



農銀國際

ABC INTERNATIONAL

ABCI SECURITIES COMPANY LIMITED



China Telecom Sector

5G will be the next big thing



China Telecom Sector

5G will be the next big thing

- The MIIT has allocated the 5G trial frequency bands to the three major telecom operators for usage until 2020; operators will speed up 5G network development.
- Owing to low-end user migration, 4G user penetration rate reached over 74.5% in 2018
- Due to the launch of "Speed Upgrade and Tariff Reduction", ARPU will be pressured in 2019
- Our sector rating is **OVERWEIGHT**, with **China Mobile (941 HK)** and **China Tower (788 HK)** as the top picks. China Mobile has a high dividend yield than peers; its healthy financial conditions and dominant positions in mobile and wireline businesses also support our favorable view. Meanwhile, China Tower will benefit from increasing tower demand in 2019, spurred by the need for network improvement and 5G network trials

China Mobile dominates the mobile and wireline broadband businesses in China. As of Dec 2018, mobile market shares of China Mobile/ China Unicom (762 HK)/ China Telecom (728 HK) were 60.0%/ 20.4%/ 19.6%. China Mobile managed to surpass China Telecom as China's largest wireline broadband provider in Oct 2018.

5G network development speeds up in China. China targets to expedite 5G network development to boost domestic consumption and raise mobile internet penetration. China Mobile, China Unicom and China Telecom are assigned with 2.6GHz & 4.9GHz/ 3.5GHz/ 3.5GHz bands for 5G network.

4G user penetration rate reached 74.5% in Dec 2018. According to MIIT, mobile business accounted for 70.2% of total telecom revenue among operators in 2018. Such revenue was mainly derived from mobile data services and value-added services. China's mobile users reached 1.57bn in Dec 2018, with over 149mn mobile user additions in 2018. According to MIIT, as of Dec 2018, 4G users reached 1.17bn, which represented 74.5% of total mobile users in China. 4G penetration rate keeps improving due to customer upgrade.

Downward pressure on mobile data charges. In accordance with the government's instruction, telecom operators cancelled domestic data roaming tariff and lowered mobile data service fee by over 30% in 2018, dragging down the mobile ARPU with the lower mobile data unit price. According to MIIT, the average price per unit of mobile data dropped 56.7% YoY in 2018.

Demand for telecom towers is growing. Driven by the need to improve 4G network coverage and the impending 5G network rollout, telecom towers demand is expected to grow. China Tower, with its denser base station distribution and better network coverage in China, is well positioned to capture demand from operators.

Maintain BUY for China Mobile and China Tower. We assign the **OVERWEIGHT** rating for the sector on the back of expedited 5G network rollout and robust growth in mobile data usage in China. Our sector top picks are **China Mobile** and **China Tower**. China Mobile dominates the mobile and fixed-line market with attractive dividend yield; China Tower is expected to be benefit from the 5G network development.

Risks: 1) ROE is expected to decrease among telecom operators; 2) Further tariff reduction would affect telecom operators; 3) Deferred launch of 5G network

Sector Report

Feb 19, 2019

OVERWEIGHT

Analyst : Ricky Lai

Tel: (852) 2147 8895

Email: rickylai@abci.com.hk

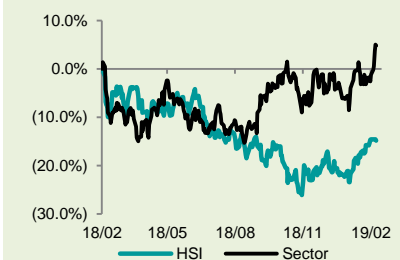
Sector Performance

	Absolute	Relative*
1-mth	5.3%	0.4%
3-mth	(2.7%)	(5.5%)
6-mth	(3.1%)	(8.0%)

*Relative to HSI

Source(s): Bloomberg, ABCI Securities

1-Year sector performance



Source(s): Bloomberg, ABCI Securities

Sector Valuation Summary (Data as of Feb 18, 2019)

Company	Ticker	Rating	Price (HK\$)	TP (HK\$)	FY19E P/B(x)	FY20E P/B (x)	FY19E P/E (x)	FY20E P/E (x)	FY19E Yield(%)	FY20E Yield(%)
China Unicom	762 HK	HOLD	9.17	9.50	0.7	0.7	17.5	12.9	2.4	3.1
China Mobile	941 HK	BUY	83.30	90.00	1.4	1.3	12.4	11.8	4.0	4.2
China Telecom	728 HK	HOLD	4.32	4.00	0.9	0.8	13.6	12.3	3.1	3.3
China Tower	788 HK	BUY	1.84	2.00	1.3	1.3	45.0	28.9	1.3	2.0

Source(s): Bloomberg, ABCI Securities estimates



農銀國際

ABC INTERNATIONAL

ABCI SECURITIES COMPANY LIMITED

Contents

Industry analysis4

Mobile business5

Fixed-line business9

Financial Analysis 11

Risk factors13

Financial Statements 14

Disclosures26



Industry analysis

A series of initiatives, including “Broadband China” and “Speed Upgrade and Tariff Reduction”, have been implemented in the telecom sector in recent years to improve mobile internet penetration, enhance data transmission speed, and boost 4G user growth. According to China’s 13th Five-Year Plan, mobile internet penetration is expected to increase to support information consumption. In Aug 2018, MIIT and NDRC released the “Three-Year Action Plan for Expanding and Upgrading Information Consumption (2018-20)”. The Plan targets to expand optical coverage in urban areas with access of more than 100Mbps by 2020 and make optical fiber readily accessible for 98% of administrative villages with 4G network coverage. By following the regulatory action plans, telecom operators have eliminated domestic data roaming tariff and lowered handset service tariff by 30% in 2018 to boost mobile internet penetration rate and stimulate domestic consumption.

In Dec 2018, MIIT allowed the transfer of mobile phone number among telecom operators in five provinces (Tianjin, Hainan, Jiangxi, Hubei and Yunnan). According to the 13th Five Year Plan, such transfer will be permitted in all provinces in China by 2020. We believe the policy will benefit customers with improved user mobility among operators, lower services tariff, and better services quality.

Exhibit 1: Telecom sectors’ events

Date	Events
Aug 2017	China Unicom carried out the Mixed ownership reform
Sept 2017	Canceled domestic mobile voice long distance and roaming fees
March 2018	Launch e-SIM services in several cities
July 2018	Canceled domestic mobile data roaming fees
Aug 2018	“Three-Year Action Plan for Expanding and Upgrading Information Consumption (2018-20)”
Dec 2018	China Broadcasting and Telecom Company obtained the 5G operating license
Dec 2018	MIIT allowed the transfer of mobile phone number between telecom operators in some provinces.
Dec 2018	Telecom operators obtained their 5G frequency spectrum for testing until June 2020
Dec 2018	Central Economic Work Conference announced to speed up the 5G network development in China

Source(s): MIIT, Companies, ABCI Securities

Telecom operators have been assigned with 5G frequency spectrums for testing until 2020. China Mobile obtains the more favorable frequency bands of 2.52GHz - 2.67GHz and 4.8GHz - 4.9GHz; China Unicom and China Telecom obtain the 3.5GHz - 3.6GHz and 3.4 GHz - 3.5 GHz, respectively.

