



China Education Sector

Mounting policy risk weighs on sector



農銀國際

ABC INTERNATIONAL
ABC1 SECURITIES COMPANY LIMITED



China Education Sector

Mounting policy risk weighs on sector

- Recent policy announcements signal the shift in attitude towards the education industry by the government; more regulatory oversights are put in place
- School network and student enrollment continue to rise; margin and growth performance has been solid
- We expect fundamental education (K-12) and higher education to face more challenges due to potential restrictions on M&A activities
- Sector valuation has been suppressed by tightening policies recently introduced, but recent share price surge shows investors are discounting the policy risk premium
- Maintain **BUY** on **Wisdom Education (6068 HK)** and **CEG (839 HK)**

Policy risk surges. Policies targeting various sub-segments of the education sector were announced in 2018 and tightening measures are introduced in preschool and K-12 after-school tutoring segments. The Committee Draft of Private Education Promotion Law, which has yet to be finalized and approved, could potentially restrict expansion of fundamental and higher education players. New measures to increase the compensation for teachers in compulsory education (Grade 1-9) segment would further drive up operating cost for some companies the fundamental education sub-segment. We believe these measures are part of the government's initiatives to encourage birth and consumption through reducing the cost of education.

The education industry is expanding. Companies in the education sector have seen average 18/19 school year enrollment growth reached 40.1% YoY. The education sector also diversifies with more sub-segments; 2018 witnessed the IPO of Beststudy (3978 HK) - the first company in K-12 after-school tutoring education in HK; some companies in professional education/training are also pending to be listed. Moreover, funding activities have been increasing in the sector as industry players are rushing to complete more M&A deals before the finalized version of the Private Education Promotion Law is announced.

Sector valuation is climbing despite lingering policy risk. The valuation of listed education companies has been suppressed by the introduction of new tightening measures. However, the education sector is experiencing a double-digit rebound and has been outperforming HSI in the past month, showing investors are discounting the policy risk premium. We believe that the industry's valuation would continue to fluctuate before the finalized version of the Private Education Promotion Law is announced.

Sector recommendations. We recommend **BUY** on **Wisdom Education (6068 HK)** and **CEG (839 HK)**. The two companies have shown consistent expansion with the highest student enrollment in their respective industry sub-segments. We expect they would also benefit from policies that boost the development of Greater Bay area.

Risk factors: 1) Change in demographic dynamics; 2) Policy risk; 3) Education quality and dropout risk; 4) Operation and reputation risk; 5) Expansion bottleneck risk.

Sector Valuation Summary

Company	Ticker	Price (HK\$)	FY19E P/E(x)	FY20E P/E (x)	FY19E P/B (x)	FY20E P/B (x)	FY19E Yield(%)	FY20E Yield(%)	FY19E ROAE(%)	FY20E ROAE(%)
Wisdom	6068 HK	3.54	16.10	11.90	2.69	2.19	2.18	2.95	18.22	20.31
Maple Leaf	1317 HK	3.66	11.26	9.24	2.10	1.81	3.61	4.44	18.93	20.82
Yuhua	6169 HK	3.27	11.51	10.10	2.05	1.87	4.08	4.36	19.01	18.98
Virscend	1565 HK	3.85	19.96	14.57	3.17	2.94	2.31	3.04	17.64	22.26
Tianli	1773 HK	1.83	13.05	8.70	1.33	1.20	N/A	N/A	10.64	15.68
CEG	839 HK	12.46	23.73	19.41	3.03	2.73	1.19	1.55	13.97	15.41
Minsheng	1569 HK	1.78	14.10	12.59	1.62	1.45	0.66	1.25	11.80	12.02
CNHE	2001 HK	4.61	13.60	10.78	2.42	2.06	2.18	2.76	18.56	20.04
Xinhua	2779 HK	2.79	13.49	11.21	1.51	1.36	1.72	2.05	11.75	12.55
Hope	1765 HK	1.23	14.22	11.44	1.69	1.52	1.14	1.33	11.82	12.96
Chunlai	1969 HK	1.58	4.83	3.98	0.86	0.74	7.10	8.14	17.49	18.59

Note: Data as of Feb 22, 2019

Source(s): Bloomberg, ABCI Securities estimates

Sector Report

Feb 25, 2019

NEUTRAL

Analyst : Paul Pan

Tel: (852) 2147 8829

Email: paulpan@abci.com.hk

Key Data

Avg.19E P/E (x)	14.17
Avg.19E P/B (x)	2.04
Avg.19E Dividend Yield (%)	2.62

Source(s):Bloomberg, ABCI Securities estimates

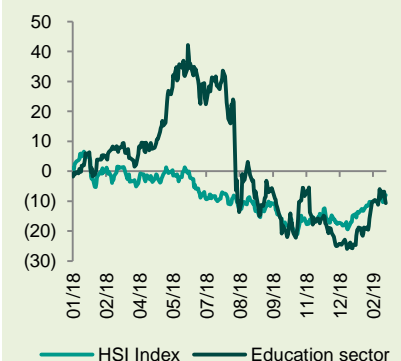
Sector Performance (%)

	Absolute	Relative*
1-mth	19.87	11.94
3-mth	12.86	(0.19)
6-mth	(34.20)	(27.87)

*Relative to HSI

Source(s): Bloomberg, ABCI Securities

1-Year sector performance (%)



Source(s): Bloomberg, ABCI Securities

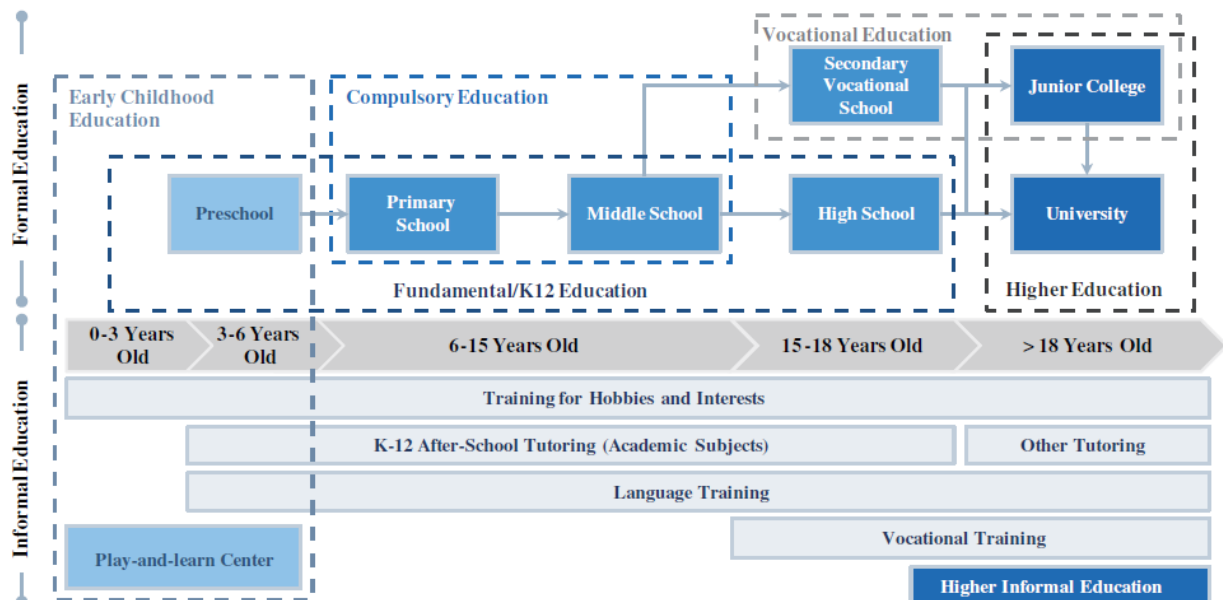


Policy review

A slew of new policies have been introduced in China's education industry since 2018, bringing increased regulatory oversights as well as new uncertainties. We believe the government remains supportive to the industry as a whole, but certain sub-segments (pre-school education and K-12 after-school tutoring) are now succumbed to more scrutiny than others.

