



## China Auto Sector

### Lacklustre ICE shipments, but strong NEV shipments likely to remain in FY18E

	Ticker	Rec	Mkt cap		Price	PT	Up/ dn (%)	PER		PBR		EV/EBITDA	
			(US\$m)	Ccy				2017E	2018E	2017E	2018E	2017E	2018E
BYD	1211 HK	Buy	24,736	HKD	67.15	88.0	31%	34.3	22.8	2.7	2.4	14.9	11.9
GAC	2238 HK	Buy	22,207	HKD	17.06	24.7	44.8%	8.7	7.2	1.6	1.4	17.6	14
Brilliance Auto	1114 HK	Buy	12,401	HKD	19.22	24.8	29%	15.7	10.3	2.8	2.2		

Source: Bloomberg, CSCI estimates

- We anticipate total ICE shipment growth to be maintained at a low single-digit in FY18E due to tax rollback that had started since Jan-18, coupled with the sluggish 4Q17 ICE sales growth being an indication of over-consumption of small displacement vehicles during FY16-FY17 prior to the tax rollback.
- On the back of the robust NEV shipments in Dec-17 which led to a 53% YoY growth in FY17, we anticipate solid but lower shipment growth of 30%-50% YoY in FY18E with potential subsidy cuts ahead of previous schedule to weigh on the sales of A00 models with a range per charge below 300km, in our view.
- Geely (175.HK), GAC (2238.HK) and BYD (1211.HK) remain our top picks in the auto OEM sector under our coverage in FY18E. Meanwhile, we expect BYD will likely be a more volatile play relative to both Geely and GAC due to its likely turnaround potential in FY18E.

**ICE shipments likely to maintain a low-single-digit growth in FY18, dragged by small engine vehicles post tax rollback policies.** Total ICE shipments posted a 3.6% YoY growth in FY17, slowing down significantly from 13.7% YoY growth in FY16, primarily due to the slowdown in sales of vehicles with displacement of 1.0L-1.6L with an almost 60% contribution to total ICE shipments for the year. Meanwhile, we believe the sluggish 4Q17 ICE shipments also signaled the demand of small engine vehicles in FY18E may have been largely over-consumed in advance during FY16-FY17 with lower tax rate. Looking forward, we anticipate total ICE shipments will likely continue to grow at a low-single-digit in FY18E on the back of the small-engine vehicles' weak growth momentum, in our view.

**Strong NEV shipments will continue to be driven by the dual-credit scheme, despite potential subsidy cuts to affect A00 models in FY18.** In view of the total NEV PV shipment number in December being more substantial than November, which we believe was due to the dual-credit scheme announced in Nov-17 scheduled to come into effect in 2019, we expect this scheme will continue to drive NEV shipments in FY18E. However, the growth rate is estimated to come in lower at 30%-50% given majority of the best-selling NEV models in FY17 are A00 models with range per charge lower than 300km, which are very likely to see subsidy cuts in FY18E ahead of schedule, according to rumours.

**Geely, GAC and BYD remain our top picks in FY18E.** Geely (175.HK), GAC (2238.HK) and BYD (1211.HK) remain our top picks in the auto OEM sector under our coverage in FY18E. Meanwhile, we expect BYD will likely be a more volatile play relative to both Geely and GAC due to its likely turnaround potential in FY18E.