With the dual spectrums, China Mobile can distribute the frequency bands in different regions for different usages; the higher frequency band of 4.8GHz - 4.9GHz can be allocated for higher speed requirement usage while the lower frequency band of 2.52GHz - 2.67GHz can be assigned for Internet of Things (IoT).



China has set out a number of targets for the telecom sector in the 13th Five Year Plan: internet users are targeted to reach over 1.0 bn in 2020E (2015-20E CAGR: 7.8%). China is transforming itself from an outward based economy to a domestic-driven one with the plan of achieving a consumption market size of RMB 6tr in 2020E, compared to RMB 3.2tr in 2015 (2015-20E CAGR: 13.4%). Telecom sector, which is responsible for developing internet network and infrastructure, plays a key role in determining the success of China's Internet Plus strategy.

Exhibit 2: Telecom related targets in the 13th Five Year Plan

	2015	2020E	CAGR (%)
Telecom sector revenue (RMB tr)	1.7	3.5	15.5
Including: internet service revenue (RMB tr)	1.0	3.0	24.6
FTTH to overall wireline broadband user ratio (%)	56	80	24 ppt
Wireline broadband users' penetration ratio (%)	40	70	30 ppt
Mobile broadband users' penetration ratio (%)	57	85	28 ppt
Rural regions wireline broadband penetration ratio (%)	78	90	12 ppt
Internet users (100 mn)	6.88	>10	>7.8
Information consumption market size (RMB tr)	3.2	6	13.4

Source(s): MIIT

Mobile business

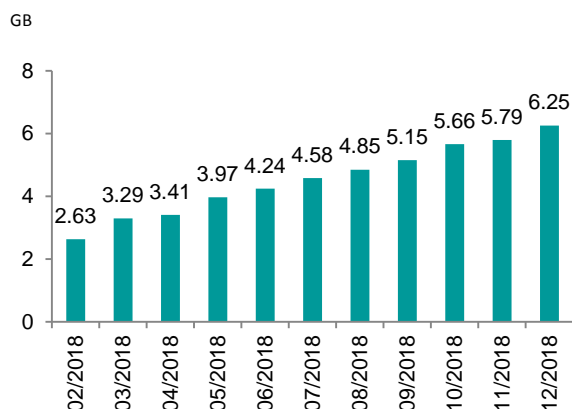
Mobile business revenue in China grew 0.6% YoY in 2018, the growth was much slower than that of the fixed-line business (+9.1% YoY) because of the tariff policies that significantly reduce average spending per mobile customer. According to MIIT, mobile business accounted for 70.2% of total telecom revenue among operators' in 2018. China's mobile users reached 1.57bn in Dec 2018, with over 149 mn mobile user additions in 2018. According to MIIT, as of Dec 2018, 4G users reached 1.17 bn, or 74.5% of total mobile users in China. 4G penetration rate improves on customers upgrading to 4G platform and increased adoption of dual SIM smartphones.

Complying to "Speed Upgrade and Tariff Reduction" policy, the domestic voice roaming tariff was cancelled and long-distance voice fee and broadband internet tariff were lowered for SMEs in 2017; similarly, domestic data roaming tariff was cancelled and mobile data tariff was slashed by over 30% for all users in 2018. According to MIIT, the average mobile data price per GB lowered by 56.7% YoY to RMB10 in 2018. Hence, operators' ARPU is under pressure.

Through the mixed ownership reform, China Unicom has launched the largest number of data SIM cards by co-operating with internet enterprises. In 2017, China Unicom has collaborated with 35 Internet companies such as Tencent (700 HK), Alibaba (BABA US), Baidu (BIDU US) and NetEase (NTES US) to launch over 40 projects, including the Tencent King Card, DiDi King Card and Baidu Grand Card, offering a total of 95 products.

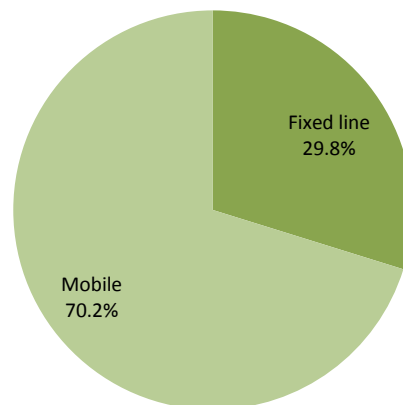


Exhibit 3: China's average monthly data usage



Source(s): MIIT, ABCI Securities

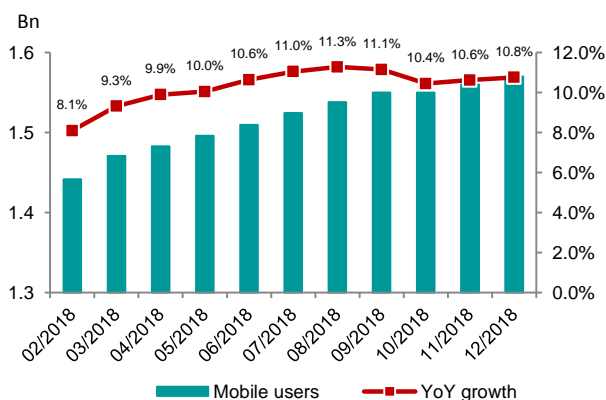
Exhibit 4: Telecom revenue distribution



Source(s): MIIT, ABCI Securities

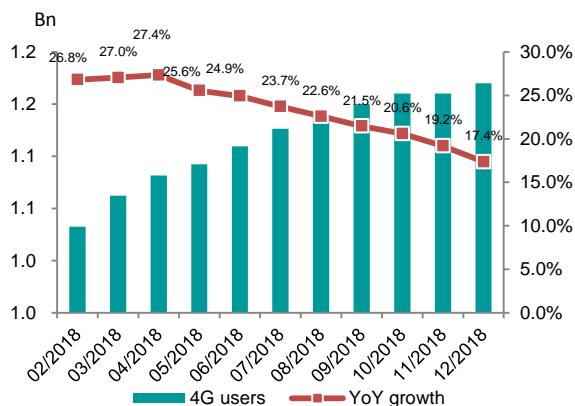
Average mobile data per user in China exceeded 4.42GB in 2018, up 260% YoY. The “Speed Upgrade and Tariff Reduction” policy is expected to elevate mobile data usage with the lower service tariff. Also, 4G network coverage is scheduled to reach 98% by 2020. Many smartphones in the market are equipped with dual SIM features and we expect mobile user demand to show a moderate growth in 2019.