We believe the government's attitude towards the education industry has changed. Instead of viewing the education industry as a source to boost consumption, it is now prioritizing to reduce the cost of education on the consumer side to encourage birth and free up spending power in other areas.

Exhibit 1: Preschool business of different listed education companies



Source(s): F&S

New policies will increase operating costs

We believe education policies launched in 2018 would increase the operating costs for the industry.

In Aug 2018, the MOE announced "Circular on Special Enforcement Campaign concerning After-school Training Institutions to Alleviate Extracurricular Burden on Students of Primary Schools and Middle Schools" (The Circular). The Circular details specific measures such as requiring instructors to obtain teacher qualification, setting the minimum floor space for each student, and enforcing a time limit for students taking classes. For the K-12 after-school tutoring sub-segment, these measures would drive up operating costs.

The policy to increase the salary level for teachers in the compulsory education industry (Grade 1-9) to the level akin to the public servants in the same region was announced at the National Teacher Conference in Nov 2018. This would increase the operating costs for fundamental education service providers.



We believe the education industry may face even higher costs in the future. Measures targeting specific sub-segments at present may expand to the entire industry in the future, resulting in higher operating and compliance costs.

Expansion model is bound to change

The government released policies to curb excessive profit-driven behaviors in 2018. The “Committee Draft of Private Education Promotion Law” (Committee Draft), which has not been finalized or approved, states that not-for-profit schools can no longer be acquired through M&A, franchising, and business agreement. In the new policies for preschool education, listed companies are prohibited from investing in for-profit preschools through equity financing while the not-for-profit preschools cannot be acquired through M&A.

Implications for the education industry as a result of these policies are: 1) If the Committee Draft is approved, K-12 school operators may need to rely more on organic growth in the future as compulsory education schools (Grade 1-9) can only apply to become a not-for-profit schools, and the pool of higher education institutions available for acquisition is generally smaller; 2) Higher funding cost for preschool operators as financing options will be narrowed.

Preschool education industry to be under pressure

Preschool education has been the focus of the authorities. After issuing the “Opinion on Deepening Reform for Preschool Education”, the State Council issued a new notice on the kindergartens in urban residential community in Jan 2019. This new notice lays out detailed measures to balance the supply-demand dynamic in the urban residential community and mandates the conversion of kindergartens in urban residential community to public schools or schools that benefit the masses.

We believe new policies on kindergartens highlight the government’s attempt to reduce the financial burden of education and promote birth in the country. We expect kindergartens in non-urban areas to be similarly regulated in the foreseeable future. The mandated conversion of schools would force preschool operators to rethink their business strategy. With uncertainties clouding over the sub-segment, we believe investor sentiment would be dampened.

Exhibit 2: Preschool business of different listed education companies

	Preschool/Total formal education ¹ enrollment (FY17)	Preschool/Total formal education ² revenue (FY17)
Wisdom	0.0%	0.0%
Maple Leaf	10.2%	4.1%
Virscend	1.0%	1.0%
Yuhua	5.0%	6.8%
Bojun	21.6%	31.0%
21st Century	9.5%	33.0%
Bright Scholar	37.3%	31.2%

Source(s): Companies, ABCI Securities



Policy on vocational education provides new room for growth

In Feb 2019, State Council released “The Notice on Reform Measures on Vocational Education”. The State Council lays out several targets to increase the number of vocational schools and encourage private capital to enter the market.

We believe the new policy would provide the HK-listed higher education players with growth opportunities, as the 2016/17 enrollment in vocational education programs only contributed to a small proportion of total enrollment among these players except for CEG and Xinhua (both above 18%). We are expecting more M&A activities in the vocational education space.

However, the Notice also states that a large number of higher education institutions offering bachelor degree education will be transformed into vocational schools. We believe that this would potentially intensify the competition in the market, with larger players having more advantages over the smaller counterparts.

Exhibit 3: Vocational education enrollment/ Total higher education enrollment of listed education companies (2016/17 school year)

CEG	Hope	Minsheng	CNHE	Yuhua	Xinhua	Chunlai	21 st Century	Gingko
839 HK	1765 HK	1569 HK	2001 HK	6169 HK	2779 HK	1969 HK	1598 HK	1851 HK
18.0%	11.1%	12.2%	0.0%	0.0%	18.6%	8.5%	9.8%	0.0%

Source(s): Companies, ABCI Securities

Higher education industry to be under the policy spotlight

“The Notice on Measures and Mechanism on Promoting Consumption in 2018-20” (The Notice) released by the State Council emphasizes on the opening-up of three sub-segments – preschool education, vocational education, and higher education. So far, policies for preschool education and vocational education have been announced; those for the higher education have not officially been launched. But according to the “Notice on Measures and Mechanism on Promoting Consumption in 2018-2020”, new policies for higher education would focus on introducing foreign programs and promoting foreign higher education institutions in China, revving up competition in the higher education industry.

Policy for Greater Bay Area would favor schools in Guangdong

The State Council recently announced the “Guangdong – Hong Kong - Macau Greater Bay Area Development Guidelines” (The Guidelines). The Guidelines provides a development framework for the education industry in the Greater Bay area. We believe that players with exposure in Guangdong would benefit from policies to boost development in the Greater Bay Area. For the higher education industry, we believe the new opportunities would come from more student exchange and cooperation among schools, driving new programs and higher student enrollment. For the fundamental education industry, the Guidelines aim to increase the region’s capacity of fundamental education and allow teachers from HK & Macau to obtain teacher qualification in Guangdong; such measures target to cope with the increasing demand resulted from increased population mobility. The Guidelines also plan to introduce world-class higher education institutions into the region, which can drive up competition in the region’s higher education sub-segment.

Policy risk in China’s education sector has risen

Policy risk in China’s education sector has been rising. The level of risk, however, varies among different sub-segments. Risk level of the K-12 after-school tutoring



農銀國際

ABC INTERNATIONAL

ABCI SECURITIES COMPANY LIMITED

China Education Sector- Neutral
Feb 25, 2019

industry is the lowest, since regulations have already been announced and industry participants have the policy details to follow. Policy uncertainty in the formal education sub-segment lingers since the Committee Draft Implementation of the Private Education Promotion Law has not yet been approved. Fundamental education and higher education are facing more risk in future expansion as the restriction on M&A activities would limit growth opportunities.



