27th, 2020: [MOMO (MOMO US, BUY, TP US\$30) Rating Change]: **Tantan is going to launch live streaming...UG to BUY**

March 25th, 2020: [Xiaomi (1810 HK, BUY, TP HK\$12.5) Rating Change]: **Pandemic impact worse, but smartphone ASP better**

March 25th, 2020: [Tencent (700 HK, BUY, TP HK\$390) Company Update]: **Why does IQ lose more money than Tencent Video?**

Investment Cases at a Glance

Why is it a Buy?

- Sector's outlook is promising. AST had a market size of RMB 538bn in 2019 and we expect it grows to RBM 1,000bn in 2025. Among that, online big class currently takes about 3.5% of the total AST market share and we expect it to grow to 20% in 2025.
- Well positioning on target customers and efficient marketing channels make sure GSX is one of the winners in the online big class market.

What are the key catalysts for the next 3-6 months?

- Online big class penetration rate continues to increase. Online big class currently accounts for 3.5% of the total AST market share and we expect it will continue to increase as (1) pandemic created more online AST demand; (2) delay of Gaokao exam let grade 12 students have more tutoring time; and (3) more parents and students experience online education during the pandemic and generate more sales leads.
- Industry consolidation creates more demand for big institutions. Pandemic caused more medium and small AST institutions to exit the market. However, the tutoring demand is still very strong and we expect big AST institution, both online and offline, will be benefit from that.
- Kwai might be the next internal marketing channel. Previously, the main internal marketing channel for GSX was WeChat official accounts and it has more than 12mn activities followers on those accounts. This internal marketing channel helps GSX lower its customer acquisitions cost. Since the beginning of 2020, GSX is exploring different internal marketing channels. We see its Kwai accounts right now have more than 3.8mn followers. We expect Kwai might also become GSX's next important internal marketing channel.

Where can we be wrong?

- Outlook of AST sector is overestimated. The total AST market size cannot reach RMB 1,000bn. Instead, the whole sector will face flat AST tutoring penetration rate afterward.
- Online big class demand is overestimated. The total online big class market share cannot reach 20%. Instead, it will face flat market share afterward.
- Competition is too intensive and GSX could not control its customer acquisition costs efficiently.

What can change our view?

- Customers acquisition cost continues to increase and lead GSX to have operating loss.
- AST regulation become a long-term issue and hurt the demand of AST.
- Competition last longer than our expect.
- The demand for online big class decreases.

Operating Metrics

Exhibit 4. Quarterly revenue table

RMB (mn)	2Q19A	3Q19A	4Q19A	1Q20E	2Q20E	3Q20E
Net Revenues	354	557	935	1,210	1,310	1,570
Cost of Revenues	(101)	(157)	(196)	(263)	(326)	(423)
Gross profit	253	400	739	947	984	1,147
Selling and Marketing	(169)	(330)	(442)	(702)	(646)	(776)
Research and development expenses	(41)	(57)	(83)	(85)	(118)	(141)
General and Administrative	(26)	(24)	(46)	(61)	(72)	(86)
SBC	(15)	(18)	(24)	(31)	(33)	(40)
Income from operation	1	(29)	144	70	114	104
Non-GAAP operating income	16	(11)	168	100	147	144
Interest Income/Expense	4.0	3.3	1.9	1.9	1.9	1.9
Other Income/expense	0.1	1.5	4.2	0.0	0.0	0.0
Realized gains from investment	0.0	1.9	8.0	0.0	0.0	0.0
Earnings before Taxes	20	(4)	182	102	149	145
Provision for Income Tax	(5)	5	(8)	0	(22)	(22)
Loss from Equity Method Investments	0.6	0.6	0.6	0.0	0.0	0.0
Net Income to GSX, GAAP	16	1	174	102	127	124
Non-GAAP net income to GSX	31	20	197	133	160	163
GAAP Diluted EPADS(RMB)	0.1	0.0	1.1	0.6	0.8	0.7
Enrolment(K)	592	820	1,120	1,314	1,481	1,766

Source: GSX Inc, Blue Lotus (as of Apr 9, 2020)

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Strong demand with diverse need

Despite the recent pandemic that caused investors to worry about the macro-economy, we are still very bullish on China's AST sector. Not only is China the world's biggest education market, thanks to its population, it is also benefiting from the scarce education resource. Such scarcity forces more parents to send their children to AST. We view the AST service as a necessity for Chinese families. Moreover, we believe the strong demand comes with diverse needs from the angles of students' self-discipline and family income.

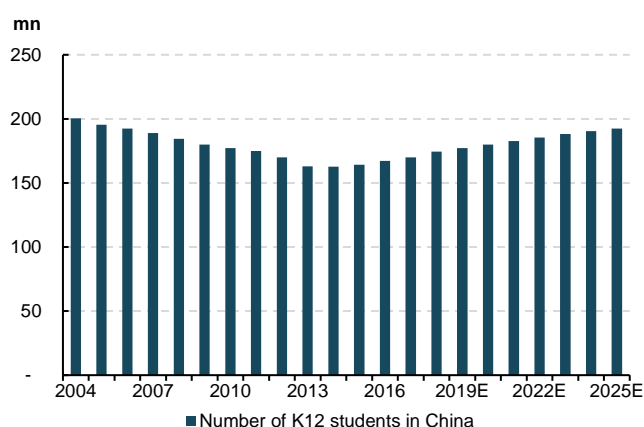
China is the world's biggest education market, with strong tutoring demand.

AST demand continues to be strong

According to National Bureau of Statistics of China, the number of K12 students (primary school, middle school, and high school) increased from 162mn in 2014 to 175mn in 2018. Based on the research from China Institute for Educational Financial Research, China AST penetration rate is 47.2%, among that exam-orientated AST (应试教育课外培训) penetration rate is 37.8%, and quality education AST (素质教育课外培训) penetration rate is 21.7%. Therefore, we estimate that the number of K12 exam-orientated AST students grew from 60mn in 2014 to 73mn in 2019. We expect this number will further increase to 102mn in 2025, with the exam-orientated penetration rate increase to 53% and total number of K12 student increase to 192mn.

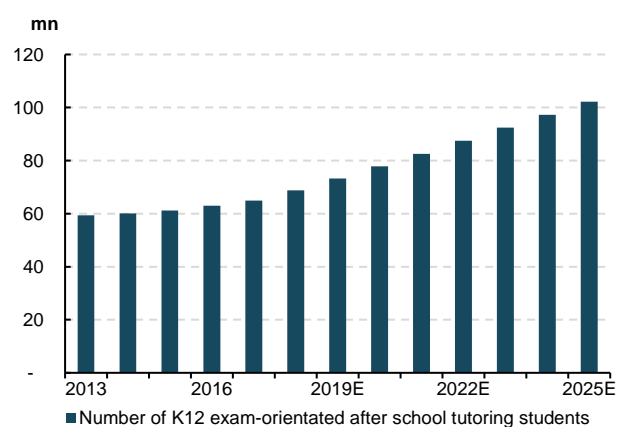
We expect K12 exam-orientated AST student growth to 102mn in 2025 thanks to increase of penetration rate.

Exhibit 5. Number of K12 students in China from 2004 to 2025E



Source: National Bureau of Statistics of China, Blue Lotus (as of Apr 3, 2020)

Exhibit 6. Number of K12 exam-orientated after school tutoring students estimate



Source: China Institute for Educational Financial Research, Blue Lotus (as of Apr 3, 2020)

Exam-orientated AST market size is likely to reach RMB 1,000bn

According to our estimate, we expect exam-orientated AST market size was RMB 538bn in 2019 and is likely to reach RMB 1,000bn in 2025 due to a strong AST demand. The increase of market size mainly due to (1) exam-orientated AST penetration rate is likely to increase from 39% in 2018 to 53% in 2025; and (2) average selling price (ASP) per class to increase from RMB 3,000 in 2018 to RMB 4,221 in 2025.

Exam-orientated AST market size still has much room to growth.