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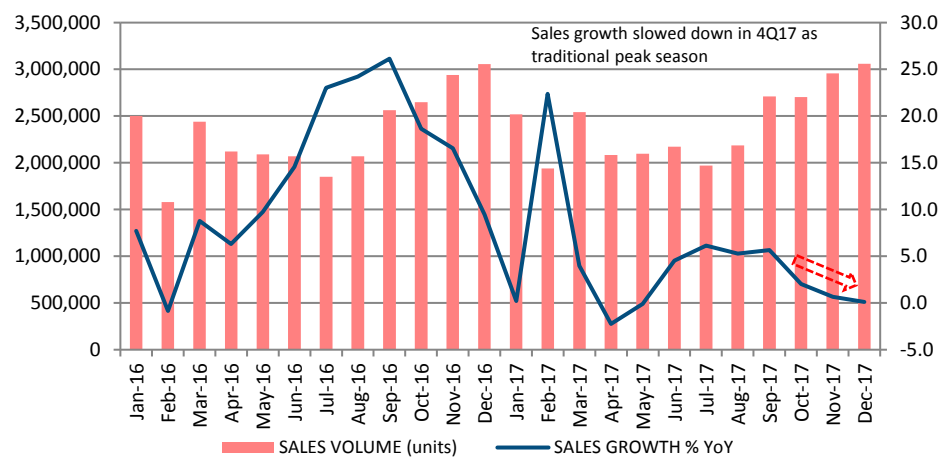
## Following a sharp slowdown in FY17, lacklustre ICE sales growth to remain in FY18

ICE shipment growth continued to slump in Dec-17 with YoY growth hitting a new low of 0.1% in 2H17, and led to a 3.6% YoY growth of total ICE sales in FY17 versus 13.7% in FY16. We attribute the dramatic downturn primarily to the sales growth slowdown of vehicles with displacements of 1.0L-1.6L which have accounted for 69% of the total PV sales volume in FY17.

Specifically, the average growth rate of PVs with displacements of 1.0L-1.6L had slowed to -1% YoY in FY17 from a 22.7% YoY increase in FY16. Thus, with their total shipment volume amounting to 16.9mn units which had accounted for the majority of c.59% of total auto sales volume (PVs+CVs) in FY17, these particular models were the prime culprits weighing on total vehicle sales growth, in our view.

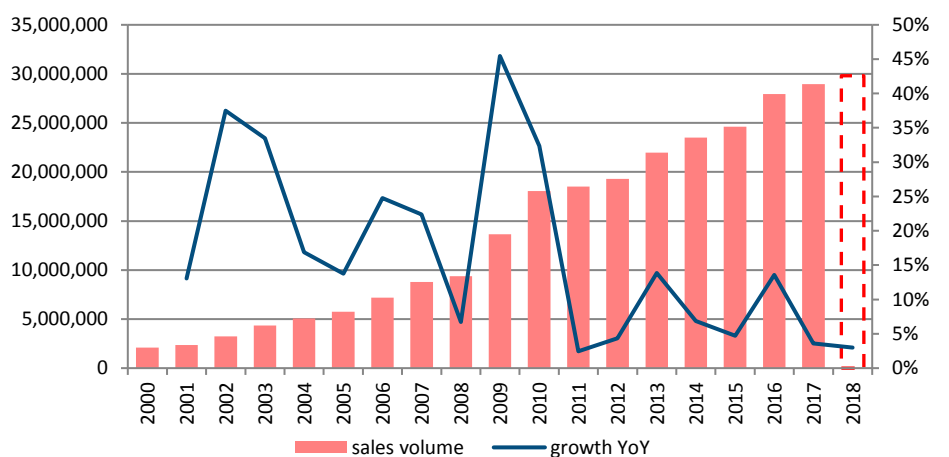
We believe the slowdown in shipments was mainly as a result of the purchase tax rollback from 5% in FY16 to 7.5% in FY17. Looking ahead, we anticipate the sales growth of small displacement PVs to come in even lower from FY18E onwards, continuing to weigh on total vehicle sales growth in the foreseeable future given its substantial contribution to total vehicle sales. As such, we foresee a low single-digit total shipment growth in the range of 2%-3.5% for FY18E.