Exhibit 4: Recent regulations/policies on education industry

Regulation/Policy	Target	Objective
<p>Notice on Measures and Mechanism on Promoting Consumption in 2018-2020</p> <p>(国务院办公厅关于印发完善促进消费体制机制实施方案(2018—2020年)的通知 国办发〔2018〕93号)</p>	Entire education sector	<ol style="list-style-type: none"> 1) Accelerate the amendment process of the law for promoting private education 2) Experiment on the cooperation between corporations and education institutions, and encourage shareholding structure reform of vocational schools 3) Develop preschool/kindergarten education that benefits the mass - encourage local government to guide and support private preschool/kindergarten to provide education services at more favorable rates by purchasing services, reducing rent, and offering teaching staff support 4) Launch policies and measures to support the development of care service for children under the age of 3 5) Implement the opinion for regulating the after-school tutoring service providers 6) Encourage the introduction of high-quality higher education/vocational education resources; start high-level Sino-Foreign cooperation at program and school level; establish the mechanism in which education bureau and the local government jointly participate in the approval of Sino-Foreign education programs at above the bachelor level
<p>Guangdong – Hong Kong-Macau Greater Bay Area Development Guidelines</p> <p>(粤港澳大湾区发展规划纲要)</p>	Formal Education	<ol style="list-style-type: none"> 1) Encourage higher education institutions in the Area to recognize credits of designated courses, launch flexible exchange programs, and apply science for commercial use 2) Introduce world-class higher education institutions into the region to promote development of regional higher education industry 3) Encourage cooperation in employment, training, teacher-student communication, and professional skill competition for vocational education 4) Encourage cooperation among primary/middle/high schools in the area; set up classes and provide boarding services for the children of the residents from HK and Macau 5) Explore ways to open up the education industry for teachers in Grade 1-9 from HK & Macau by allowing them to acquire teacher qualification in Guangdong and apply for teaching positions in schools in Guangdong 6) Expand school capacity in the area to meet the needs resulted from increasing mobility within the area
<p>Committee Draft of the Implementation of the Law on Promoting Private Education in PRC - Revised Draft</p> <p>(Committee Draft of Private Education Promotion Law)</p> <p>(中华人民共和国民办教育促进法实施条例(修订草案)(送审稿))</p>	Entire education sector	<ol style="list-style-type: none"> 1) To provide national guidelines for provincial governmental authorities to issue their own implementation opinions and licensing measures in relation to the specific implementation methods and operative approaches of the amended law based on the local conditions 2) One of the newly-added policy is: Private education Groups cannot take control of not-for-profit private schools via M&A, franchising, or agreements
<p>State Council's Opinion on Regulating the Tutoring Industry</p> <p>(国务院办公厅关于规范校外培训机构发展的意见)</p>	K-12 after-school tutoring industry	<ol style="list-style-type: none"> 1) To provide guidance on regulating after-school training market for primary and secondary school students, including, among others, the operation standards that after-school training institutions should follow, the requirements and approvals necessary for opening new after-school training institutions, the guidance for daily operation of after-school training institutions, and the regulatory supervision scheme for after-school training institutions. 2) Avg. floor space per student during one tutorial session should be no less than 3sqm 3) Instructors in Chinese, Math, English, Physics, Chemistry, and Biology should obtain teacher qualifications 4) Tutorial centers cannot receive students' tuition payments for more than 3 months in advance 5) Contents of tutorial courses should not exceed the national guideline; students should be placed in courses that matches their grade levels
<p>Circular on Special Enforcement Campaign concerning After-school Training Institutions to Alleviate Extracurricular Burden on Students of Primary Schools and Middle Schools</p> <p>(关于切实减轻中小学生学习负担开展校外培训机构专项治理行动的通知)</p>	K-12 after-school tutoring industry	<ol style="list-style-type: none"> 1) Aims to alleviate after-school burden on primary and middle school students through inspection and rectification on after-school tutoring institutions 2) By end-June 2018, the process of surveying the industry condition should be completed 3) By end-2018, rectification process of non-compliance should be completed 4) By end-June 2019, the inspection and review processes should be completed



Cont'

Regulation/Policy	Target	Objective
Mandatory salary increase for teachers in Grade1-9 (全力保障义务教育教师工资待遇 不断提高教师职业吸引力)	Compulsory education (Grade 1-9)	<ol style="list-style-type: none"> 1) Emphasize the current regulations' guidance on salary level of teachers in compulsory education (Grade 1-9) 2) Increase the salary levels of teachers in compulsory education to match those of the civil servants in the same region 3) Solve the low salary issue of compulsory education teachers in three years
Opinion on Deepening Reform for Preschool Education (中共中央国务院关于学前教育深化改革规范发展的若干意见)	Preschool education	<ol style="list-style-type: none"> 1) Increase coverage of kindergartens that benefits the mass (普惠性幼儿园) to 80% by 2020; Increase the gross admission rate (毛入园率) for kindergarten to 85% by 2020 2) Complete the systematic establishment of preschool education related majors in bachelor/junior college and increase the number of bachelor/junior college graduates majoring in preschool education to 200k+ by 2020; increase the number of teachers/principals to 1.5mn 3) By 2035, coverage of preschool education for both urban and rural areas should be completed 4) Private kindergartens are prohibited to sell shares to the public either by themselves or as part of asset packages 5) Listed companies are not allowed to invest in private kindergartens through share sales or cash injections under the new policy 6) Private investors will be barred from backing public kindergartens
Notice on Reform Measures for Vocational Education (国家职业教育改革实施方案)	Vocational education	<ol style="list-style-type: none"> 1) By 2022, a large number of higher education institutions offering bachelor degree education would be transformed into institutions focusing on vocational education; 50 high-level vocational education schools should be established 2) By 2020, the number of outstanding vocational education groups should reach 300 3) Encourage different ownership structure in the development of vocational education industry 4) Establish a transparent mechanism that lays out threshold for entry and enables efficient approval for industry participants 5) Explore the negative list mechanism for private vocational education 6) Establish an exit mechanism for industry participants
Notice on Managing Kindergarten in Urban Residential Community (国务院办公厅关于开展城镇小区配套幼儿园治理工作的通知)	Preschool education	<ol style="list-style-type: none"> 1) The notice lays out the following tasks: * increase supply of kindergartens for urban residential community and ensure the construction of current and future kindergartens to be up to code; * ensure the timely transfer of kindergartens to local education authority; * after transfer, kindergartens should become public schools or schools that benefits the masses 2) By end-Apr 2019, the surveying of the condition for kindergartens for urban residential community should be completed 3) By end-Jun 2019, the transfer of existing kindergartens that have been waiting to be transferred should be completed 4) By end-Sep 2019, the transfer of existing kindergartens that have to be repurchased, reclaimed, or replaced should be completed 5) By end-Dec 2019, the required further construction of kindergartens should be completed; by end-Dec 2020, the inspection of these constructions should be completed

Source(s): gov.cn, ABCI Securities

Industry overview

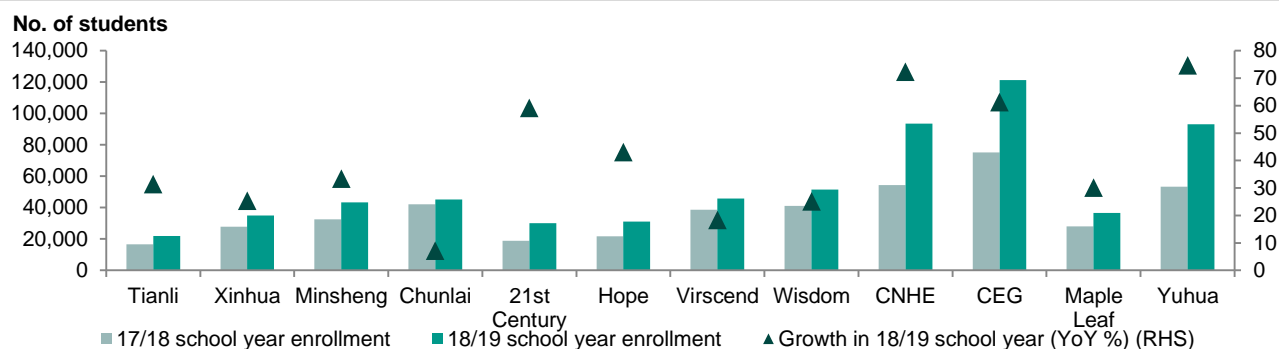
Continuous expansion

The education industry has been growing steadily, as reflected by the rising enrollment. Based on the latest figures, the average growth in enrollment reached 40.1% YoY for the HK-listed PRC education players. CEG's (839 HK) student enrollment topped 121,315, ranking first among peers.

The industry continues to see steady expansion through M&A, land acquisition, and new school openings. Wisdom Education (6068 HK) has recently acquired land in Shunde, Foshan and a school in Fujian; CEG has also acquired a school in Shandong. Before the finalization of Committee Draft of Private Education Promotion Law, which may potentially impose more restrictions on the sector, we believe companies, especially those with exposure in the compulsory education, would accelerate the pace of acquisition. We believe that the listed education companies with healthy balance and sufficient external financing would have better chance at getting more M&A deals done before the potential implementation of the new clause in the Law.