Exhibit 7. Exam-orientated AST market size estimate

Year	Number of K12 students(mn)	Exam-orientated AST penetration rate	Number of exam-orientated AST K12 students(mn)	Number of classes each student attends per year	Number of exam-orientated AST K12 enrollment per year(mn)	ASP per class (RMB)	Exam-orientated AST market size(RMB bn)
2018E	175	39%	69	2.3	160	3,000	480
2019E	177	41%	73	2.3	171	3,150	539
2020E	180	43%	78	2.3	183	3,308	604
2021E	183	45%	83	2.4	195	3,473	677
2022E	185	47%	87	2.4	207	3,647	757
2023E	188	49%	92	2.4	220	3,829	844
2024E	190	51%	97	2.4	233	4,020	938
2025E	193	53%	102	2.4	246	4,221	1,040

Source: National Bureau of Statistics of China, Blue Lotus Estimate (as of Apr 3, 2020)

Scarce education resource makes AST a necessity

China's scarce education resource can be reflected by the percentage of middle school students who could enroll into general high school and the key university enrollment rate. According to the National Bureau of Statistics of China, only 57% of middle school students were able to enter general high school in 2018, the other students have to go to vocational high school, study abroad, or work. Vocational high schools usually are considered low quality by Chinese parents and students who graduate from vocational high school usually have a low income.

Only 57% of middle school students can enter general high school.

Besides that, according to the ministry of education of the people's republic of China, key university (一本大学) enrollment rate is only 16.5%. This rate also differs by province; for example, Guangdong province's key university enrollment rate is only 12.9%, Henan is 12.5%, Sichuan is 14.7%, Shanghai is 29.5%, and Beijing is 36.3%.

Only 16.5% of general high school students can be enrolled into key universities.

Such low enrollment rate makes Chinese parents more and more anxious and exam-oriented and AST has become the anxiolytic. Hence, exam-oriented AST penetration rate increased from 36.5% in 2013 to 41.4% in 2019 by our estimate.

Exam-oriented after-school tutoring becomes the anxiolytic for Chinese parents.

Exhibit 8. China middle school and high school acceptance rate in different region

	Middle school acceptance rate	High school acceptance rate
Beijing	99.7%	61.6%
Tianjin	96.5%	59.9%
Shanghai	95.5%	54.6%
Qinghai	96.3%	54.0%
Ningxia	95.5%	51.3%
Neimeng	98.1%	60.7%
Shanxi	97.4%	52.0%
Fujian	97.9%	49.4%
Jilin	98.0%	52.8%
Shandong	99.2%	49.4%
Xinjiang	99.1%	44.2%
Zhejiang	98.1%	50.4%
Hunan	100%	49.6%
Anhui	99.2%	44.1%
Chongqing	100%	53.0%
Hubei	100%	50.3%
Jiangxi	99.5%	46.7%
Gansu	96.6%	47.6%
Jiangsu	99.9%	47.3%
Hebei	98.6%	45.5%

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Liaoning	99.5%	52.2%
Hainan	93.8%	37.3%
Heilongjiang	98.0%	46.5%
Guizhou	96.7%	37.2%
Yunnan	94.3%	34.0%
Guangxi	98.1%	39.9%
Shanxi	96.0%	45.1%
Henan	96.1%	39.0%
Guangdong	96.0%	44.0%
Xizang	93.4%	36.9%
Sichuan	100%	46.9%

Source: National Bureau of Statistics of China, Blue Lotus (as of Apr 3, 2020)

Exhibit 9. China key university acceptance rate in different region

	Number of universities entrance examination applicants(k)	Number of students accepted by key universities(k)	key university acceptance rate
Beijing	59	21.4	36.27%
Tianjin	56	20.1	35.89%
Shanghai	50	14.8	29.60%
Jiangsu	339	91.9	27.11%
Shanxi	325	78.3	24.03%
Heilongjiang	204	44.9	22.01%
Fujian	208	42.4	20.40%
Ningxia	72	14.3	19.94%
Shandong	601	118	19.63%
Liaoning	244	47.2	19.34%
Hebei	560	106.9	19.10%
Anhui	513	96.7	18.85%
Chongqing	264	49.5	18.75%
Hubei	384	65.1	16.95%
Gansu	267	44.7	16.75%
Zhejiang	320	53.2	16.63%
Neimeng	199	32.9	16.53%
Qinghai	55	8.8	16.00%
Hunan	499	76.9	15.41%
Sichuan	650	95.7	14.72%
Yunnan	320	43.4	13.56%
Guangdong	760	97.8	12.87%
Jilin	163	20.7	12.72%
Shanxi	302	38.2	12.65%
Henan	1,030	129.2	12.54%
Jiangxi	421	50.4	11.97%
Guizhou	458	54.6	11.92%

Source: National Bureau of Statistics of China, Blue Lotus (as of Apr 3, 2020)

Large demand could not be satisfied by a single product

An exam-oriented after school tutoring market with 73mn students clearly cannot be satisfied by a single product. After about 20 years development, there are three class models that satisfy most students: big class, small class, and one-on-one. Students choose those different class models according to their self-discipline ability.

There have been three models to satisfy the AST market: small class, big class, and one-on-one.

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Exhibit 10. Different between big class, small class and one-on-one model

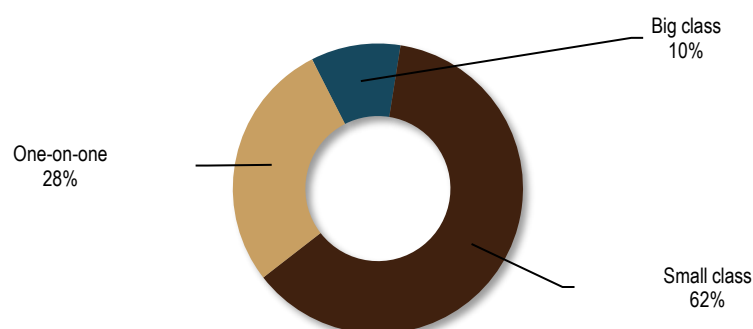
	Big class model	Small class model	One-on-one model
Number of students per class	More than 25 (usually more than 1,000 in online big class)	Less than 25	1
Self-discipline requirement	High	Average	Low
Student and teacher's interaction	Low	High	High
Teacher experience requirement	High (usually are star teachers)	Average (standardize teacher training system)	Low
Localization	Low	High	High
Economic of scale	High	Average	Low

Source: Blue Lotus (as of Apr 3, 2020)

Despite that the big class model has the best economy-of-scale ability, it only took about 10% of offline AST market share in 2018, according to Mindtime data. Small class takes about 62% of the market share, while one-on-one takes about 28% of the market share. The main reason is the big class model required students to have the highest self-discipline ability, but the majority of the students do not have that ability by nature. Besides that, students who choose big class usually are attracted by the star teachers. Therefore, a star teacher normally has a group of loyal students who only follow that teacher. Hence, star teachers have higher risk to leave the institution and start their own business in offline.

Offline big class has space, geographic, and time restriction, but online big class does not have such problems.

Exhibit 11. Big class, small class, and one-on-one market share in after school tutoring in 2018



Source: Mindtime data (as of Apr 3, 2020)

We expect big class to take 20% market share

Online big class grow faster than others

We see online big class market has the highest growth rate compared to small class and one-on-one market. For instance, TAL small class business's average revenue growth rate (YoY) for the past 8 quarters is 40% while its online big class average revenue growth rate (YoY) for the past 8 quarters is 150%. Besides, OneSmart's one-on-one business's average revenue growth rate (YoY) for the past 8 quarters is 31%.

Online big class currently has the highest growth rate compared to small class and one-on-one.

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Exhibit 12. TAL and OneSmart business growth rate

	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19
OneSmart one-on-one class revenue growth rate (YoY)	28%	30%	30%	43%	35%	31%	26%	24%
TAL small class revenue growth rate (YoY)	56%	70%	51%	26%	34%	22%	28%	34%
TAL online big class revenue growth rate (YoY)	157%	214%	185%	163%	192%	113%	83%	94%

Source: OneSmart, TAL (as of Apr 3, 2020)

Two reasons lead to high growth rate of online big class

We believe two reasons cause online big class to have the highest growth rate currently. (1) Online big class is taking back the market share that it once lost to offline big class. Big class market share (both online and offline) dropped from 13% in 2009 to 9% in 2014 because of offline big class's unstable business model. Right now, we believe online big class is taking the market share back. (2) Online big class penetrates into low-tier cities where star teachers' demand is strong but could not be satisfied before.

(1) Online big class is taking back the market and (2) online big class meets the star teachers demand in low-tier cities.