Exhibit 5: China's overall mobile internet users



Source(s): MIIT

Exhibit 6: China's 4G users and YoY growth



Source(s): MIIT

Telecom operators have established the large-scale commercial use of TDD/FDD hybrid LTE network through macro cells, small cells, and DAS. In 2018, telecom operators built over 439,000 new 4G base stations; overall 4G base stations reached over 3.72 mn. 5G network is expected to be the key technology development at the moment by many countries for boosting economic growth and improving operational efficiency. Chinese telecom operators are estimated to increase their CAPEX in FY19 for 5G base station construction.

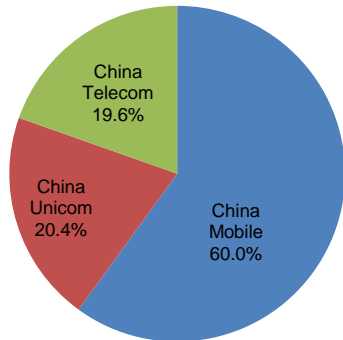


Exhibit 7: CAPEX comparison:

RMB Bn	China Mobile			China Unicom			China Telecom		
	FY18E	FY19E	FY20E	FY18E	FY19E	FY20E	FY18E	FY19E	FY20E
CAPEX	166.1	177.7	188.4	50.0	52.3	56.4	75.0	81.8	86.7
YoY	-13.9%	7.0%	6.0%	-18.9%	4.5%	8.0%	-14.1%	9.0%	6.0%

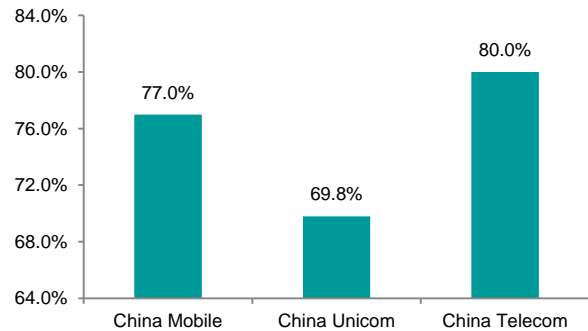
Source(s): ABCI Securities estimates

Exhibit 8: China's mobile user market share in Dec 2018



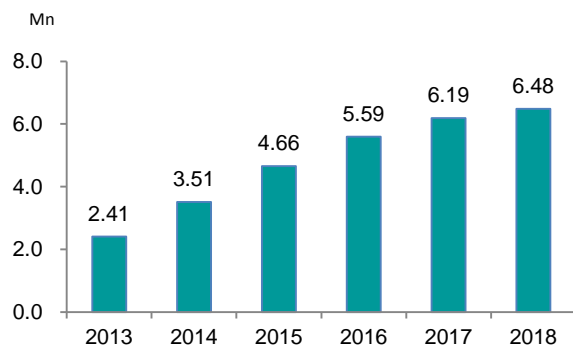
Source(s): Companies

Exhibit 9: China's 4G users penetration rate in Dec 2018



Source(s): Companies

Exhibit 10: Mobile base stations



Source(s): MIIT

Exhibit 11: User comparison in Dec 2018:

(Mn)	China Mobile	China Unicom	China Telecom
4G user additions	63.1	45.0	60.4
YoY	-44.8%	-35.9%	0.4%
Aggregate 4G users	712.7	219.9	242.4
YoY	9.7%	25.8%	33.2%
Mobile user additions	37.9	30.9	53.0
YoY	-1.1%	51.8%	51.7%
Aggregate mobile users	925.1	315.0	303.0
YoY	4.3%	10.9%	21.2%

Source(s): Companies, ABCI Securities



Exhibit 12: Mobile ARPU comparison for 9M18:

	China Mobile	China Unicom	China Telecom
ARPU (RMB)	55.7	46.8	51.5
YoY	-8.0%	-3.3%	-8.0%
Average Handset Data Traffic per User per Month (DOU) (MB/user/month) *	3.1	5.2	3.4
YoY	158.3%	162.6%	246.9%

Source(s): Companies

5G network: the game-changing technology

According to MIIT, the 5G telecom network is estimated to commercial launch in the second half of 2019. We forecast CAPEX among telecom operators to rise in 2019 for 5G network allocation. In 2018, overall CAPEX in telecom service sector was lower compared to previous year due to the decrease in 4G network spending.

Based on its high transmission rate with low latency, 5G network will facilitate development of autonomous driving, IoT, cloud computing, Big Data, AR/VR, smart cities, AI technology and more, which in turn would enable real-time monitoring, fast responses, and seamless transmissions. The network enhances connectivity among buildings, transport, and utility, while the remote control room can make reactions and decisions based on the collected instant information through sensors and devices.

The frequency of 5G is much higher than that of the 4G; its transmission speed is expected to be 100 times higher than the latter. To meet the 5G network demand, telecom operators will need to increase their base station density, in-door antenna system, and small-cell network. The densification of network will allow telecom operators to add capacity for video transmission and machine-to-machine communications.

Since telecom operators are required to build a denser base station network to support the 5G network, China Tower is estimated to benefit from a higher tenancy ratio with denser base stations and improved network coverage. We expect tenancy ratio to rise from 1.44 in 2017 to 1.52 in 2020.

In Dec 2018, MIIT allocated the 5G frequency spectrums to telecom operators. China Mobile (941 HK) was assigned with the more favorable frequency bands of 2.52GHz-2.67GHz and 4.8GHz-4.9GHz bands, while China Unicom (762 HK) and China Telecom (728 HK) obtained 3.5GHz-3.6GHz band and 3.4GHz-3.5GHz band, respectively. According to MIIT, overall 5G telecom capital investments in China is estimated to be RMB 1.2tr, 1.5 times higher than that of the 4G. The 5G infrastructure is estimated to take more than eight years to complete. The number of 5G base stations required and the average price of these stations will double that of the 4G.



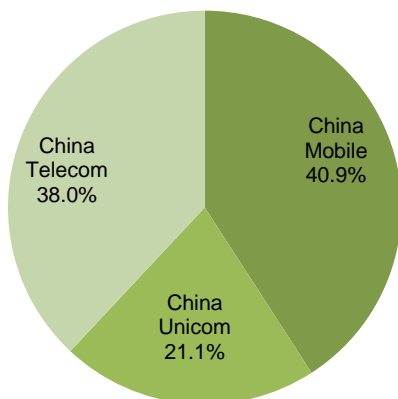
Fixed-line business

Aggregate fixed-line business revenue in China grew 9.1% in 2018, accounting for 29.8% (+1.7 ppt YoY) of overall telecom revenue in China. The growth was supported by the industrial internet, FTTH usage, and higher wireline broadband penetration rate.