**Figure 1: ICE sales slowdown in 4Q17 due to weakening demand of small size PV**



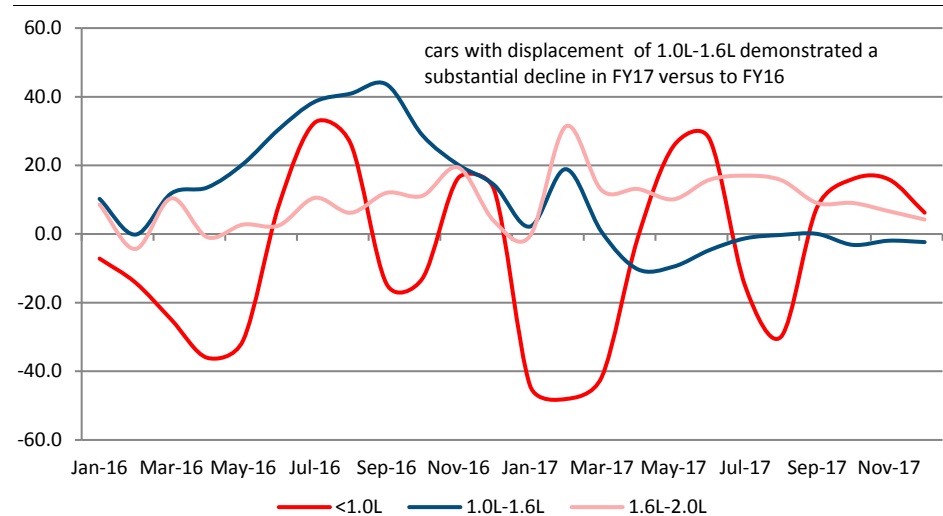
Source: CAAM, CSCI Research

**Figure 2: Total shipment growth likely to remain sluggish in FY18E**



Source: CAAM, CSCI Research

Furthermore, although 3Q and 4Q tend to be the traditional peak season for PV sales, but since the purchase tax will soon be rolled back to 10% from 7.5%, contrary to our previous anticipation to witness robust shipment growth of small displacement vehicles, especially those with displacements below 1.6L, for 4Q17, the average growth rate of vehicles with displacements of 1.0L-1.6L had in fact slumped to -2.49% YoY for the period, which is lower versus our previous estimate whilst it has also come in lower than 3Q17's -0.5% YoY growth figure. As such, we believe the lower-than-expected shipment growth has indicated that the demand for small engine vehicles (lower than 1.6L) may have been largely overdrawn in advance during FY16-17 due to the then lower tax rate, and thus, looking forward into FY18E, we do not foresee small engine vehicle sales to post substantial growth with the growth rate to be maintained at a low single-digit, in our view.

**Figure 3: Auto sales growth by engine size**


Source: CAAM, CSCI Research

**Figure 4: NEV monthly shipments ('0000' units)**

CAAM Sales	total NEV	NEV YoY	- NEV PV	PV YoY	BEV	BEV YoY	PHEV	PHEV YoY	- NEV CV	CV YoY	BEV	BEV YoY	PHEV	PHEV YoY
2017-1	0.6	-74.4%	0.5	-66.2%	0.4	-49.3%	0.1	-88.2%	0.1	-87.4%	0.1	-86.2%	0.0	-99.5%
2017-2	1.8	30.3%	1.7	67.3%	1.3	114.0%	0.3	-10.9%	0.1	-73.8%	0.1	-81.4%	0.0	-24.1%
2017-3	3.1	35.6%	2.8	81.0%	2.4	120.7%	0.5	-3.9%	0.3	-63.6%	0.2	-76.0%	0.1	268.2%
2017-4	3.4	7.9%	3.0	45.2%	2.5	79.5%	0.5	-25.8%	0.4	-64.2%	0.3	-67.7%	0.1	-33.0%
2017-5	4.5	28.4%	3.9	49.4%	3.2	88.9%	0.6	-27.3%	0.6	-30.6%	0.6	-29.8%	0.0	-41.9%
2017-6	5.9	33.0%	4.3	26.1%	3.3	33.3%	1.0	5.9%	1.6	55.9%	1.5	64.0%	0.1	0.9%
2017-7	5.6	55.2%	4.4	49.5%	3.3	63.7%	1.1	17.7%	1.2	79.4%	1.1	93.5%	0.1	5.0%
2017-8	6.7	76.3%	5.5	81.1%	4.4	97.4%	1.1	36.9%	1.3	58.1%	1.2	88.8%	0.1	-47.4%
2017-9	7.8	79.1%	6.1	96.8%	4.8	100.0%	1.3	85.7%	1.7	30.8%	1.6	45.5%	0.1	0.0%
2017-10	9.1	106.7%	6.8	111.5%	5.5	94.8%	1.3	231.0%	2.3	93.7%	2.2	98.1%	0.1	43.8%
2017-11	11.9	83.0%	8.3	81.2%	6.8	65.6%	1.5	217.5%	3.6	87.3%	3.4	96.9%	0.2	3.7%
2017-12	16.3	56.8%	9.8	110.3%	8.2	104.9%	1.6	141.9%	6.4	13.0%	6.2	18.7%	0.3	-48.1%