Offline big class is losing market share

Before online big class come in, the big class model was losing its market share in offline. According to Deloitte's <China diversify education development report>, big class market share dropped from 13% in 2009 to 9% in 2014. The main reason is that offline big class model is an unstable model. (1) Star teacher risk. In offline, star teachers can easily build a local reputation and accumulate a group of fans. Therefore, star teachers have more bargaining power and are a higher risk of leaving the platform. (2) Number and quality dilemma. Big class model requires higher student enrollment numbers to achieve better economy of scale; however, in offline learning center, more students sitting in one classroom means poorer student experience. (3) Geographic restriction. Small class normally would set learning centers near the schools or residential areas to attract students; however, in order to achieve better economy of scale, big class learning centers cannot have too many learning centers. Therefore, transportation becomes another problem for offline big class.

Offline big class is an unstable model.

Online big class is taking back the market share

We expect online big class is taking back the market share that offline big class loss before. We see online big class does not have the problems that restrict offline big class. For online big class, teaching 1,000 or 10,000 students makes no difference than teaching 100 students, online institutions only needs to add more tutors for the additional students. Besides that, the geographic problem also is solved by being online.

Online solves the problems of space and geography.

The risk of a star teacher leaving is also lower in online. In offline, star teachers find it easier to build their personal brand locally and start their own business. However, in online, building a national brand is way more difficult. And the star teachers also rely on online platform to enroll students. Therefore, the cost of a star teacher leaving an online platform is higher. Besides that, money normally is the most important reason for a star teacher to leave. According to the National Bureau of Statistics of China, average salary for teachers is RMB 48k to 140k. However, according to GSX, the average salary for its instructors are RMB 2mn in 2019. Therefore, we believe online big class has a lower star teacher leaving risk compare to offline big class.

Online big class has a lower star teacher risk.

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Hence, we see online big class is a more stable model compared to offline big class. According to a Penguin Intelligence survey, the top 3 reasons that parents choose online education for their children are: (1) do not need to go out, (2) class time is flexible, and (3) star teachers. Moreover, for low-tier cities' parents, star teachers are the top reason.

Online big class, a more stable model.

Exhibit 13. Average annual wage of employees in 2018, by industry and position (RMB)

Industry	Staff	Middle manager and the above	Professional and technical staff	Clerical staff	Social production and life service staff	Manufacturers
Total	68,380	145,125	96,703	63,755	54,945	55,148
Mining	76,556	147,377	97,228	82,671	53,978	69,789
Manufacturing	64,643	135,643	93,779	67,192	65,202	53,927
Construction	56,743	105,936	68,760	48,389	47,197	51,901
Wholesale and retail trade	71,595	146,750	93,076	66,207	51,991	51,188
Transportation, warehousing and postal	82,852	157,088	123,794	69,360	78,022	71,319
Accommodation and food services	45,305	91,708	56,237	42,955	38,847	40,014
Information, software and IT services	141,962	297,189	167,915	99,850	86,603	72,231
Real estate	70,428	151,098	90,881	59,814	45,206	47,110
Rental and leasing and commercial service	76,196	236,783	130,274	70,002	51,147	52,389
Professional, scientific and technical service	122,040	237,704	131,522	80,704	65,229	66,378
Residential service, repair and other service	46,727	102,699	64,274	51,411	38,693	43,306
Education	76,207	142,513	79,955	65,099	63,724	48,270
Health care and social assistance	76,454	126,480	79,572	53,631	49,218	51,632
Arts, sports, and entertainment	92,624	169,071	140,727	78,284	47,225	53,439

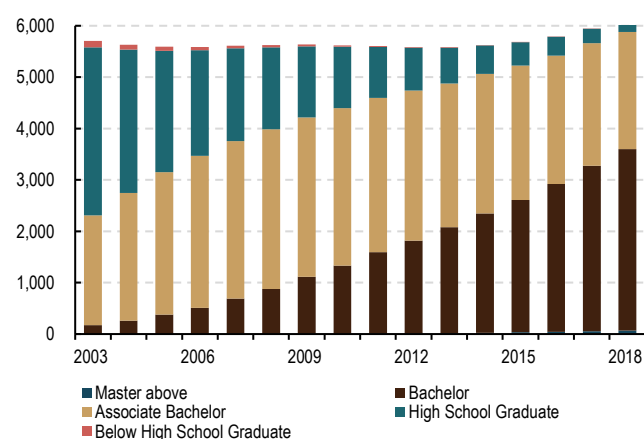
Source: National Bureau of Statistics of China (as of Apr 3, 2020)

Imbalance education quality create star teachers demand

Despite offline big class model having lots of problems, big class (or star teacher) model still has strong demand, especially in the low-tier cities. In 2018, 41% of primary and 14% of secondary school teachers lack college diplomas, according to China Ministry of Education. In 2010, 76% and 36% weren't college graduates. However, in all US states, a college diploma is a prerequisite to become a teacher. This imbalance of education quality is the fundamental reason why star teachers are still popular. Therefore, we see online big class also attracting lots of tutoring demand from low-tier cities.

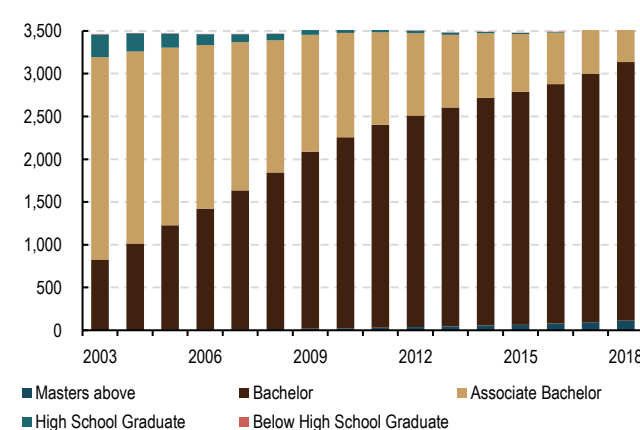
Imbalance education quality is the fundamental reason why star teachers are especially popular in low-tier cities.

Exhibit 14. No. of primary school teachers and breakdown (K)



Source: China Ministry of Education (as of Apr 3, 2020)

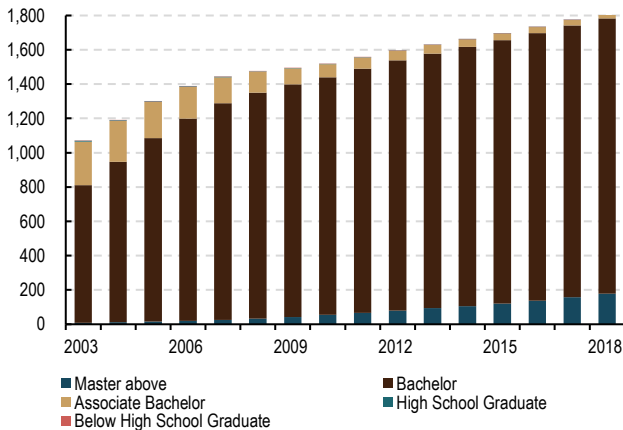
Exhibit 15. No. of sec. school teachers and breakdown (K)



Source: China Ministry of Education (as of Apr 3, 2020)

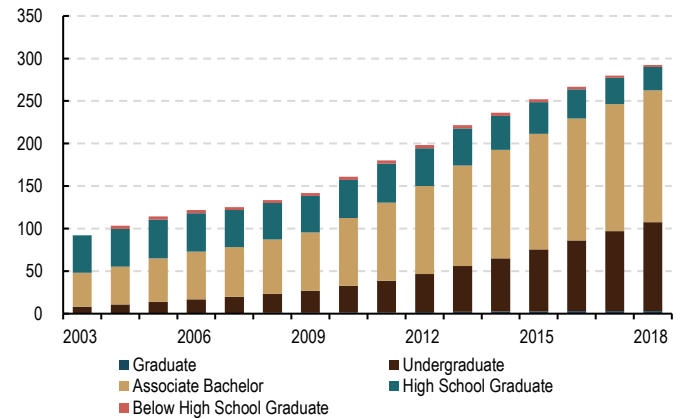
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Exhibit 16. No. of high school teachers and breakdown (K)



Source: China Ministry of Education (as of Apr 3, 2020)

Exhibit 17. No. of Kindergarten deans and breakdown (K)



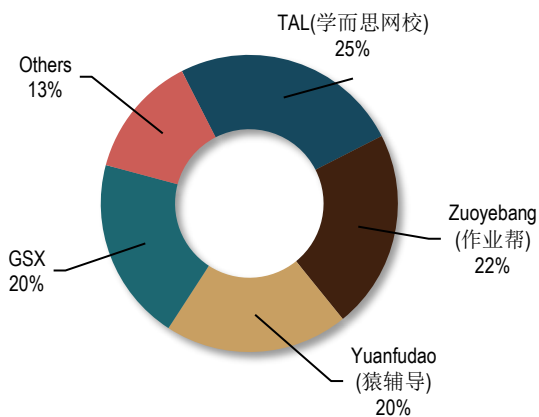
Source: China Ministry of Education (as of Apr 3, 2020)

Online big class currently takes 3.5% of AST market share

According to our estimate, total paid enrollment for online big class could reach 6mn in 1Q20, which is about 3.5% of the total AST market share. Among that, we expect GSX takes about 20% of big class market share, while TAL takes about 25%, Zuoyebang takes about 22%, and Yuanfudao takes about 20%.