Wireline user addition was 58.8mn in 2018, bringing the aggregate wireline broadband users to 407mn (+17.0% YoY) in 2018. FTTH users reached 368 mn (+25.3% YoY) in 2018, accounting for 90.4% of total fixed-line users. Wireline broadband users with 100M transmission speed or above accounted for over 70.3% as of Dec 2018. China Mobile surpassed China Telecom as China's largest wireline broadband service market provider in Oct 2018. The former recorded strong growth in wireline broadband market thanks to its lower service tariff, improved network coverage and bundled service packages. Telecom operators are offering different types of value-added services, IPTV, and video contents to improve user experiences and boost adoption. China's development of fiber-optic broadband has entered the global ranks, with the penetration rate of FTTH exceeding some of OECD countries such as South Korea (76.8%), Japan (76.7%), and the U.S. (12.6%).

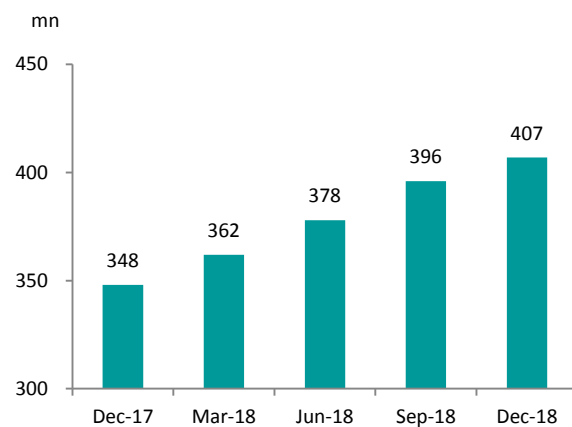
As of Dec 2018, wireline broadband market share of China Mobile, China Unicom and China Telecom reached 40.9%/ 21.1%/ 38.0%. Due to the mixed ownership reform, China Unicom has strengthened its development in industrial internet by co-operating with internet enterprises. It is shifting its focus from retail market to the industrial one and IoT to capture demand from cloud computing, AI, and industrial internet.

Exhibit 13: Wireline broadband user market share



Source(s): MIIT

Exhibit 14: Aggregate wireline broadband users in China



Source(s): MIIT



農銀國際

ABC INTERNATIONAL

ABCI SECURITIES COMPANY LIMITED

The deployment of the FTTH network provides a guarantee for continuous increase in access rate of broadband users. As the coverage of the fiber network is in place and fare reduction continues, mainstream broadband access rate is moving towards the era of 100Mbps. It can be predicted that after the popularity of 100Mbps broadband, Gigabit network will be the next development goal in fixed broadband network.

In Aug 2018, the MIIT and NDRC released the “Three-Year Action Plan for Expanding and Upgrading Information Consumption (2018-20), which targets to expand optical coverage in urban areas with access of more than 100Mbps by 2020 and make optical fiber readily accessible for 98% of administrative villages with 4G network coverage. We believe this would benefit operators’ fixed-line business.



Financial Analysis

China Mobile's operating revenue in 9M18 was down 0.3% YoY due to lower mobile ARPU (-8.0% YoY) amid user growth (+4.4% YoY). EBITDA margin improved by 0.6 ppt to 37.7%. Driven by margin improvement with lower handset subsidies and scale effect, net profit grew 3.1% YoY. We project net profit to grow 3.2%/ 2.8% in FY19E-FY20E, supported by margin improvement and user growth (+3.6%/+2.6% YoY in FY19E-FY20E). China Mobile still has a large pool of low-end mobile users (~200mn) for 4G network upgrade. The recent allocation of 5G frequency spectrum will benefit China Mobile more than its competitors.

China Unicom's 9M18 operating revenue was up 6.8% YoY, mainly supported by data revenue, industrial internet and new businesses. Net profit was the highest among operators with 116.6% YoY growth due to lower finance costs and better interest income after capital injection from the mixed ownership reform. The Group is expected to benefit from its cooperation with internet enterprises, which is expected to increase income from industrial internet and data SIM cards. However, user addition in mobile and wireline broadband businesses for the Group was less than sanguine in 9M18 due to intensified market competition. Overall, we estimate net profit to grow 69.4%/ 48.1% in FY19E-FY20E.

China Telecom's 9M18 operating revenue was up 3.6% YoY., mainly driven by better 4G penetration rate and industrial internet. Net profit grew 3.6% YoY in 9M18, due to 4G user improvement and increased information & application services contributions. Net profit improved 2.7% in 9M18, thanks to better margins enabled by lowered handset subsidies and better 4G user penetration rate. We expect moderate growth (+13.3%/+8.2% YoY in FY19E-FY20E) in mobile user and stronger revenue from information & application services due to the increasing demand for cloud computing, and information services. We estimate net profit to grow 4.0%/ 5.1% in FY19E-FY20E.

China Tower's operating revenue grew 6.1% YoY in 9M18, thanks to improved tenancy ratio. Net profit grew 16.7% YoY. Since the 5G frequency spectrum is much higher than that of the 4G network and telecom operators are required to build a much denser base stations networks to support the 5G network; demand for towers are set to increase. We expect tenancy ratio to rise from 1.44 in 2017 to 1.52 in 2020E. Recent adjustment of tower useful lives from 10 years to 20 years is expected to help lower depreciation expenses and improve margins. Since pace of 5G network development will expedite in 2019, we project net profit to grow 72.4%/ 48.8% in FY19E/20E.

Exhibit 15: Telecom operators' margins comparison table:

	China Mobile			China Unicom			China Telecom		
	FY18E	FY19E	FY20E	FY18E	FY19E	FY20E	FY18E	FY19E	FY20E
Revenue growth	1.8%	2.8%	2.5%	4.2%	4.8%	3.8%	5.6%	5.8%	3.4%
Operating growth	3.0%	3.3%	2.9%	137.3%	63.9%	46.6%	4.0%	6.7%	2.3%
Net profit growth	1.6	8.7	6.5	384.3%	69.4%	48.1%	11.6%	4.0%	5.1%
Operating margin	18.0%	18.0%	17.9%	3.3%	5.1%	7.2%	8.0%	8.0%	7.8%
EBITDA margin	40.9%	40.7%	40.8%	50.9%	50.4%	51.5%	30.0%	28.8%	28.3%
Net profit margin	15.4%	15.5%	15.5%	3.1%	5.0%	7.1%	5.0%	5.3%	5.4%

Source(s): ABCI Securities estimates



農銀國際

ABC INTERNATIONAL

ABCI SECURITIES COMPANY LIMITED

Since negative impacts of the regulatory measures will be fully reflected in their 2018 financials, we expect business performance of telecom operators to improve thereafter. Although the “Speed Upgrade and Tariff Reduction” policy affect operators’ mobile ARPU, user growth and DOU are likely to be driven up by lower transaction costs. We forecast telecom operators to benefit from higher DOU growth and multi-SIM smartphones.

Mobile users in China will grow further in 2019, driving up service revenue. The growing popularity of HD video and IPTV would stimulate demand for wireline broadband in China. The 5G telecom network will be a game changer for the sector. The sector rating is **OVERWEIGHT**.