Exhibit 5: Enrollment of HK-listed education companies



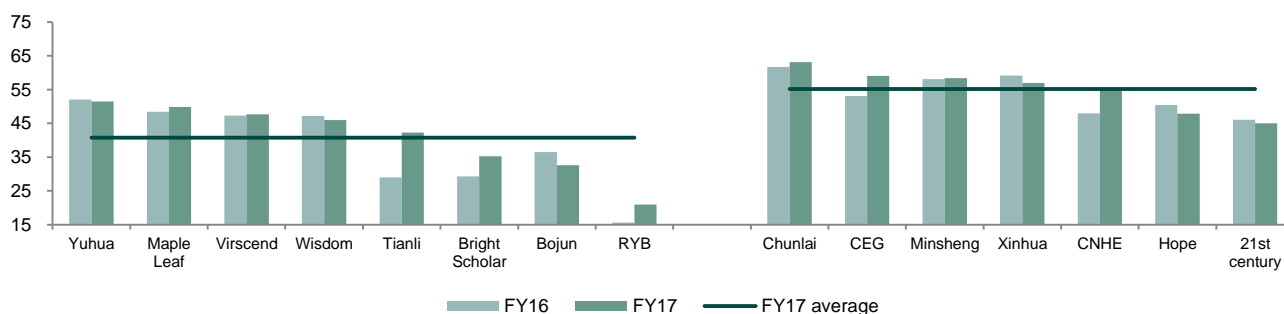
Source(s): Companies, ABCI Securities

Margins may be squeezed in the future

GPM and NPM of education players have been largely steady, with some showing improvements. Higher education continues to see higher margins than fundamental education, mostly due to the differences in student-to-teacher ratio required for different types of schools.

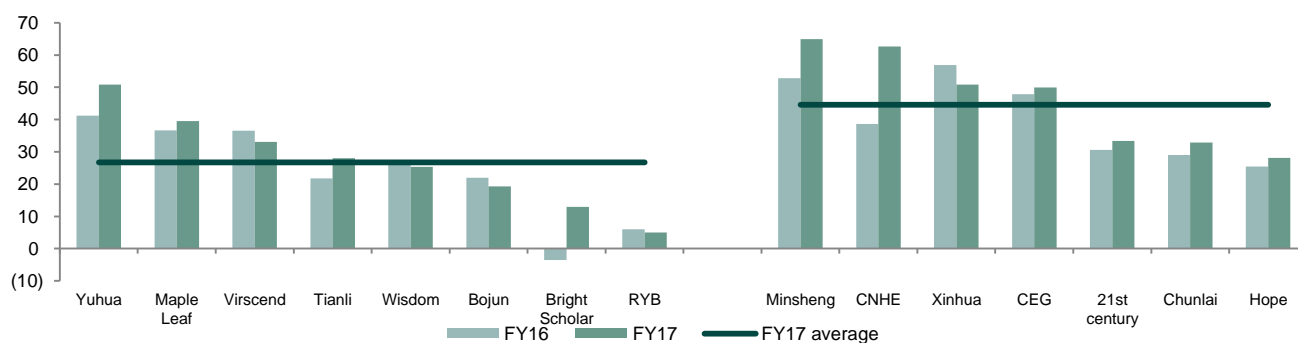
However, the education companies may see more downside pressure on their margins, especially the ones in the K-12 sub-segments. The two major influencing factors are: 1) government has shifted attitude toward the education industry (especially fundamental education) to reduce the burden and encourage higher consumption and birth rate; 2) new policies to increase the salary of teachers in compulsory education.

Exhibit 6: GPM of listed education companies (%)



Source(s): Companies, ABCI Securities

Exhibit 7: NPM of listed education companies (%)



Source(s): Companies, ABCI Securities



The blurring line among sub-segments

The listed education companies are moving quickly to expand business. E.g., 21st Century Education (1598 HK) had only three business segments: higher education, preschool education, and K-12 after-school tutoring education at the time of listing; Minsheng Education (1569 HK) extends into K-12 education by acquiring a high school and establishing a high school in 2018. We believe the trend of diversifying business would continue in the future.

More diversity in the education sector

As the number of HK-listed PRC education companies increases, diversity of the sector also grows. In 2018, Beststudy Education (3978 HK), the first K-12 after-school tutoring education pure play, was listed in HK. As of 1Q19, several players in professional tutoring/education are pending to be listed.

More external funding to support expansion

The number of education companies seeking external financing has been increasing to support rapid expansion. The rising streak of the China education sector in Mar-Jul 2018 as well as improving earnings have garnered substantial interest from investors. The capital structure of industry players would change as a result of funding activities.

Exhibit 8: Fundraising activities of HK-listed PRC education players

Company	Funding raising
CEG	Loan facility up to US\$200mn from International Finance Corporation (IFC), for a term of 7 years
Wisdom Education	Loan amount of HK\$ 500mn at a fixed rate of 6.8% per annum from PA Chokmah, a wholly-owned subsidiary of Ping An International, for a term of 24 months
Minsheng Education	RMB10 bn intentional financing and standby loan of RMB1 bn from Industrial and Commercial Bank of China Limited Chongqing Branch
Yuhua Education	Convertible bond of HK\$ 940mn at a rate of 3.00% per annum which is due in 2020
	Credit facility of RMB 14bn from CITIC Bank
CNHE	Term loan facility of HK\$ 150mn from CMBC Capital Finance Limited

Source(s): Companies, ABCI Securities

The increase of funding activities also signals more M&A activities in the education industry is in sight. As the finalized version of the Private Education Promotion Law may limit the acquisition of not-for-profit schools, we expect the number of acquisition would surge as companies are rushing to complete deals in case such a limitation is put in place.



Sector Valuation

Sector Valuation reduced by policy uncertainty

Recent policies regulating the education sector has dragged down share price performance and overall valuation declined as a result. The average 19E P/E of the HK-listed and US-listed education companies are at 14.17x and 26.17x as of end of Feb 22, 2019.

Exhibit 9: Peer valuation comparison

Ticker	ENG name	CHI name	FY end	P/E(x)		P/B (x)		Yield (%)		ROAA (%)		ROAE (%)	
				19E	20E	19E	20E	19E	20E	19E	20E	19E	20E
HK peers													
6068 HK	Wisdom	睿见教育	31-Aug	16.10	11.90	2.69	2.19	2.18	2.95	7.38	9.06	18.22	20.31
1317 HK	Maple Leaf	枫叶教育	31-Aug	11.26	9.24	2.10	1.81	3.61	4.44	11.26	12.19	18.93	20.82
6169 HK	Yuhua	宇华教育	31-Aug	11.51	10.10	2.05	1.87	4.08	4.36	11.86	11.93	19.01	18.98
1565 HK	Virscend	成实外教育	31-Dec	19.96	14.57	3.17	2.94	2.31	3.04	11.82	14.40	17.64	22.26
1773 HK	Tianli	天立教育	31-Dec	13.05	8.70	1.33	1.20	N/A	N/A	5.53	6.72	10.64	15.68
839 HK	CEG	中教控股	31-Dec	23.73	19.41	3.03	2.73	1.19	1.55	9.83	10.92	13.97	15.41
1569 HK	Minsheng	民生教育	31-Dec	14.10	12.59	1.62	1.45	0.66	1.25	8.56	8.58	11.80	12.02
2001 HK	CNHE	中国新高教	31-Dec	13.60	10.78	2.42	2.06	2.18	2.76	10.23	11.22	18.56	20.04
2779 HK	Xinhua	新华教育	31-Dec	13.49	11.21	1.51	1.36	1.72	2.05	10.38	10.96	11.75	12.55
1765 HK	Hope	希望教育	31-Dec	14.22	11.44	1.69	1.52	1.14	1.33	7.74	8.38	11.82	12.96
1969 HK	Chunlai	春来教育	31-Aug	4.83	3.98	0.86	0.74	7.10	8.14	9.41	9.95	17.49	18.59
US peers													
EDU US	New Oriental	新东方	31-May	24.76	19.54	4.46	3.64	0.75	0.93	11.34	12.29	18.12	18.48
TAL US	TAL	好未来	28-Feb	41.68	29.34	8.12	6.42	0.04	0.00	11.85	13.24	22.25	25.07
RYB US	RYB	红黄蓝	31-Dec	17.83	13.74	2.39	2.10	N/A	N/A	N/A	N/A	7.94	9.28
BEDU US	Bright Scholar	博实乐	31-Aug	20.41	18.99	N/A	N/A	N/A	N/A	N/A	N/A	12.16	12.34
<u>Average of HK peers</u>				<u>14.17</u>	<u>11.26</u>	<u>2.04</u>	<u>1.81</u>	<u>2.62</u>	<u>3.19</u>	<u>9.45</u>	<u>10.39</u>	<u>15.44</u>	<u>17.24</u>
<u>Average of US peers</u>				<u>26.17</u>	<u>20.40</u>	<u>4.99</u>	<u>4.05</u>	<u>0.39</u>	<u>0.47</u>	<u>11.59</u>	<u>12.77</u>	<u>15.12</u>	<u>16.29</u>