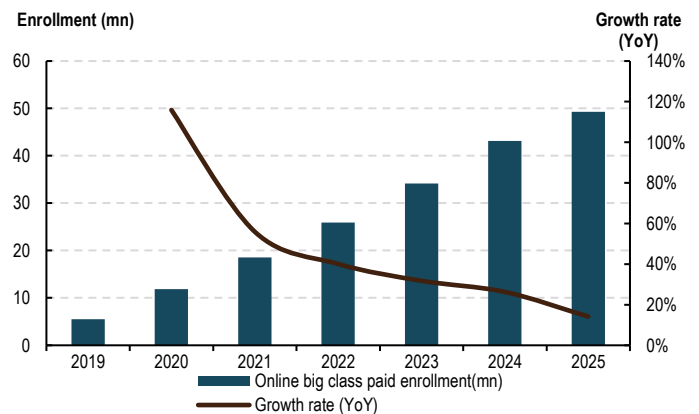
Offline big class's market share will be taken by online big class.

Exhibit 18. Online big class market share estimate in 1Q20



Source: Blue Lotus estimation (as of Apr 3, 2020)

Exhibit 19. Number of online big class paid enrolment estimate



Source: China Ministry of Education, Blue Lotus (as of Apr 3, 2020)

We expect it can reach 20% in 2025

Before online big class came in, the big class model was losing its market share in offline. According to Deloitte's <China diversify education development report>, big class market share dropped from 13% in 2009 to 9% in 2014. We believe online big class is gradually taking market share from offline. So, we expect the 13% of after-school tutoring market share, that offline big class previously had, will eventually be taken by online big class.

Offline big class's market share will be taken by online big class.

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Besides that, low-tier cities have a lack of high-quality teacher. As online big class break the restriction of geography, we believe more students from low-tier cities would be attracted by the star teacher and choose the online big class model. Therefore, we expect the big class model could reach 20% of AST market share. However, as high self-discipline ability is still a rare ability that only small percentage of students have, we estimate that online big class would stabilize at 20% of AST market share in 2025, which is about 20mn students or 49mn paid enrollment per year. We also expect online big class market size can reach RMB 208bn in 2025.

We expect online big class would take about 20% of after-school tutoring market share.

Exhibit 20. Online big class AST market size estimate

Year	Number of exam-orientated AST K12 enrollment per year (mn)	Exam-orientated AST market size (RMB bn)	Number of online big class enrollment per year (mn)	Online big class market share	Online big class AST market size (RMB bn)
2019E	171	539	5.5	3.2%	17
2020E	183	604	11.9	6.5%	39
2021E	195	677	18.5	9.5%	64
2022E	207	757	25.9	12.5%	95
2023E	220	844	34.2	15.5%	131
2024E	233	938	43.1	18.5%	173
2025E	246	1,040	49.3	20.0%	208

Source: National Bureau of Statistics of China, Blue Lotus (as of Apr 3, 2020)

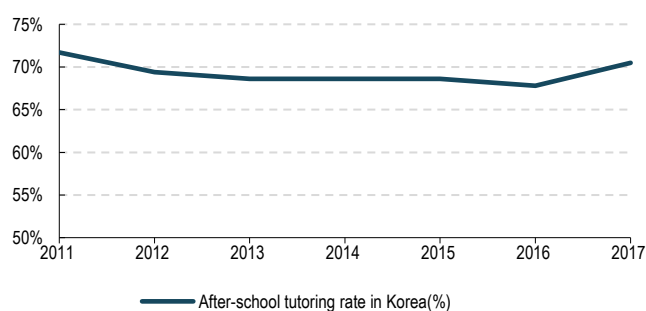
Online big class needs to differentiate

AST concentration ratio is difficult to increase

We see AST concentration ratio (CR) is difficult to increase, especially in offline. Korea’s AST market has more than 50 years of history and has reached to a mature stage. Currently, Korea’s penetration rate of AST has reached a ceiling and its two largest K12 after school tutoring institutions, Deakyo and Woongjin Thinkbig, take up separately 6.2% and 4.8% of the whole market. We believe two main reasons cause AST concentration ratio difficulty to rise. First, students are different in self-discipline ability, learning ability, and family income, which needs to have different education products to meet their needs. Second, teacher supply and geographic limitation also restrict AST institutions’ expansion. High-quality teachers are always a scare resource and high-quality teachers normally usually will go to high-tier cities instead of low-tier cities for higher income. Because of that, and that offline institutions want to penetrate into lower-tier cities, the most difficult problem for them is finding the high-quality teachers.

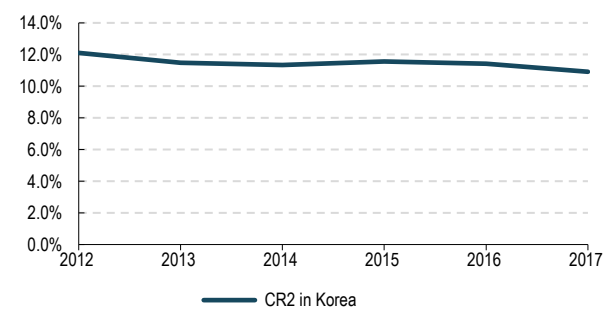
(1) diversify needs and (2) teachers supply limitation makes AST concentration ratio hard to increase.

Exhibit 21. AST penetration rate in Korea



Source: National Bureau of Statistics of Korea, Blue Lotus (as of Apr 3, 2020)

Exhibit 22. CR2 in Korea



Source: Bloomberg, Blue lotus(as of Apr 3, 2020)

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Exhibit 23. Number of K12 students in Korea and China

Year	Number of K12 students in Korea (k)	YoY	Number of K12 students in China(k)	YoY
2011	6,990		17,445	
2012	6,720	(3.9%)	16,926	(3.0%)
2013	6,480	(3.6%)	16,237	(4.1%)
2014	6,290	(2.9%)	16,236	(0.0%)
2015	6,090	(3.2%)	16,379	0.9%
2016	5,880	(3.4%)	16,609	1.4%
2017	5,730	(2.6%)	16,910	1.8%

Source: National Bureau of Statistics of Korea, National Bureau of Statistics of China (as of Apr 3, 2020)

Online big class model solves the second problem...hence higher CR

However, online big class solves the second problem which we believe can make online big class have a higher CR. Online big class does not need to worry about high-quality teachers as they are penetrating into low-tier cities, and online big class does not need to worry about the geography limitation. But, for the first problem, it will be difficult for one online big class company to meet all the students' different needs. Therefore, we expect 3~4 companies will take about 90% of the online big class market share at the end. However, it will be difficult for one online big class companies to have a CR higher than 40%.

Online big class model solves the second problem, so the CR can be higher.

Product positioning differentiation helps GSX stand out

TAL (学而思网校), Yuanfudao (猿辅导), Zuoyebang (作业帮), GSX are four major players participating the online big class model. Among these four, GSX has differentiated by (1) targeting at high school students, and (2) targeting at low-tier cities. The different product positioning brings advantages for GSX in marketing and pricing.

(1) targeting at high school students and (2) targeting at low tier cities differentiate GSX from others.

GSX's advertisements differentiate from others through targeting at low-tier cities and high school students. According to CQADO, GSX and Zuoyebang have localized advertisements while TAL and Yuanfudao do not. Besides, one of GSX's main app Gaotu100 (高途课堂) has 62% of advertisements targeting at high school, 33% of advertisements targeting at all K-12 students and 5% of advertisements targeting at elementary and primary school students while the other three show no differentiation in advertisements for different grade. Star teacher is a selling point for low-tier cities where teacher resources are scarce and also for high school students who have strong exam-oriented need. Different advertising strategy differentiated GSX from others.