China Mobile (Rating: BUY; TP: HK\$90.0)

China Mobile has obtained the more favorable 5G frequency spectrums of 2.6GHz and 4.9GHz. China Mobile has the highest market share in both the mobile and wireline businesses (by the number of users), which will support growth in data revenue. Since the Group still has a large low-end user base, room for upgrade is high. The launch of bundled service plans and value-added services would help boost earnings growth. Maintain **BUY** with TP of HK\$ 90.0, which implies 13.7x/ 13.3x FY19E/ FY20E P/E and 5.7x/ 5.5x FY19E/ FY20E EV/EVITDA, based on DCF valuation.

China Tower (Rating: BUY; TP: HK\$2.0)

China Tower is expected to benefit from better tenancy rate. Telecom operators are improving network coverage by renting more towers for their base stations. The launch of 5G telecom network will further stimulate the demand for network towers in China due to the high frequency spectrum needed. The Group’s recent extension of tower useful life can improve profit margin with lower depreciation expenses. The improvement in tower tenancy rate is estimated to drive up revenue growth and margin with better utilization rate. China Tower also enjoys an almost monopolistic position since there are very few competitors in the tower operator market and none is as sizeable as the Group.

China Tower has been a constituent stock in several indices (Hang Seng China Enterprises Index, Hang Seng Composite LargeCap & MidCap Index, Hang Seng Stock Connect Hong Kong Index), since Dec 2018, which should support trading volume. We maintain **BUY** with a TP of HK\$ 2.0, which implies 6.9x/6.6x FY19E/20E EV/EBITDA and 1.7x/ 1.6x FY19E/20E P/B), based on DCF valuation.



Risk factors

ROE is expected to decrease for telecom operators

We expect ROEs of China Mobile/ China Unicom/ China Telecom to decrease in 2019 due to the decrease in mobile ARPU resulted from the “Speed Upgrade Tariff Reduction” policy. Telecom operators’ mobile business growth will be affected by the government’s policy to lower data usage fee.

Telecom sector may be affected by further tariff reduction

The telecom services sector has been affected by a series of policies, including the cancellation of domestic data roaming fee, the 30% reduction in mobile data service tariff, and the lower fixed-line broadband tariff for SMEs. Further tariff reduction mandated by new policies will impact earnings growth.

Deferred launch of 5G network

We expect the 5G telecom network to launch in 2H19, and operators are preparing for the commercial launch by pacing 5G network construction. Delays in the 5G network launch will weaken revenue growth and financial conditions of telecom operators.

Exhibit 16: Peer comparison table

			P/E				P/B				ROE	ROA	EV/EBITDA
	Ticker	Price	17A	18E	19E	20E	17A	18E	19E	20E	19E	19E	19E
China Market													
China Unicom	762 HK	9.17	110.7	27.5	17.5	12.9	0.8	0.7	0.7	0.7	4.2	2.3	2.3
China Mobile	941 HK	83.30	12.8	12.5	12.4	11.8	1.4	1.4	1.3	1.2	10.8	7.2	3.3
China Telecom	728 HK	4.32	16.0	14.5	13.5	12.4	0.9	0.9	0.8	0.8	6.3	3.4	3.1
China Tower	788 HK	1.84	n.a.	82.0	45.6	29.3	1.4	1.4	1.3	1.3	3.0	1.4	7.1
Simple Average			46.5	34.1	22.3	16.6	1.1	1.1	1.0	1.0	6.1	3.6	4.0
Weighted Average			24.8	22.1	16.8	14.0	1.3	1.2	1.2	1.1	8.6	5.5	3.6
US Market													
AT&T	T US	30.47	6.3	10.5	8.4	8.2	1.3	1.2	1.2	1.1	14.9	4.1	6.4
Verizon	VZ US	55.16	7.5	14.6	11.8	11.5	5.2	4.3	3.7	3.2	33.0	7.4	6.9
Sprint	S US	6.30	n.a.	3.4	97.5	73.4	1.3	0.9	0.9	0.9	0.8	0.1	4.6
T-Mobile	TMUS US	72.05	12.9	20.8	17.6	14.8	2.7	2.4	2.1	1.9	12.6	5.9	6.4
American Tower	AMT US	177.82	64.3	59.1	50.0	43.1	11.9	13.9	14.9	19.9	29.5	5.4	22.0
Simple Average			22.7	21.7	37.1	30.2	4.5	4.5	4.5	5.4	18.2	4.6	9.3
Weighted Average			15.0	18.9	19.5	17.2	4.2	4.0	3.9	4.3	22.7	5.5	8.5

Price at Feb 18, 2019

Source(s): Bloomberg



農銀國際

ABC INTERNATIONAL

ABCI SECURITIES COMPANY LIMITED

Financial Statements

China Mobile (941 HK)

Consolidated income statement (2016A-2020E)

FY Ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Service revenue	623,422	668,351	687,548	729,988	765,308
Sales of products and others	84,999	72,163	66,390	63,070	60,232
Total revenue	708,421	740,514	753,938	793,059	825,541
Leased lines & network assets	(39,083)	(46,336)	(45,103)	(51,549)	(53,660)
Interconnection	(21,779)	(21,762)	(21,864)	(20,620)	(20,639)
Depreciation	(138,090)	(149,780)	(154,698)	(163,517)	(172,194)
Personnel	(79,463)	(85,513)	(88,006)	(92,709)	(97,194)
Selling expenses	(57,493)	(61,086)	(62,567)	(66,429)	(69,643)
Cost of products sold	(87,352)	(73,668)	(67,474)	(63,937)	(60,995)
Other operating expenses	(167,073)	(182,243)	(190,444)	(198,062)	(204,994)
Total operating expenses	(590,333)	(620,388)	(630,156)	(656,822)	(679,319)
Operating Profits	118,088	120,126	123,782	136,237	146,221
Non-operating income	1,968	2,389	2,031	2,136	2,223
Interest income	16,005	15,883	17,153	17,618	18,014
Finance costs	(235)	(210)	(184)	(193)	(196)
Share of profit in investments	8,636	9,949	10,944	11,272	11,610
Profit before tax	144,462	148,137	153,725	167,070	177,874
Tax	(35,623)	(33,723)	(37,517)	(40,774)	(43,411)
Profit after tax	108,839	114,414	116,207	126,296	134,463
Minority interests	(98)	(135)	(137)	(149)	(159)
Shareholders' net profit	108,741	114,279	116,070	126,147	134,304
EBITDA	256,677	270,421	280,874	302,380	321,247
EPS (RMB)	5.311	5.581	5.668	6.161	6.559
DPS (HKD)	2.732	6.405	3.099	3.479	3.704
Payout ratio	45.1%	97.1%	48.0%	48.0%	48.0%

Note: Including a special cash dividend of HK\$ 3.20/ share in FY17

Source(s): Company, ABCI Securities estimates



China Mobile (941 HK)