Note: Data as of closing on Feb 22, 2019

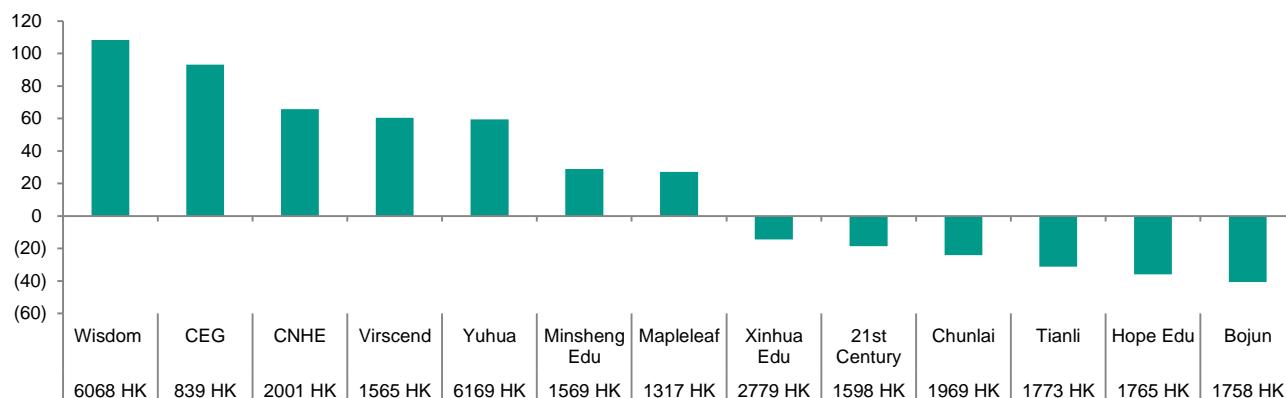
Source(s): Bloomberg, ABCI Securities estimates

Post-IPO performance of the education companies varies. Wisdom Edu (6068 HK) and CEG (839 HK) have the highest share price return since IPOs. Education companies which listed in 2018 saw negative price return, showing that share price volatility in 2018 may have a larger impact on these newly listed counters.

However, PRC education players in the Hong Kong stock market generally suffer from low trading value. Only CEG (839 HK), CNHE (2001 HK), Yuhua (6169 HK), and Maple Leaf (1317 HK) have an average daily trading value of over HK\$ 20mn in the past three months. The low trading value combined with the higher risk premium may render the sector less appealing to investors.



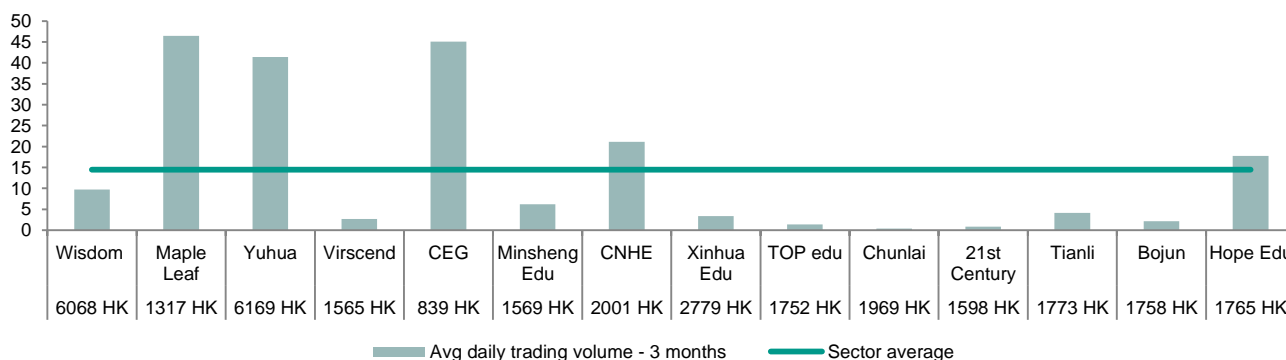
Exhibit 10: Post-IPO return (%)



Note: Data as of closing on Feb 22, 2019

Source(s): Companies, ABCI Securities

Exhibit 11: Average daily trading value in the past 3 months (HK\$ mn)



Note: Data as of closing on Feb 22, 2019

Source(s): Companies, ABCI Securities

Sector performance shows reducing fear in the market

Recent performance of the education sector has shown subsiding fear of policy uncertainty. A number of the HK-listed education companies recorded double-digit price increase in the past month. The recent price performance suggests that the market is slowly discounting the policy risk premium and is shifting the focus back to fundamentals of the sector. However, the sector still lacks upside catalyst at the moment. We expect sector performance would continue to fluctuate until the final version of the Private Education Promotion Law is announced.

Exhibit 12: Price change of selected HK-listed education companies (%)

	Wisdom 6068 HK	Maple Leaf 1317 HK	Yuhua 6169 HK	Virscend 1565 HK	CEG 839 HK	Minsheng 1569 HK	Xinhua 2779 HK	21 st Century 1598 HK
1-month	22.9	11.6	14.6	2.4	21.0	30.9	28.8	4.5
3-month	(3.2)	1.7	(0.9)	(12.5)	19.4	21.1	(0.6)	(9.7)
6-month	(49.3)	(48.5)	(45.8)	(26.8)	(22.0)	(16.0)	(42.2)	(55.3)

Note: Data as of closing on Feb 22, 2019

Source(s): Bloomberg, ABCI Securities



Sector recommendations

Aside from the usual factors such as margins, growth, and operation track record, regulatory oversight is an important factor to consider when investing in education companies. Preferences of certain sub-segments might be given by investors over others as a result of the distinctive characteristics of different sub-segments. We remain **NEUTRAL** on the sector due to the increased policy risk and uncertainty.

Wisdom Edu (6068 HK) and CEG (839 HK) are our sector top picks. The two companies have the highest student enrollment among peers in their respective sub-segments. Their school networks have also been expanding in a consistent manner. Moreover, with exposure in Guangdong, the two companies will both benefit from the newly announced “Guangdong – Hong Kong – Macau Greater Bay Area Development Guidelines”.