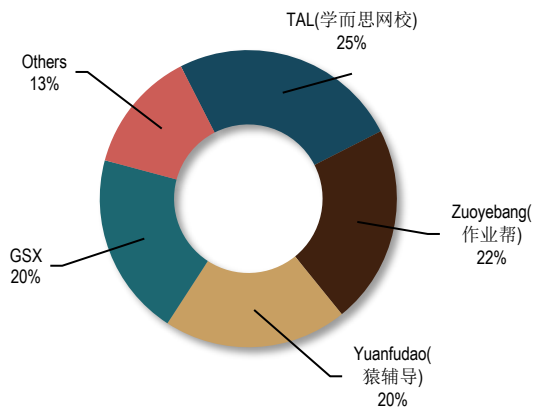
GSX's Gaotu100 has 62% of advertisement targeting at high school while its peers do not have specific advertisement.

Differentiation also let GSX be able to have a higher pricing. According to our spot checking, GSX's hour fee is higher than the other three. For example, GSX app's hour fee for high school is RMB 91/hour while Xueersi and Zuoyebang are RMB 30/hour and Yuanfudao is RMB 45/hour.

Right customers targeting let GSX have a higher pricing.

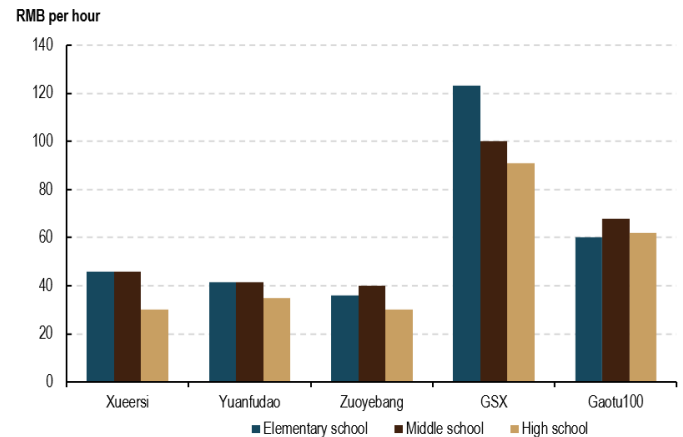
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Exhibit 24. Online big class market share estimate in 1Q20



Source: Blue Lotus estimation (as of Apr 3, 2020)

Exhibit 25. Hour fee for TAL, Yuanfudao, Zuoyebang, GSX and Gaotu



Source: Gaotu.com, Zuoyebang.com, Xueersi.com, Yuanfudao.com (as of Apr 3, 2020)

Exhibit 26. Gaotu's ad. targeting Huizhou



Source: Gaotu.com (as of Apr 3, 2020)

Exhibit 27. Zuoyebang's ad. targeting Changde



Source: Zuoyebang.com (as of Apr 3, 2020)

Exhibit 28. TAL's national common ad



Source: Xueersi.com (as of Apr 3, 2020)

Exhibit 29. Yuanfudao's national common ad



Source: Yuanfudao.com (as of Apr 3, 2020)

Targeting low-tier cities lowers customer acquisition costs

By targeting low-tier cities, GSX avoids competing with top offline players such as EDU and TAL, which will help lower customer acquisition costs. High-quality teaching resources are hard to find in low-tier cities because good teachers are reluctant to stay in low-tier cities. Besides, demand for AST in low-income families is increasing; the percentage of low-income families increased from 10% to 40% of the total families participated in AST. Therefore, offline AST institutions have difficulty reaching to low-tier cities although they have active supply in high-tier cities. For example, EDU has 1,213 leaning centers in total and 11% are located at low-tier cities, while TAL has 554 in total and 5% in low-tier cities.

Low tier cities are good market for online big class.

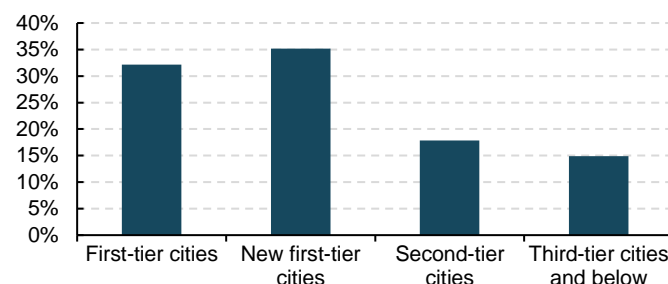
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Exhibit 30. Monthly family income distribution of family who participated in AST

	Monthly family income <10k	10k< Monthly family income <25k	Monthly family income >25k
2016	26%	66%	8%
2017	53%	38%	9%
2018	81%	16%	4%

Source: Mindtime data (as of Apr 3, 2020)

Exhibit 31. Distribution of employment cities for 2019 college graduates



Source: Zhaopin.com (as of Apr 3, 2020)

Exhibit 32. EDU's learning centers location

Location	No. of learning centers	% of learning centers
1st tier	717	58%
2nd tier	384	31%
3rd tier	117	9%
4th and 5th tier	28	2%

Source: FactX (as of Apr 3, 2020)

Exhibit 33. TAL's learning centers location

Location	No. of learning centers	% of learning centers
1st tier	395	76%
2nd tier	101	19%
3rd tier	23	4%
4th and 5th tier	2	0%

Source: FactX (as of Apr 3, 2020)

High school student is a good breakthrough point

High school students is a good breakthrough point for online big class model because (1) they have more self-discipline ability to adapt to online studying environment, which could convert into a good studying result and high conversion rate with the help of famous teacher, and (2) acquire high school students is easier for GSX because GSX's star teacher model meets their needs accurately. High school students have less available hours for after school tutoring and online classes provides flexible time schedule. To be specific, to attend online tutoring makes it possible to watch a replay of the class when students have time. Besides, high school students have strong exam-orientated demand and will be attracted to star teacher who have abundant experience for exam preparation.



High school student market is a good entrance, but GSX need to expand its customers base.

Exhibit 34. Examples of class schedule for Chinese high school students

Top 10 high school in China	School name in Chinese	District	Class Time
Hengshui high school	衡水中学	Hebei	5: 45-21: 50
Huanggang high school	黄冈中学	Hubei	6: 30-21: 50
Maotanchang middle school	毛坦厂中学	Anhui	6: 30-22: 50
Guangya middle school	广雅中学	Guangdong	6: 40-22: 00
High School Affiliated to Shanghai Jiao Tong University	上海交通大学附属中学	Shanghai	7: 10-21: 15

Source: Hengshui high school, Huanggang high school, Maotanchang middle school, Guangya middle school, High School Affiliated to Shanghai Jiao Tong University(as of Apr 3, 2020)

Exhibit 35. Star teacher description in GSX.com

	<p>Lixian Zhao (Mathematics Teacher)</p> <p>He has 11 years' experience of mathematics of the college entrance examination</p> <p>He successfully predicted the questions that will show in mathematics of the college entrance examination for many times.</p>
	<p>Mr. Lei Xu (English Teacher)</p> <p>His students got an average of 135 points out of 150 in the mathematics of the college entrance examination.</p> <p>Mr. Xu has trained more than 100 thousand students with the scores improved average 30 points</p>

Source: GSX.com(as of Apr 3, 2020)

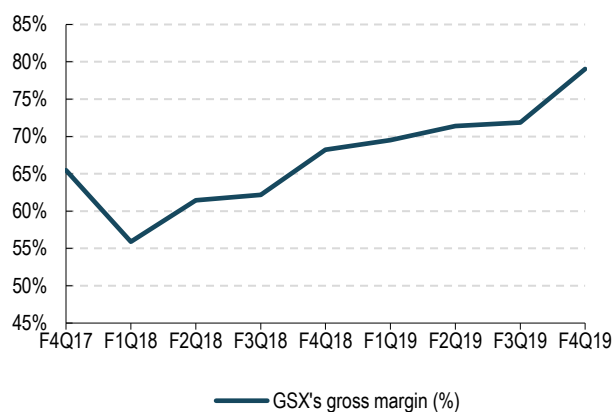
Economy of scale helps gross margin to rise

Leverage on instructors' cost helps gross margin to increase

GSX's gross margin is gradually improving from 56% in 1Q18 to 79% in 4Q19. According to GSX, in 4Q19, 90% of GSX's cost of revenue is the compensation for teaching staff. And the compensation for teaching staff can further break down to (1) cost to instructors and (2) cost to tutors. We see one tutor usually serve 300 students, and a greater student-to-tutor ratio means less teaching quality. But there is no difference for instructors to teach 500 students or 5,000 students at the same time. For a star teacher model, more students per instructors at the same time means more room for the gross margin to improve. As GSX's K12 paid enrollment increased from 175 thousand in F1Q19 to 1mn in F4Q19, the instructors only increased from 169 in F1Q19 to 220 in F4Q19. This economy of scale helps GSX's margin to raise to 79% in 4Q19.