Consolidated balance sheet (2016A-2020E)

As of Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
PPE	622,356	648,029	636,269	640,703	653,324
CIP	89,853	78,112	68,415	66,963	73,481
Land lease prepayments	26,720	28,322	32,570	35,827	39,410
Goodwill	35,343	35,343	35,343	35,344	35,345
Interest in associates	124,039	132,499	205,643	278,964	323,319
Deferred tax assets	29,767	33,343	35,010	36,761	38,599
Other non-current assets	6,271	8,269	8,857	9,213	9,588
Total non-current assets	934,349	963,917	1,022,107	1,103,775	1,173,066
Cash & cash equivalents	90,413	120,636	132,592	143,548	156,956
Deposits in bank	335,297	279,371	268,196	257,468	247,170
Available for sale financial assets	31,897	65,630	82,038	90,241	97,461
Others	129,038	92,559	99,483	106,225	112,897
Total current assets	586,645	558,196	582,308	597,482	614,483
Total assets	1,520,994	1,522,113	1,604,416	1,701,257	1,787,549
Accounts payable	250,838	233,169	228,506	217,080	206,226
Accrued expenses and other payable	180,950	190,866	208,044	226,768	247,177
Others	104,601	105,947	110,755	113,769	117,437
Total current liabilities	536,389	529,982	547,304	557,618	570,840
Deferred revenue	2,175	2,888	3,032	3,184	3,343
Others	292	362	387	403	419
Total non-current liabilities	2,467	3,250	3,420	3,587	3,762
Total liabilities	538,856	533,232	550,724	561,205	574,602
Equity attributable to shareholders	979,021	985,636	1,050,309	1,136,521	1,209,257
Non-controlling interests	3,117	3,245	3,382	3,531	3,690
Total equity	982,138	988,881	1,053,691	1,140,052	1,212,947

Source(s): Company, ABCI Securities estimates



China Mobile (941 HK)

Consolidated Cash Flow Statement (2016A-2020E)

As of Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Operating profit before change in working capital	270,255	289,519	273,405	291,957	308,541
Change in working capital	23,187	(6,546)	11,357	4,073	7,032
Tax	(236)	(135)	(37,517)	(40,774)	(43,411)
Others	(39,505)	(37,324)	(38,444)	(39,597)	(40,785)
Operating cash flow	253,701	245,514	208,801	215,659	231,377
CAPEX	(188,209)	(193,015)	(166,100)	(177,727)	(188,391)
Change in restricted bank deposits	(11,439)	(30,746)	(16,408)	(8,204)	(7,219)
Change in available-for-sale financial asset	(12,102)	54,467	11,164	10,698	10,274
Others	17,227	62,761	30,957	31,861	32,646
Investing cash flow	(194,523)	(106,533)	(140,387)	(143,372)	(152,690)
Dividend paid	(46,991)	(106,036)	(55,714)	(60,551)	(64,466)
Others	(1,967)	(2,195)	(191)	(200)	(203)
Financing cash flow	(48,958)	(108,231)	(55,905)	(60,750)	(64,668)
Net increase in cash & cash equivalents	10,220	30,750	12,509	11,537	14,018
Cash & cash equivalents at beginning of year	79,842	90,413	120,636	132,592	143,548
Effect of changes in foreign exchange rate	351	(527)	(553)	(581)	(610)
Cash & cash equivalents at end of year	90,413	120,636	132,592	143,548	156,956
Financial Ratios:					
EBITDA / service revenue margin (%)	41.2	40.5	40.9	41.4	42.0
Operating profit / service revenue margin (%)	18.9	18.0	18.0	18.7	19.1
Net profit / total revenue margin (%)	15.3	15.4	15.4	15.9	16.3
ROAA (%)	7.4	7.5	7.4	7.6	7.7
ROAE (%)	11.5	11.6	11.4	11.5	11.5
YoY Growth:					
Service revenue (%)	6.7	7.2	2.9	6.2	4.8
EBITDA (%)	6.2	5.4	3.9	7.7	6.2
Net profit (%)	0.2	5.1	1.6	8.7	6.5

Source(s): Company, ABCI Securities estimates



農銀國際

ABC INTERNATIONAL

ABCI SECURITIES COMPANY LIMITED

China Unicom (762 HK)

Consolidated income statement (2016A-2020E)

FY Ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Mobile service revenue	145,018	156,441	172,121	187,138	198,641
Wireline service revenue	91,710	90,866	90,412	90,864	91,591
Others	37,469	27,522	23,872	22,271	21,387
Total revenue	274,197	274,829	286,404	300,272	311,618
Interconnection charges	(12,739)	(12,617)	(12,365)	(12,117)	(11,875)
D&A	(76,805)	(77,492)	(78,267)	(79,050)	(79,840)
Network operation & support	(51,167)	(54,507)	(60,242)	(65,872)	(68,332)
Employee benefit expenses	(36,907)	(42,471)	(44,393)	(46,542)	(48,301)
Cost of product sold	(39,301)	(26,643)	(22,922)	(21,037)	(19,877)
Other operating expenses	(54,585)	(57,166)	(58,881)	(60,353)	(60,957)
Total operating expenses	(271,504)	(270,896)	(277,069)	(284,971)	(289,182)
Operating Profits	2,693	3,933	9,335	15,301	22,436
Finance cost	(5,017)	(5,734)	(2,010)	(1,201)	(722)
Interest income	1,160	1,647	1,918	3,343	5,373
Others (including associates, JV & other income)	1,948	2,747	3,031	3,351	3,713
Profit before tax	784	2,593	12,274	20,795	30,801
Tax	(154)	(743)	(3,351)	(5,677)	(8,409)
Profit after tax	630	1,850	8,923	15,118	22,392
Minority interests	5	22	71	120	178
Shareholders' net profit	625	1,828	8,852	14,998	22,214
EBITDA	79,498	81,425	87,602	94,351	102,276
EPS (RMB)	0.026	0.074	0.289	0.490	0.726
DPS (RMB)	0.000	0.052	0.251	0.425	0.630
Payout ratio	0.0%	86.0%	86.0%	86.0%	86.0%

Source(s): Company, ABCI Securities estimates



China Unicom (762 HK)

Consolidated balance sheet (2016A-2020E)