Wisdom Education (6068 HK): Leading player in fundamental education sector

- **Maintaining a leading position in the fundamental education industry.** Comparing the 2017/18 student enrollment figures among the HK-listed PRC fundamental education players, the Group is leading the pack at 41,180. The second largest player is Maple Leaf (1317 HK), whose enrollment reached 33,478. Meanwhile, enrollment in remaining peers was mostly under 30,000. According to the Group's latest announcement, its student enrollment further increased by 25.1% YoY to 51,520 as of Sep 1, 2018. We believe the Group would be able to maintain its leading position based on the latest acquisitions of land and schools. Its scale would allow for better cost efficiency and bargaining power in acquisitions.
- **Improving return and dividend payout for shareholders.** In FY18, ROAA and ROAE rose to 6.9% and 17.0% from 6.6% and 15.5% in FY17. The Group's dividend payout ratio was 51% in FY17 and 46% in FY18. We believe the payout ratio signals management's confidence on the earnings growth for the Group in the future.
- **Loan facility from Ping An Insurance Overseas.** On June 22, 2018, the Group entered into a loan agreement with PA Chokmah, an indirectly wholly-owned subsidiary of Ping An Insurance, for a principal amount of HK\$ 500mn repayable in two years. Up to 20% of the loan principal is eligible for converting into the Group's shares, which would result in potential dilution for existing shareholders upon conversion and new share issuance. The Group's leverage may further increase as it starts to tap into the loan facility for expansion.
- **New growth opportunities from Greater Bay policy.** The recently announced “Guangdong – Hong Kong- Macau Greater Bay Area Development Guidelines” provides new growth opportunities for the Group. We believe that increasing mobility within the Greater Bay region would drive demand for fundamental education. The Group could also launch new programs targeting professionals from HK& Macau working in Guangdong.
- **New education law may change expansion mode.** We believe the Group's spree of expansion in 2018, including the acquisition of a site in Shunde Foshan for new school construction and schools in Fujian province, Dongguan, and Shandong, reflects the general mentality in the industry to accelerate M&A projects before the announcement of the finalized Private Education Promotion

Law, which could hinder the Group's future M&A projects. Moreover, the Group has also demonstrated strong capability in expanding its school network organically. Our estimates based on the recent acquisitions of land and schools, show even without further M&A in the next three years, the student enrollment FY18-21E CAGR growth would still reach 20.1%.

- **Margins are expected to improve.** Despite policies on increasing salary for teachers in compulsory education has been announced, we believe the Group would not be affected as its teachers' salary level satisfies the requirements of the said policy, according to management. In addition, we believe that the scale and reputation of the Group enables room for students' ASP, which we expect to grow at FY18-21E CAGR of 4.3%. We expect cost efficiency would help enhance GPM and NPM (to owners of the Company) to expand from 43.7% and 24.9% in FY18 to 44.6% and 26.6% in FY21E.
- **Maintain BUY; lower TP to HK\$ 4.70.** Maintain **BUY** on the Group's track record of strong growth capability, expansion supported by recent acquisitions, and potential opportunities derived from initiatives in the Guangdong – Hong Kong-Macau Greater Bay Area. We expect the growth in both student enrollment and ASP would enable Group's FY18-21E revenue CAGR to reach 25.2%. DCF-derived TP is reduced to HK\$ 4.70 due to increased risk premium resulted from the potential change in expansion model. Current TP represents 21.38x/15.80x 19E/20E P/E or 3.57x/2.91x 19E/20E P/B.

CEG (893 HK): Leading player in higher education sector with the highest student enrollment among HK-listed peers

- **A leading higher education player in terms of student enrollment.** Student enrollments, according to the Group's website, increased to ~145k for the 2018/19 school year, the highest among the HK-listed peers in the higher education sub-segment. Its latest acquisition in Shandong is estimated to boost student enrollment by more than 7,500. We believe a substantial enrollment size would benefit its negotiations with M&A targets and enhance cost efficiency. However, we expect margin and growth to fluctuate in the short term due to the newly acquired schools.
- **External financing to fund expansion.** The Group has sought external financing to support acquisitions. The Group took a loan facility up to US\$ 20mn from IFC with a maturity of up to seven years. In June 2018, the Group has also entered into a framework agreement with Value Partner to establish the China Education Fund with a target AUM of RMB 5bn. We believe the new external funding may signal a steady pipeline for acquisition and continuous growth in student enrollment.
- **New growth opportunities from Greater Bay policy.** The "Guangdong – Hong Kong- Macau Greater Bay Area Development Guidelines" provides framework development plans to integrate higher education in the Greater Bay Area. We believe the Group could benefit from student exchange in the region and increase in student enrollment as new programs may be set up. However, competition in higher education would escalate as the Guidelines also propose to bring in world-class education institutions into the region.
- **Policies mainly affect expansion model.** The Group's M&A expansion would be affected if the new clause added in the Private Education Promotion Law is passed, but to a lesser degree due to the fact that higher education institutions can opt to register as for-profit and not-for-profit schools. In the meantime, new growth opportunities may emerge as policies promoting vocational education



have been announced. The Group may further accelerate its pace in M&A projects before the new education law is announced. We expect the student enrollment CAGR growth for the Group in 18-21E would be 6.0%, which is mainly attributed to the new schools acquired and the new campus for the Baiyun University.

- **Growth would mainly come from ASP.** Based on the policies announced, we are of the view that the higher education industry would be able to have more room to increase their ASP than peers in the K-12 sub-segments. We expect the Group would be able to achieve a 19.1% CAGR for its revenue per student in FY18-21E, which mainly comes from the increase of tuition level in the recently acquired schools.
- **Maintain BUY; TP at HK\$ 14.00.** We expect the student enrollment and revenue per student would push the FY18-21E revenue CAGR to be 26.1%. Maintain **BUY** on consistent expansion, leading position in higher education, supportive policies for vocational education, and potential opportunities from development plans for the Greater Bay Area. Our DCF-derived TP of HK\$ 14.00 was lower than our previous one due to the higher risk premium brought by the potential limitation on its M&A expansion model. Current TP represents 26.80x/21.81x FY19E/FY20E P/E or 3.57x/3.21x FY19E/FY20E P/B.

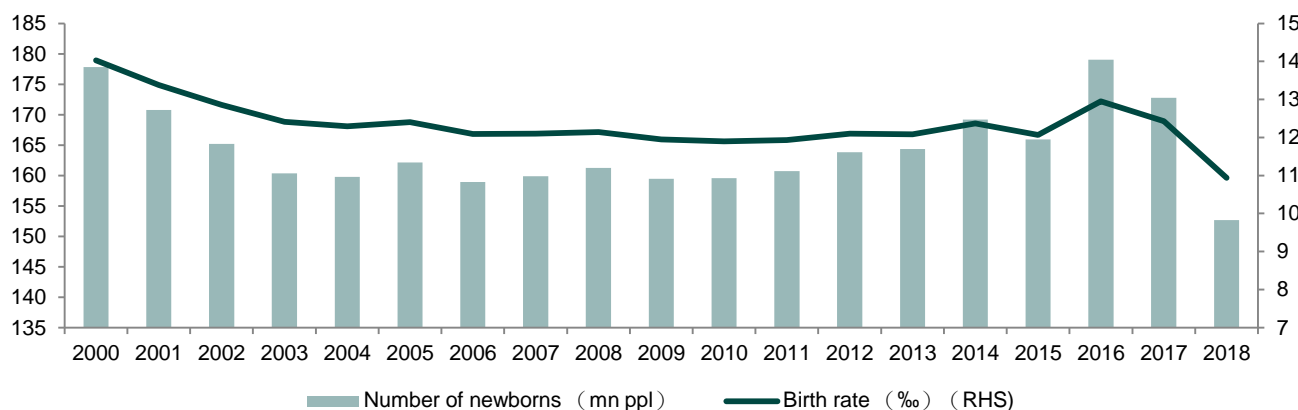


Risk factors

Demographic dynamics underlies the changing demand for education

According to NBS, birth rate in 2018 was 10.94‰ while the total number of birth was 15.23mn, representing a decline from previous years. Temporary spur in birth rate resulted from the two-child policy seems to be fading. We believe slowdown in population growth would weigh on the education industry, which could result in industry consolidation favoring the larger players.

Exhibit 13: Declining birth rate in China



Source(s): Companies, ABCI Securities

Policy uncertainty

Since the Committee Draft of Private Education Promotion Law has not been finalized, it remains uncertain whether the proposed legislation prohibiting the acquisition of not-for-profit schools would indeed be approved or if additional clauses will be included. We believe policies released in 2018 only signal the beginning of a more regulated environment – more regulations/policies can be expected, especially since details and scope of some of the announced policies are still unclear.

Education quality and dropout risk

Education quality is still highly valued in China. Education service providers have to maintain a consistent level of education quality in order to attract prospective students. If a school cannot maintain or improve its education quality, the number of student dropout may increase.

Operation and reputation risk

Educational service providers are highly susceptible to operation risk and the potential reputation damage as a result. Potential operation risk could arise from accidents occurring in campus and misconducts by teachers/students.