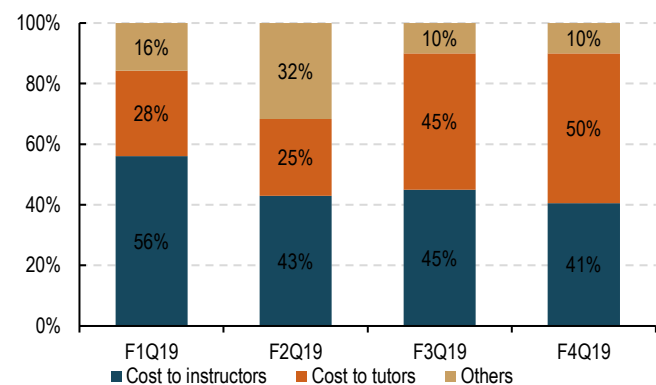
The increase of the number of students per instructor helps gross margin to reach ~80%.

Exhibit 36. GSX's gross margin from F4Q17 to F4Q19



Source: GSX Techedu Inc. (as of Apr 3, 2020)

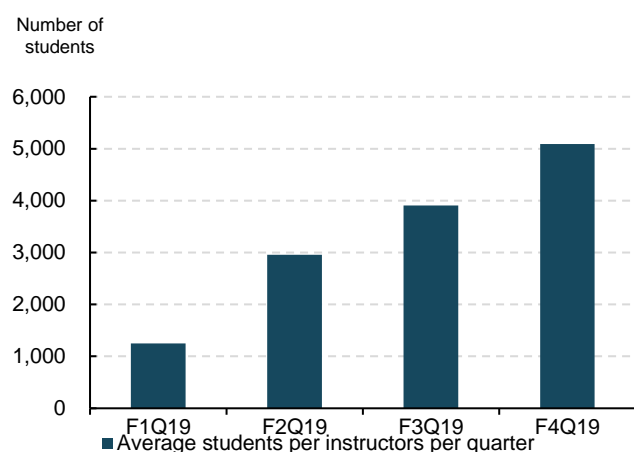
Exhibit 37. GSX Cost of revenue breakdown



Source: GSX Techedu Inc., Blue Lotus (as of Apr 3, 2020)

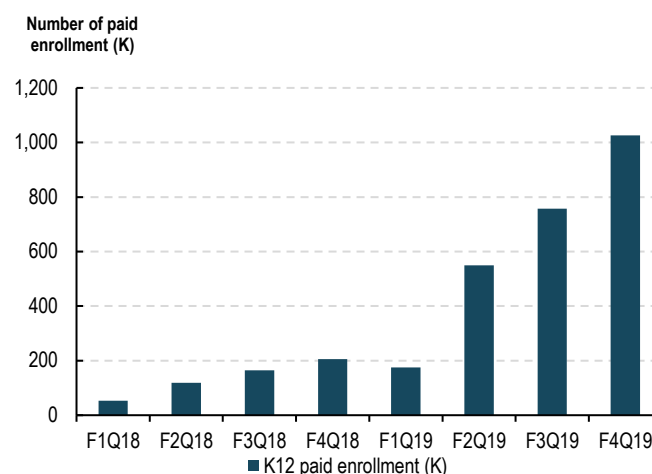
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Exhibit 38. Average students per instructors per quarter



Source: GSX Techedu Inc. (as of Apr 3, 2020)

Exhibit 39. GSX number of K12 paid enrolment



Source: GSX Techedu Inc., Blue Lotus (as of Apr 3, 2020)

Gross margin could maintain at ~77% in 2020

We expect GSX's gross margin is likely to maintain at ~77% in 2020 instead of street estimate of 76% as long as the paid enrollment higher than 1mn per quarter. According to our gross margin sensitivity test (Exhibit 40), once GSX's paid enrollment reach 1.2mn, then its gross margin could reach 79%. Moreover, if the paid enrollment reach 1.4mn, then the gross margin could reach 80%. However, after 81% gross margin, GSX needs more enrollment to increase 1ppt gross margin. For example, GSX need to has 500K new enrollment for gross margin to increase from 82% to 83% and has 800K new enrollment for gross margin to increase from 83% to 84%.

Gross margin could maintain at 77% in 2020 compare to street estimate of 76%.

Exhibit 40. GSX Gross margin sensitivity test

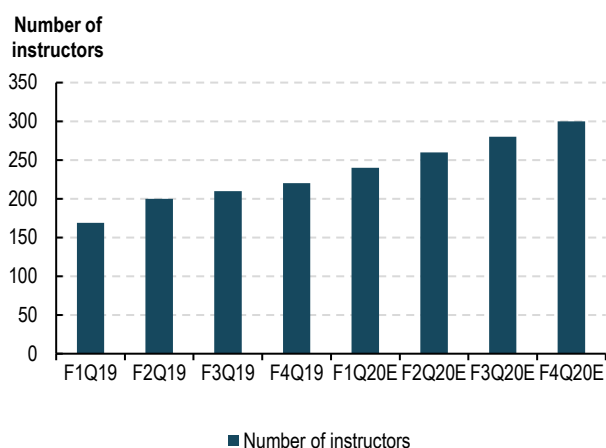
Gross margin	71%	74%	75%	76%	77%	78%	79%	80%	81%	82%	83%	84%
Quarterly revenue estimate (RMB mn)	492	574	656	738	779	902	984	1,148	1,312	1,558	1,968	2,624
Quarterly paid enrollment (K)	600	700	800	900	950	1,100	1,200	1,400	1,600	1,900	2,400	3,200
ASP (RMB)	820	820	820	820	820	820	820	820	820	820	820	820
Cost of revenue (RMB mn)	141	152	163	175	180	197	209	231	254	287	343	432
Cost of instructors (RMB mn)	73	73	73	73	73	73	73	73	73	73	73	73
Number of instructors	220	220	220	220	220	220	220	220	220	220	220	220
Cost per instructors (RMB K)	330	330	330	330	330	330	330	330	330	330	330	330
Cost of tutors (RMB mn)	56	65	75	84	89	103	112	131	149	177	223	296
Students to tutor ratio	300	300	300	300	300	300	300	300	300	301	302	303
Number of tutors (K)	2	2	3	3	3	4	4	5	5	6	8	11
Cost per tutor (RMB K)	28	28	28	28	28	28	28	28	28	28	28	28
Other costs (RMB mn)	12	14	16	18	19	22	24	28	32	38	48	64
average other cost per paid enrollment (RMB)	20	20	20	20	20	20	20	20	20	20	20	20

Source: GSX Techedu Inc., Blue Lotus (as of Apr 3, 2020)

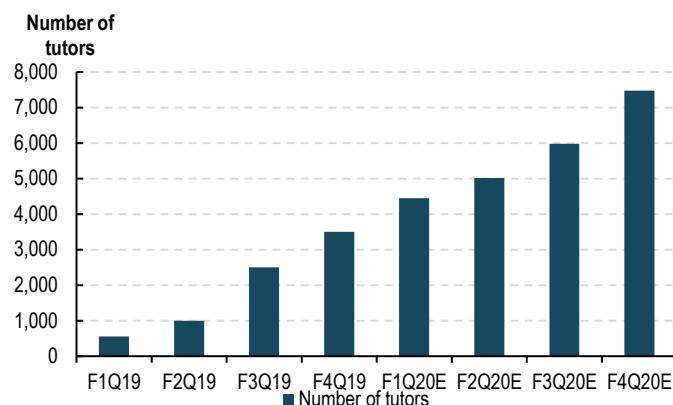
Exhibit 41. Number of GSX instructors estimate

Exhibit 42. GSX number of K12 paid enrolment

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Source: GSX Techedu Inc., Blue Lotus (as of Apr 3, 2020)



Source: GSX Techedu Inc., Blue Lotus (as of Apr 3, 2020)

Two marketing channels of GSX

Internal marketing channel helps GSX to grow from 0 to 1

GSX's marketing channels have two kinds: (1) internal channel and (2) external channel. The main internal channel for GSX is the WeChat official accounts. According to Xigua data, GSX has more than 70 accounts that active fans that higher than 20 thousands and the total active followers are more than 12mn. Using these WeChat official accounts, GSX send lots of advertorial to attract parents trying their online education courses. This marketing method is cheaper than traditional marketing method. That is the reason why GSX's marketing expense as percentage of total revenue in 2018 only 30.6% while its number of K12 paid enrollment quickly increased from 53K in F1Q18 to 206K in F4Q18.