As of Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
PPE	451,115	416,596	423,472	433,572	444,346
Interest in associates	32,248	33,233	32,477	32,802	33,458
Lease prepayments	9,436	9,313	9,872	9,970	10,070
Other non-current assets	39,137	36,119	30,982	26,907	23,679
Total non-current assets	531,936	495,261	496,803	503,252	511,553
Cash & cash equivalents	23,633	32,836	61,204	101,654	147,864
Accounts receivables	13,622	13,964	16,478	18,099	19,636
Short-term bank deposits	1,754	5,526	5,652	5,813	5,899
Others	43,209	24,396	23,291	23,252	23,332
Total current assets	82,218	76,722	106,625	148,818	196,731
Total assets	614,154	571,983	603,428	652,070	708,284
Accounts payable and accrued liabilities	143,224	125,260	158,651	163,956	167,171
Short-term bank loans	76,994	22,500	18,000	10,800	6,480
Commercial paper	35,958	8,991	7,193	4,316	2,589
Others	86,479	85,871	87,109	140,175	194,000
Total current liabilities	342,655	242,622	270,953	319,247	370,240
Promissory notes	17,906	17,981	14,385	8,631	5,179
Others	25,911	7,033	6,394	5,171	4,616
Total non-current liabilities	43,817	25,014	20,778	13,802	9,794
Total liabilities	386,472	267,636	291,731	333,049	380,035
Equity attributable to ordinary shareholders	227,407	304,050	311,311	318,635	327,848
Non-controlling interests	275	297	386	385	401
Total equity	227,682	304,347	311,697	319,020	328,249

Source(s): Company, ABCI Securities estimates



China Unicom (762 HK)

Consolidated Cash Flow Statement (2016A-2020E)

As of Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Operating profit before change in working capital	784	2,593	12,274	20,795	30,801
Change in working capital	(3,898)	1,966	5,130	6,134	5,073
Others	84,617	87,767	82,594	82,602	82,947
Tax	(6,910)	(7,272)	(5,361)	(6,878)	(9,130)
Operating cash flow	74,593	85,054	94,637	102,653	109,690
CAPEX	(98,293)	(61,489)	(50,000)	(52,250)	(56,430)
Others	2,544	14,153	19,098	20,083	21,206
Investing cash flow	(95,749)	(47,336)	(30,902)	(32,167)	(35,224)
Dividend paid	(4,071)	0	(1,591)	(7,674)	(13,001)
Others	26,948	(28,414)	(33,685)	(22,280)	(15,182)
Financing cash flow	22,877	(28,414)	(35,276)	(29,954)	(28,183)
Net increase in cash & cash equivalents	1,721	9,304	28,459	40,532	46,283
Cash & cash equivalents at beginning of year	21,755	23,633	32,836	61,204	101,654
Effect of changes in foreign exchange rate	157	(101)	(91)	(82)	(74)
Cash & cash equivalents at end of year	23,633	32,836	61,204	101,654	147,864
Financial Ratios:					
EBITDA / service revenue margin (%)	29.0%	29.6%	30.6%	31.4%	32.8%
Operating margin (%)	1.0%	1.4%	3.3%	5.1%	7.2%
Net profit margin (%)	0.2%	0.7%	3.1%	5.0%	7.1%
ROAA (%)	0.1%	0.3%	1.5%	2.4%	3.3%
ROAE (%)	0.3%	0.7%	2.9%	4.8%	6.9%
YoY Growth:					
EBITDA (%)	(9.1%)	2.4%	7.6%	7.7%	8.4%
Net profit (%)	(94.1%)	192.5%	384.3%	69.4%	48.1%

Source(s): Company, ABCI Securities estimates



農銀國際

ABC INTERNATIONAL

ABCI SECURITIES COMPANY LIMITED

China Telecom (728 HK)

Consolidated income statement (2016A-2020E)

FY Ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Service revenue	309,812	331,044	355,072	379,758	395,688
Sales of products and others	42,722	35,185	31,508	29,103	27,236
Total revenue	352,534	366,229	386,580	408,862	422,924
D&A	(67,942)	(74,951)	(78,116)	(78,990)	(81,116)
Network operation & support	(94,156)	(103,969)	(109,362)	(115,826)	(120,289)
Selling G&A	(56,426)	(58,434)	(62,493)	(69,915)	(72,320)
Personnel expenses	(54,504)	(56,043)	(59,652)	(63,420)	(66,476)
Other operating expenses	(52,286)	(45,612)	(48,645)	(50,508)	(51,835)
Total operating expenses	(325,314)	(339,009)	(358,268)	(378,659)	(392,036)
Operating Profits	27,220	27,220	28,313	30,203	30,888
Investment income	40	147	169	191	208
Share of profit from associates	91	877	2,300	890	979
Net finance costs					
Profit before tax	24,116	24,953	27,842	28,959	30,428
Tax	(5,993)	(6,192)	(6,909)	(7,186)	(7,551)
Profit after tax	18,123	18,761	20,933	21,773	22,877
Minority interests	(105)	(144)	(161)	(167)	(176)
Shareholders' net profit	18,018	18,617	20,773	21,606	22,702
EBITDA	95,161	102,169	106,425	109,188	112,004
EPS (RMB)	0.223	0.230	0.257	0.267	0.281
DPS (RMB)	0.093	0.093	0.093	0.093	0.093
Payout ratio	41.5%	40.3%	40.0%	40.0%	40.0%

Source(s): Company, ABCI Securities estimates



China Telecom (728 HK)

Consolidated balance sheet (2016A-2020E)

As of Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
PPE	389,671	406,257	396,093	408,879	409,553
CIP	80,386	73,106	70,347	60,441	59,132
Land lease prepayments	22,955	22,262	20,036	18,032	16,229
Goodwill	29,923	29,920	29,920	29,921	29,922
Intangible costs	11,244	12,391	13,506	14,317	15,032
Interest in associates	34,572	35,726	48,613	45,998	49,390
Other non-current assets	9,673	9,982	14,459	15,842	17,302
Total non-current assets	578,424	589,644	592,973	593,430	596,560
Cash & cash equivalents	24,617	19,410	55,137	91,235	126,779
Deposits in bank	3,331	3,100	3,007	2,917	2,829
Accounts receivables	21,465	22,096	22,538	22,989	23,448
Others	24,721	26,944	28,584	29,914	31,804
Total current assets	74,134	71,550	109,266	147,054	184,860
Total assets	652,558	661,194	702,240	740,485	781,421
Short term debt	40,780	54,558	61,651	67,816	73,241
Accounts payable	122,493	119,321	118,128	122,853	128,996
Accrued expenses and other payable	91,173	98,695	103,630	108,811	114,252
Others	64,687	2,834	2,314	2,333	2,363
Total current liabilities	319,133	275,408	285,722	301,812	318,851
Long term debt and payable	9,370	48,596	55,885	60,915	66,397
Deferred revenue	4,770	8,010	9,392	10,829	12,339
Others	2,937	2,483	11,449	13,083	14,810
Total non-current liabilities	17,077	59,089	76,727	84,827	93,547
Total liabilities	336,210	334,497	362,448	386,640	412,397
Equity attributable to shareholders	315,377	325,867	339,072	353,139	368,303
Non-controlling interests	971	830	720	705	720
Total equity	316,348	326,697	339,791	353,845	369,023

Source(s): Company, ABCI Securities estimates



China Telecom (728 HK)

Consolidated Cash Flow Statement (2016A-2020E)