Expansion bottleneck risk

Approvals from authorities are required for expansion of education service providers. Such approvals involve admission quotas (the maximum number of students a school is permitted to admit each school year). If higher admission quota cannot be obtained, enrollment growth would be stalled.



農銀國際

ABC INTERNATIONAL

ABCI SECURITIES COMPANY LIMITED

China Education Sector- Neutral
Feb 25, 2019

The expansion of an education service provider is also constrained by capacity, which can be increased by expanding the facilities of existing schools, building new schools, or acquiring other schools. Failure to expand capacity would hamper growth.



Wisdom Education (6068 HK)

Consolidated income statement (2017A-2021E)

FY ended Aug 31 (RMB mn)	2017A	2018A	2019E	2020E	2021E
Revenue	979	1,247	1,585	2,054	2,450
- Tuition fees	596	788	967	1,258	1,491
- Boarding fees	75	102	125	159	187
- Ancillary service	308	406	492	637	772
Cost of sales	(529)	(702)	(884)	(1,138)	(1,357)
Gross Profit	450	545	701	917	1,093
S&D expenses	(17)	(19)	(25)	(30)	(37)
Admin expenses	(126)	(221)	(242)	(339)	(389)
Listing expenses	(10)	0	0	0	0
Others	(15)	52	27	43	65
EBIT	282	357	461	591	732
Finance cost	(11)	(11)	(31)	(18)	(13)
Profit before tax	270	346	430	573	719
Tax	(70)	(38)	(46)	(54)	(68)
Total net profit	200	307	383	519	651
- Owners of the Company	200	310	383	519	651
- Minority interest	(0)	-3	0	0	0
Dividend	102	142	115	156	195
Per share					
Basic EPS (RMB cent)	11.00	15.00	18.79	25.43	31.91
DPS (RMB cent)	5.79	7.88	6.53	8.84	11.09
Payout ratio (%)	50.9	46.1	30.0	30.0	30.0
BVPS (RMB)	0.86	0.94	1.13	1.38	1.70
Growth %					
Revenue	39.73	27.35	27.07	29.64	19.26
Gross Profit	36.16	21.12	28.62	30.80	19.26
Net profit (to owners of the Company)	29.71	55.01	23.45	35.34	25.48
Margin %					
Gross margin	45.9	43.7	44.2	44.6	44.6
Net margin (to owners of the Company)	20.4	24.9	24.2	25.2	26.6
Key assumptions					
Student enrollment (ppl)	31,788	43,230	51,520	64,911	74,817
Revenue per student (RMB k)	30.80	28.84	30.76	31.65	32.74

Source(s): Company, ABCI Securities estimates



Wisdom Education (6068 HK)

Consolidated balance sheet (2017A-2021E)

FY ended Aug 31 (RMB mn)	2017A	2018A	2019E	2020E	2021E
Cash	378	911	458	810	922
Deposits, prepayments and other receivables	26	162	35	247	74
Other current assets	201	395	497	570	633
Current assets	604	1,468	991	1,627	1,628
Property, plant & equipment	1,779	2,492	2,654	3,219	3,842
Investment properties	20	21	27	35	42
Other non-current assets	1,190	1,344	1,391	1,502	1,647
Non-current assets	2,990	3,857	4,072	4,757	5,532
Total Assets	3,594	5,325	5,063	6,384	7,160
ST Deferred revenue	423	617	707	1,041	1,025
ST borrowings	155	282	324	384	423
Other payables and accruals	335	372	515	626	734
Other current assets	181	197	90	265	166
Current Liabilities	1,094	1,468	1,635	2,317	2,348
LT borrowings	467	1,425	913	1,035	1,099
Other non-current assets	26	4	54	47	73
Non-current liabilities	493	1,429	967	1,083	1,172
Shareholders' Equity	1,746	1,911	2,294	2,813	3,464
Minority Interest	0	66	66	66	66
Total Equity	1,746	1,977	2,361	2,879	3,530
Total Liabilities and equity	3,332	4,874	4,963	6,279	7,050
Leverage ratio (%)					
Debt to equity	35.6	107.7	52.4	49.3	43.1
Debt to assets	17.3	40.0	24.4	22.2	21.3
Net debt to equity	14.0	61.6	33.0	21.2	17.0
Net debt to assets	6.8	22.9	15.4	9.6	8.4
Return ratios (%)					
ROAA	6.6	6.9	7.4	9.1	9.6
ROAE	15.5	17.0	18.2	20.3	20.7

Source(s): Company, ABCI Securities estimates



Wisdom Education (6068 HK)

Consolidated cash flow statement (2017A-2021E)

FY ended Aug 31 (RMB mn)	2017A	2018A	2019E	2020E	2021E
Pretax profit	270	346	430	573	719
Change in Working Capital	(339)	101	375	258	276
Others	463	96	136	171	223
Operating cash flow	393	543	941	1,003	1,217
CapEx	(576)	(910)	(584)	(849)	(986)
Others	109	(528)	161	66	(169)
Investing cash flow	(467)	(1,438)	(422)	(783)	(1,156)
Change in bank borrowings	14	1,508	(893)	183	102
Others	360	(80)	(79)	(51)	(52)
Financing cash flow	374	1,428	(972)	132	50
Net cash inflow/ (outflow)	300	533	(453)	352	112
Cash- beginning	104	378	911	458	810
Forex Impact	(26)	(13)	(7)	(3)	(2)
Cash- year-end	378	911	458	810	922

Source(s): Company, ABCI Securities estimates



CEG (839 HK)

Consolidated income statement (2018E-2022E)

FY ended Aug 31 (RMB mn)	2016A ⁽³⁾	2017A ⁽³⁾	8M18A	2018E ⁽¹⁾⁽²⁾	2019E	2020E	2021E
Revenue	861	949	933	1,294	1,867	2,276	2,596
- Tuition fees	786	858	845	1,175	1,690	2,049	2,309
- Boarding fees	54	65	76	83	118	142	162
- Ancillary services	21	26	12	36	59	85	125
Cost of sales	(405)	(389)	(360)	(497)	(843)	(964)	(1,106)
Gross Profit	457	560	573	797	1,024	1,312	1,490
Selling expenses	(9)	(10)	(18)	(21)	(14)	(26)	(30)
Admin expenses	(102)	(133)	(168)	(212)	(256)	(324)	(374)
Others	0	(45)	25	34	175	183	197
Finance costs	(15)	(18)	(24)	(31)	19	(8)	(9)
Profit before tax	425	423	388	567	949	1,137	1,275
Tax	(2)	(2)	13	13	(42)	(28)	(34)
Net profit from operation	423	421	401	579	907	1,109	1,240
Net profit from discontinued operation	(11)	7	0	0	0	0	0
Total net profit	413	429	401	579	907	1,109	1,240
- Owners of the Company	411	429	358	536	902	1,103	1,234
- Minority interest	1	0	43	43	5	6	6
Dividend	0	0	133	133	272	333	372
Per share							
Basic EPS (RMB cents)	27.42	28.16	17.70	28.68	44.89	54.88	61.39
DPS (RMB cents)	0.00	0.00	6.56	6.56	12.72	16.46	18.42
Payout ratio (%)	0.00	0.00	33.1	22.9	30.0	30.0	30.0
BVPS (RMB)	1.68	2.79	3.20	3.20	3.51	3.90	4.33
Growth %							
Revenue	1.8	10.2	N/A	N/A	44.3	21.9	14.1
Gross Profit	6.2	22.6	N/A	N/A	28.5	28.1	13.6
Net profit (to owners of the Company)	18.3	4.3	N/A	N/A	68.4	22.3	11.9
Margin %							
Gross margin	53.0	59.0	61.4	61.6	54.9	57.6	57.4
Net margin (to owners of the Company)	47.8	45.2	38.3	41.4	48.3	48.5	47.5
Key assumptions							
Student enrollment (ppl)	63,367	75,255	N/A	133,365	145,373	160,433	167,070
Revenue per student (RMB k)	13.6	12.6	N/A	9.70	12.85	14.19	15.54