12mn active followers on GSX WeChat official accounts.

Exhibit 43. GSX's WeChat Official Accounts selected

WeChat Official Account name	Active followers(k)	WeChat Official Account name	Active followers(k)
跟谁学	1,401	小学名师课	99
跟谁学英语	626	听书少年	96
高途课堂	607	阿干说金融	87
高中跟谁学	539	小学提分一站通	83
家长家	513	初中云课堂	81
中小学阅读吧	493	初中每日练	81
英语七点半	395	高途小学课堂	74
微师	387	苏打阅读	73
小学阅读课堂	378	初中满分指南	70
高中生学习课堂	334	语文智慧屋	69
高中状元计划	310	高中学霸成长计划	68
贝壳课堂	304	贝壳妈妈	68
初中一站通	250	高中生满分课堂	66
部编版小学生语文	238	初中跟谁学	65
跟谁学思维训练	194	高途初中大本营	65
小学满分资料库	178	微师亲子	64
高中名校试卷库	158	初中学习资料库	63
高中学霸指南	152	小学满分训练营	63
种草英语	143	跟谁学小学提分课	59

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中小学名师课	140	小学推荐书单	57
小学生学习必备	134	高中升学宝典	56
微师小学	128	初中课代表	55
贝壳之声	123	向光初中课堂	54
微师伴读	118	跟谁学高中学习	53
荷芽学堂	118	初中学习干货库	52
小学生资料大全	117	高中家长伴考	52
小学智慧讲堂	103	高中高分手册	50
初中提分计划	102	高中生在线学习	49
高中学习干货库	100	向光小学课堂	45

Source: Xigua data (as of Apr 3, 2020)

External marketing channel is the necessary step

However, traffic insides WeChat official accounts still limited. In order for GSX's enrollment to further increase, GSX need to seek the external marketing channel such as TikTok, Tencent news, etc. According to our tracking data, GSX started to increased marketing expenses on external channel in May 2019. GSX launched marketing campaigns on 18 different advertising platforms in May 2019 and 54 platforms in June 2019. The main reason that GSX's marketing expense raised from 37% in 1Q19 to 48% in 2Q19. However, these external marketing channels also help GSX's K12 paid enrollment increased 361% YoY and 214% QoQ to 549K in 2Q19.

External marketing channel increased GSX marketing expense and paid enrollment.

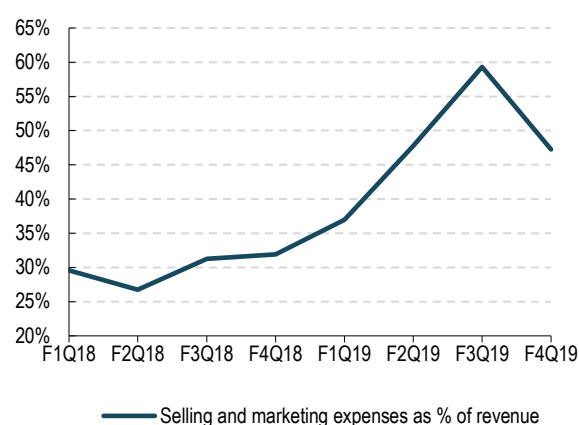
Exhibit 44. Online education advertising tracking data

Monthly	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
TAL (Xuersi.com)															
Number of advertising platforms	35	11	30	24	75	87	46	10	9	12	17	45	17	105	89
Yuanfudao															
Number of advertising platforms	15	16	52	65	76	74	10	2	71	40	26	13	16	55	90
GSX															
Number of advertising platforms	2	0	2	2	18	54	32	92	23	28	64	61	68	246	250
Zuoyebang															
Number of advertising platforms	1	-	-	7	11	7	1	1	6	4	8	8	2	82	85
Dao															
Number of advertising platforms	1	2	2	5	24	25	47	69	21	7	4	13	12	76	65
Koolearn															
Number of advertising platforms	11	3	17	3	9	9	21	46	21	29	28	15	16	123	118
Qingbei online class (清北网校)															
Number of advertising platforms	-	-	-	-	-	-	-	-	-	-	-	-	4	112	113

Source: Blue Lotus (as of Apr 3, 2020)

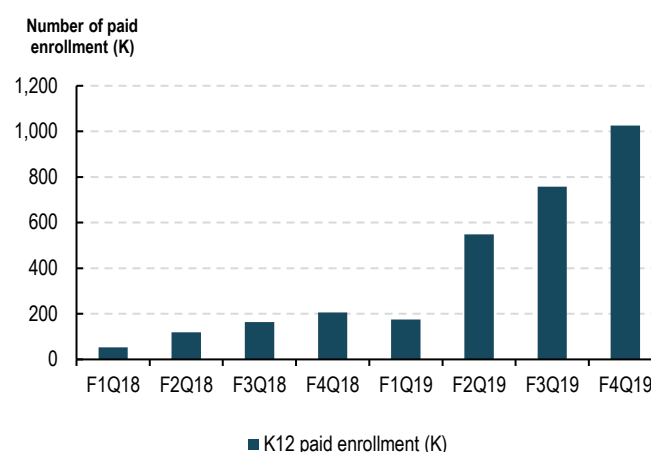
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Exhibit 45. Number of GSX instructors estimate



Source: GSX Techedu Inc., Blue Lotus (as of Apr 3, 2020)

Exhibit 46. GSX number of K12 paid enrolment



Source: GSX Techedu Inc., Blue Lotus (as of Apr 3, 2020)

Marketing expense is likely to remain high in near term

We expect the online education competition will still be intensive in 2020 and GSX's marketing expense as percentage of revenue will be around 50%~60% in 2020. According to our tracking data, we see GSX and other online education platforms have increased their marketing expense during the epidemic in 1Q20. For instance, TAL launched marketing campaigns on 105 different advertising platforms in Feb. 2020 (vs. 11 advertising platforms in Feb. 2019), and GSX launched marketing campaigns on 246 different advertising platforms in Feb. 2020 (vs. non in Feb. 2019).

Marketing expense is unlikely to reduce soon.

Kwai might be the next internal marketing channel

We see that GSX is exploring more internal marketing channels. Since the end of 2019, GSX has opened lots of Kwai accounts and upload short videos. Currently, GSX has about 20 Kwai accounts, with 3.8mn followers, and among that, 13 accounts have more than 100K followers. The short video content relates to language learning, parenting, etc. At this moment, those Kwai accounts do not include lots of advertorial. However, we see Kwai is likely to become GSX's next internal marketing channel and acquire students with a low cost.

GSX's Kwai accounts have 3.8mn followers currently.

Exhibit 47. GSX's Kwai Accounts selected

Kwai account name	Followers(K)
跟谁学·英语学霸笔记	527
跟谁学·语文自习室	451
跟谁学·趣味英语	410
跟谁学·高分课堂	380
跟谁学·语文课堂提分	343
高途课堂·学霸随身听	265
跟谁学·中学语文作文	258
跟谁学·文言文课堂	247
跟谁学·英语提分课堂	222
跟谁学·看电影学英语	204
跟谁学·家庭教育小秘籍	158
高途课堂·语文摘录本	118
高途课堂·听歌学英语	116
跟谁学·数学林老师	46

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跟谁学英语	19
高途课堂·快速提分	12
高途课堂·学霸笔记	7
跟谁学·快乐英语角	4
高途课堂·在线教育	2

Source: Kwai, Blue Lotus (as of Apr 3, 2020)

Valuation and peer analysis

We use terminal FCF growth rate at 5.0% and WACC at 16.5% to perform the valuation for GSX. Our DCF valuation model arrives at the target price at US\$50. For FY20/21, we estimate that net income Non-GAAP will be RMB 619/1,168mn, respectively, and EPS non-GAAP will be RMB 3.4/6.3, respectively.