As of Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Operating profit before change in working capital	99,545	106,236	108,591	111,296	114,050
Change in working capital	9,530	(1,897)	1,691	8,127	9,264
Others	(3,314)	(3,211)	(3,319)	(2,684)	(1,986)
Tax	(4,626)	(4,626)	(4,626)	(4,626)	(4,626)
Operating cash flow	101,135	96,502	102,338	112,113	116,702
CAPEX	(96,678)	(87,334)	(75,000)	(81,750)	(86,655)
Others	(2,365)	2,071	1,896	2,349	2,361
Investing cash flow	(99,043)	(85,263)	(73,104)	(79,401)	(84,294)
Dividend paid	(6,489)	(7,530)	(7,568)	(7,539)	(7,539)
Others	(3,066)	(8,617)	14,288	11,097	10,806
Financing cash flow	(9,555)	(16,147)	6,720	3,558	3,267
Net increase in cash & cash equivalents	(7,463)	(4,908)	35,954	36,270	35,675
Cash & cash equivalents at beginning of year	31,869	24,617	19,410	55,137	91,235
Effect of changes in foreign exchange rate	211	(299)	(227)	(173)	(131)
Cash & cash equivalents at end of year	24,617	19,410	55,137	91,235	126,779
Financial Ratios:					
EBITDA margin (%)	30.7	30.9	30.0	28.8	28.3
Operating margin (%)	8.8	8.2	8.0	8.0	7.8
Net profit margin (%)	5.1	5.1	5.4	5.3	5.4
ROA A (%)	2.8	2.8	3.0	3.0	3.0
ROAE (%)	5.8	5.8	6.2	6.2	6.3
YoY Growth:					
Service revenue (%)	5.6	6.9	7.3	7.0	4.2
EBITDA (%)	1.1	7.4	4.2	2.6	2.6
Net profit (%)	(10.2)	3.3	11.6	4.0	5.1

Source(s): Company, ABCI Securities estimates



農銀國際

ABC INTERNATIONAL

ABCI SECURITIES COMPANY LIMITED

China Tower (788 HK)

Consolidated income statement (2016A-2020E)

FY Ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Tower business revenue	55,552	67,085	69,694	72,180	74,384
DAS revenue	421	1,284	1,990	2,687	3,452
TSSAI revenue	19	169	1,014	1,876	3,001
Others	5	127	298	606	1,060
Total revenue	55,997	68,665	72,997	77,349	81,899
D&A expenses	(27,585)	(32,642)	(34,308)	(34,420)	(36,199)
Site operating lease charges	(9,121)	(11,336)	(12,117)	(12,917)	(13,292)
Repairs and maintenance	(5,750)	(6,156)	(6,351)	(6,575)	(6,798)
Employee benefits and expenses	(3,743)	(4,229)	(4,380)	(4,564)	(4,668)
Other operating expenses	(4,728)	(6,587)	(7,154)	(7,735)	(6,552)
Other gains	48	149	343	463	537
Interest income	65	104	47	402	431
Finance costs	(5,077)	(5,283)	(5,562)	(5,966)	(6,401)
Profit before tax	106	2,685	3,514	6,037	8,956
Tax	(30)	(742)	(836)	(1,419)	(2,087)
Shareholders' net profit	76	1,943	2,678	4,618	6,869
EBITDA	32,655	40,357	42,995	45,559	50,589
EPS (RMB)	0.001	0.015	0.015	0.026	0.039
DPS (RMB)	0.000	0.000	0.008	0.013	0.020
Payout ratio	0.0%	0.0%	50.0%	50.0%	50.0%

Source(s): Company, ABCI Securities estimates



As of Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
PPE	245,788	258,138	263,648	266,335	268,364
CIP	13,592	10,930	9,291	7,897	6,712
Long term prepayments	5,385	9,910	10,901	11,991	13,190
Deferred income tax assets	1,208	689	482	338	236
Other non-current assets	6,130	12,459	13,331	52,946	60,351
Total non-current assets	272,103	292,126	297,653	339,507	348,853
Cash & cash equivalents	17,249	7,852	66,924	71,836	82,433
Trade and other receivables	15,789	15,262	14,499	13,774	13,085
Prepayments & other current assets	6,524	7,375	8,113	8,924	9,816
Others	3	28	(3,262)	(37,537)	(42,753)
Total current assets	39,565	30,517	86,274	56,997	62,582
Total assets	311,668	322,643	383,927	396,504	411,435
Interest bearing borrowings	32,316	95,260	100,976	107,034	113,456
Deferred consideration payables - current portion	90,499	17,252	16,389	15,570	14,791
Accounts payable	39,840	31,906	30,311	28,795	27,355
Others	8,913	5,623	6,348	7,169	8,096
Total current liabilities	171,568	150,041	154,024	158,568	163,699
Borrowings	12,280	43,793	48,172	52,990	58,288
Others	2,268	1,314	1,248	1,186	1,127
Total non-current liabilities	14,548	45,107	49,421	54,175	59,415
Total liabilities	186,116	195,148	203,445	212,743	223,114
Total equity	125,552	127,495	180,482	183,761	188,321

Source(s): Company, ABCI Securities estimates



As of Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Operating profit before tax	106	2,685	3,514	6,037	8,956
Others	27,488	32,250	32,820	33,267	35,389
Operating cash flow	27,594	34,935	36,334	39,303	44,346
CAPEX	(64,103)	(43,836)	(37,261)	(33,535)	(31,858)
Others	18,080	(8,079)	(8,725)	(9,423)	(10,177)
Investing cash flow	(46,023)	(51,915)	(45,986)	(42,958)	(42,035)
Change in borrowings	12,280	43,793	48,172	52,990	58,288
Others	9,745	(36,210)	20,552	(44,423)	(50,002)
Financing cash flow	22,025	7,583	68,724	8,567	8,286
Net increase in cash and cash equivalents	3,596	(9,397)	59,072	4,912	10,597
Cash and cash equivalents at beginning of year	13,653	17,249	7,852	66,924	71,836
Cash and cash equivalents at end of year	17,249	7,852	66,924	71,836	82,433
Financial ratio:					
<u>Growth rate:</u>					
Revenue	536.2%	22.6%	6.3%	6.0%	5.9%
Net profit	N/A	2456.6%	37.8%	72.4%	48.8%
EBITDA	3242.4%	23.6%	6.5%	6.0%	11.0%
ROAA	0.0%	0.6%	0.8%	1.2%	1.7%
ROAE	0.1%	1.5%	1.7%	2.5%	3.7%
EBITDA margin	58.3%	58.8%	58.9%	58.9%	61.8%
Operating profit margin	9.1%	11.2%	11.9%	14.4%	17.6%
Net profit margin	0.1%	2.8%	3.7%	6.0%	8.4%

Source(s): Company, ABCI Securities estimates



Disclosures

Analyst Certification

I, Lai Pak Kin, Ricky, 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