Note:

- 1) The Group changed its FY-end to Aug 31 from Dec 31 in 2018 and only disclosed income statement data for Jan-Aug 2018, FY-17 data is not available and data from FY18 onward are estimates
- 2) 2018E data estimated by combining 8M18 results and proportionated 2017A results
- 3) 2016&2017 data are as of Dec 31

Source(s): Company, ABCI Securities estimates



CEG (839 HK)

Consolidated balance sheet (2018A-2022E)

FY ended Aug 31 (RMB mn)	2016A ⁽²⁾	2017A ⁽²⁾	2018A ⁽¹⁾	2019E	2020E	2021E
Cash	247	3,243	1,738	2,468	3,237	4,657
Trade receivables, deposits, prepayments and other receivables	40	72	130	18	182	72
Other current assets	1,042	56	190	333	420	574
Current assets	1,329	3,370	2,059	2,820	3,839	5,303
Property, plant & equipment	2,416	2,639	3,259	3,443	3,259	3,273
LT Prepaid lease payment	51	55	63	77	75	74
Goodwill	0	326	917	962	962	962
Intangible assets	0	240	994	1,024	1,055	1,086
Other non-current assets	71	43	1,442	1,385	1,410	1,444
Non-current assets	2,537	3,302	6,675	6,891	6,761	6,840
Total Assets	3,866	6,672	8,733	9,712	10,600	12,143
ST Contracted liabilities	595	727	1,038	1,503	1,593	1,940
ST Borrowing	210	0	0	0	0	0
Trade payables, other payables and accrued expenses	217	208	566	604	555	812
Other current assets	48	12	143	158	160	168
Current Liabilities	1,070	947	1,747	2,264	2,308	2,920
Long term borrowings	243	0	130	106	129	155
Other non-current assets	26	86	394	245	289	326
Non-current liabilities	269	86	524	351	418	482
Shareholders' Equity	2,524	5,639	6,143	6,773	7,544	8,406
Minority Interest	4	0	319	324	329	335
Total Equity	2,527	5,639	6,462	7,097	7,873	8,741
Total equities and liabilities	3,866	6,672	8,733	9,712	10,600	12,143
Leverage ratio (%)						
Debt to equity	17.9	0.0	3.7	3.0	3.0	3.0
Debt to assets	11.7	0.0	2.7	2.2	2.2	2.2
Net debt to equity	8.1	(57.5)	(23.2)	(31.8)	(38.1)	(50.3)
Net debt to assets	5.3	(48.6)	(17.2)	(23.2)	(28.3)	(36.2)
Return ratio (%)						
ROAA	11.3	8.1	N/A	9.8	10.9	10.9
ROAE	17.7	10.5	N/A	14.0	15.4	15.5

Note:

1) The Group changed its FY-end to Aug 31 from Dec 31 in 2018 and only disclosed balance sheet data as of Aug 31, 2018, FY17 data adjusted for the new FY-end is not available and data from FY19 onward are estimates

2) 2016&2017 data are as of Dec 31

Source(s): Company, ABCI Securities estimates



CEG (839 HK)

Consolidated cash flow statement (2018E-2022E)

FY ended Aug 31 (RMB mn)	2016A ⁽²⁾	2017A ⁽²⁾	2018E ⁽¹⁾	2019E	2020E	2021E
Net profit	413	429	579	907	1,109	1,240
Depreciation	113	123	134	152	167	179
Change in Working Capital	(38)	223	485	318	268	189
Others	(6)	(15)	156	213	196	116
Operating cash flow	481	760	1,356	1,590	1,739	1,725
Capex	(298)	(370)	(405)	(454)	(319)	(296)
Others	(275)	611	(55)	(90)	317	(360)
Investing cash flow	(573)	241	(460)	(544)	(2)	(656)
Change in borrowing	(8)	(453)	86	(24)	23	26
Interest paid	(27)	(21)	(31)	19	(8)	(9)
Others	0	2,469	(133)	(272)	(333)	(372)
Financing cash flow	(34)	1,995	(77)	(277)	(318)	(355)
Net cash inflow/ (outflow)	(127)	2,996	818	769	1,420	714
Cash- beginning	374	247	1,650	2,468	3,237	4,657
Cash- year-end	247	3,243	2,468	3,237	4,657	5,370

Note:

1) The Group changed its FY-end to Aug 31 from Dec 31 in 2018 and did not disclose cash flow statement data adjusted for the new FY-end, data from FY18 onward are estimates

2) 2016&2017 data are as of Dec 31

Source(s): Company, ABCI Securities estimates



Disclosures

Analyst Certification

I, Pan Hongxing, Paul, being the person primarily responsible for the content of this research report, in whole or in part, hereby certify that all of the views expressed in this report accurately reflect my personal view about the subject company or companies and its or their securities. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed in this report. I and/or my associates have no financial interests in relation to the listed company (ies) covered in this report, and I and/or my associates do not serve as officer(s) of the listed company (ies) covered in this report.

Disclosures of Interests

ABCI Securities Company Limited and/or its affiliates, within the past 12 months, have investment banking relationship with one or more of the companies mentioned in the report.

Definition of equity rating

Rating	Definition
Buy	Stock return rate \geq Market return rate (10%)
Hold	- Market return rate (-10%) \leq Stock return rate < Market return rate (+10%)
Sell	Stock return < - Market return (-10%)

Notes: Stock return rate: expected percentage change of share price plus gross dividend yield over the next 12 months

Market return rate: average market return rate since 2005 (HSI total return index 2005-17 CAGR at 10%)

Time horizon of share price target: 12-month

Stock rating, however, may vary from the stated framework due to factors including but not limited to: corporate governance, market capitalization, historical price volatility relative to corresponding benchmark index, average daily turnover of the stock relative to market capitalization of the stock, competitive advantages in corresponding industry, etc.

Disclaimers

This report is for our clients only and is for distribution only under such circumstances as may be permitted by applicable law. It has no regard to the specific investment objectives, financial situation or particular needs of any specific recipient. It is published solely for informational purposes and is not to be construed as a solicitation or an offer to buy or sell any securities or related financial instruments. No representation or warranty, either expresses or implied, is provided in relation to the accuracy, completeness or reliability of the information contained herein. This report should not be regarded by recipients as a substitute for the exercise of their own judgment. Any opinions expressed in this report are subject to change without notice and may differ or be contrary to opinions expressed by other business areas as a result of using different assumptions and criteria. The analysis contained herein is based on numerous assumptions. Different assumptions could result in materially different results. The analyst(s) responsible for the preparation of this report may interact with trading desk personnel, sales personnel and other constituencies for the purpose of gathering, synthesizing and interpreting market information. ABCI Securities Company Limited is under no obligation to update or keep current the information contained herein. ABCI Securities Company Limited relies on information barriers to control the flow of information contained in one or more areas within ABCI Securities Company Limited, into other areas, units, groups or affiliates of ABCI Securities Company Limited. The compensation of the analyst who prepared this report is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues, however, compensation may relate to the revenues of ABCI Securities Company Limited as a whole, of which investment banking, sales and trading are a part. The securities described herein may not be eligible for sale in all jurisdictions or to certain categories of investors. The price and value of the investments referred to in this research and the income from them may fluctuate. Past performance is not necessarily indicative of future results. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument mentioned in this report. For investment advice, trade execution or other enquiries, clients should contact their local sales representative. Neither ABCI Securities Company Limited nor any of its affiliates, directors, employees or agents accepts any liability for any loss or damage arising out of the use of all or any part of this report. Additional information will be made available upon request.

Copyright 2019 ABCI Securities Company Limited

No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without the prior written consent of ABCI Securities Company Limited.

Office address: ABCI Securities Company Limited, 13/F Fairmont House, 8 Cotton Tree Drive, Central, Hong Kong.

Tel: (852) 2868 2183