Exhibit 48. DCF valuation table

RMB mn	F2017A	F2018E	F2019E	F2020E	F2021E	F2022E	F2023E	F2024E	F2025E
Revenue	98	397	2,115	6,050	10,864	15,120	19,303	23,790	28,916
EBIT	(92)	19	216	710	1,356	2,246	3,272	4,580	6,129
NOPAT	(88)	17	201	603	1,152	1,909	2,781	3,893	5,210
Capex, net	(0)	12	(42)	(121)	(217)	(302)	(386)	(428)	(434)
Depreciation & amortization	(5)	(4)	(10)	(14)	(39)	(82)	(143)	(220)	(305)
Change in working capital	8	25	1,040	2,994	4,185	4,299	4,479	5,364	7,511
Free operating CF (FOCF)	(85)	50	1,188	3,462	5,081	5,824	6,731	8,609	11,982
WACC	16.5%								
NPV of FOCF (Enterprise Value)	60,434								
- Net debt (cash), current	1,245								
- Minorities (Market value)	-								
= Equity value	61,678								
/Number of shares(mn)	172								
= NPV per share (US\$)	50								

Source: GSX Inc., Blue Lotus (as of Apr 3, 2020)

Exhibit 49. Peer comparison table

Company	Ticker	Price	Mkt Cap (US\$ mn)	PE (consensus)			PEG		PS (consensus)			Recommendation Blue Lotus
		(Local)		2019A	2020E	2021E	2020E	2019A	2020E	2021E		
New Oriental Edu.& Tech	EDU US	107.9	17,096	40	32	23	1.55	5.5	4.6	3.4	BUY	
TAL Edu. Group	TAL US	50.7	29,992	125	49	32	1.41	11.7	8.7	6.2	BUY	
Youdao Inc.	DAO US	19.4	2,165	N/A	N/A	N/A	N/A	1.7	0.8	0.4	N/A	
Koolearn.com	1797 HK	27.1	3,311	N/A	N/A	N/A	N/A	3.6	2.9	1.8	N/A	
51Talk	COE US	29.0	592	N/A	N/A	N/A	N/A	0.4	0.3	0.3	N/A	

Source: Bloomberg, Blue Lotus (as of Apr 3, 2020)

Annual Income Statement

Fiscal year ends 31-Dec

Exhibit 50. Annual income statement (Report Currency: RMB)

RMB (mn)	2018A	2019A	2020E	2021E	2022E	2023E	2024E
Net Revenues	98	397	2,115	6,050	10,864	15,120	19,303
Cost of Revenues	(25)	(143)	(536)	(1,382)	(2,682)	(3,373)	(3,902)
Gross profit	73	255	1,579	4,668	8,182	11,747	15,401
Selling and Marketing	(75)	(122)	(1,041)	(3,110)	(5,251)	(7,308)	(9,331)
Research and development expenses	(52)	(74)	(212)	(533)	(978)	(1,361)	(1,737)
General and Administrative	(37)	(40)	(110)	(315)	(598)	(832)	(1,062)
SBC	(6)	(6)	(60)	(153)	(274)	(381)	(487)
Income from operation	(98)	13	155	557	1,082	1,865	2,785
Non-GAAP operating income	(92)	19	216	710	1,356	2,246	3,272
Interest Income/Expense	0.2	2.2	10.3	7.8	7.8	7.8	7.8
Other Income/expense	2.0	0.1	6.3	16.7	16.7	16.7	16.7
Realized gains from investment	0.0	0.0	9.9	32.1	32.1	32.1	32.1
Earnings before Taxes	(91)	21	242	766	1,412	2,303	3,328
Provision for Income Tax	5	(3)	(17)	(115)	(212)	(345)	(499)
Loss from Equity Method Investments	(0.2)	0.9	1.3	2.4	2.4	2.4	2.4
Net Income to GSX, GAAP	(87)	18	225	652	1,200	1,957	2,829
Non-GAAP net income to GSX	(81)	24	286	804	1,474	2,338	3,316
GAAP Diluted EPADS(RMB)	(1.4)	(0.2)	1.1	3.6	6.5	10.3	14.4
Enrollment(K)	65	552	2,743	6,818	11,855	15,642	18,350

Source: GSX Inc, Blue Lotus (as of Apr 9, 2020)

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Annual Balance Sheet

Fiscal year ends 31-Dec

Exhibit 51. Annual Balance Sheet (Report Currency: RMB)

RMB (mn)	2018A	2019E	2020E	2021E	2022E	2023E	2024E
Current Assets	281	1,809	4,482	10,055	18,657	28,293	40,327
Cash and Cash Equivalents	33	74	1,275	4,912	10,276	16,592	24,068
Short-term Investments	198	1,473	1,972	3,393	5,515	8,019	10,975
Prepaid expenses and other current assets	49	261	1,235	1,750	2,865	3,682	5,284
Amount due from related party	1	0	0	0	0	0	0
Operating lease right-of-use assets	0	265	278	292	307	322	338
Property, equipment and software, net	17	82	155	333	553	797	1,005
Intangible assets, net	0	0	0	0	0	0	0
Long-term investments	5	1,188	1,188	1,188	1,188	1,188	1,188
Goodwill	0	0	0	0	0	0	0
Deferred tax assets	31	31	31	31	31	31	31
Rental deposit	4	19	19	19	19	19	19
Total Assets	338	3,395	6,153	11,919	20,756	30,650	42,909
Accrued expenses and other current liabilities	57	229	1,674	4,056	6,775	9,092	12,232
Current portion of the consolidated VIE	263	1,332	3,739	5,846	8,195	10,674	13,805
Amounts due to related parties	35	0	0	0	0	0	0
Others	0	76	76	76	76	76	76
Non-current portion of the consolidated VIE	9	6	6	6	6	6	6
Deferred tax liabilities of the consolidated VIE	0	0	0	0	0	0	0
Others	0	194	194	194	194	194	194
Ordinary shares	0	0	0	0	0	0	0
Treasury stock, at cost	0	(87)	(87)	(87)	(87)	(87)	(87)
Total Shareholders Equity	(26)	1,557	464	1,741	5,509	10,607	16,552
Total Liabilities & Shareholders Equity	338	3,395	6,153	11,919	20,756	30,650	42,866

Source: GSX Inc., Blue Lotus (as of Apr 9, 2020)

See the last page of the report for important disclosures

Annual Cash Flow Statement

Fiscal year ends 31-Dec.

Exhibit 52. Annual Cash Flow Statement (Report Currency: RMB)

RMB (mn)	2018A	2019E	2020E	2021E	2022E	2023E	2024E
Net Income	34	227	654	1,203	1,960	2,831	3,943
Depreciation & Amort.	2	10	15	39	82	143	220
loss from equity method investments	0	0	0	0	0	0	0
loss on disposal of PPE	0	0	0	0	0	0	0
Share-based compensation	4	60	153	274	381	487	600
Change in working capital							
Accrued expenses and others	21	172	1,445	2,382	2,719	2,317	3,139
Deferred revenue	19	1,066	2,407	2,107	2,350	2,479	3,131
prepaid expenses and others	(20)	(213)	(973)	(516)	(1,115)	(817)	(1,602)
Income tax payable	2	17	115	212	345	499	695
Amount due from related parties	1	(1)	0	0	0	0	0
Other assets	(6)	0	0	0	0	0	0
Cash from Operation	65	1,338	3,816	5,701	6,722	7,940	10,128
Purchase of short-term investment	(407)	(268)	(763)	(1,140)	(1,344)	(1,588)	(2,026)
Proceeds from maturity of short-term investments	350	231	658	983	1,159	1,369	1,746
Purchase of PPE	(1)	(65)	(73)	(179)	(220)	(243)	(208)
Cash from Investing	(58)	(103)	(179)	(337)	(407)	(464)	(489)
Cash from Financing	(0)	0	0	0	0	0	0
Foreign Exchange Rate Adj.	0	0	0	0	0	0	0
Cash Beginning	33	40	1,275	4,912	10,276	16,592	24,068
Cash End	40	1,275	4,912	10,276	16,592	24,068	33,706

Source: GSX Inc., Blue Lotus (as of Apr 9, 2020)

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