Source: CAAM, CSCI Research

In contrast to the sluggish sales growth of ICE models, NEVs posted strong shipment growth momentum, especially during 4Q17 with the average growth rate reaching c.80% for the quarter, improving from the c.70% growth in 3Q17, which subsequently led to a 53% YoY growth in the total NEV shipment volume in FY17.

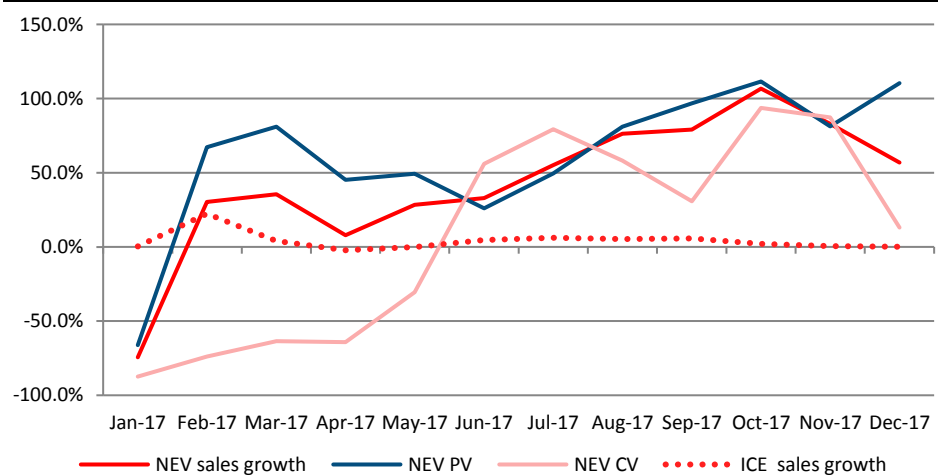
On the basis that the 20% subsidy cuts and delayed announcement of the subsidy list in FY17 being the primary factors that have weighed on NEV shipments in 1H17, we expect a more favourable environment for NEV sales in FY18 in the absence of such concerns. Moreover, despite implementation of the subsidy reduction plan will likely become effective in FY18E, which is earlier than expected, according to rumours, we believe, the subsidy cut for small-engine vehicles will be less than 20% in FY18E and will have a less significant impact on those models versus FY17.

Thus, we remain upbeat on NEV shipment growth in FY18E and believe FY18E will be a transitional period before the dual-credit scheme comes into effect in FY19E, on anticipation that OEMs, in particularly those with a short NEV range per charge, will gather pace in the development process of NEV models in FY18E, and especially for those models with higher CO2 emissions, so as to avoid additional expenditure related to credit purchase in future.

Meanwhile, we noted the total December NEV PV shipment number was more substantial than Nov-17, which we believe was due to the dual-credit scheme announced in Nov-17 scheduled to come into effect in 2019, as such a policy is set to restrict OEMs from launching new ICE models in FY18E if they had in fact failed to meet the gas consumption requirements during 2016-2017 unless they are able to adjust their product pipeline in FY18E. Similarly, we expect the dual-credit scheme will continue to drive NEV shipments in FY18E and lead to a total NEV sales growth at 30%-50%, per our estimate

Taking into consideration that the new potential subsidy cuts which according to rumours are likely to be implemented starting in 1H18 and focused on the A00 class with a range per charge below 300km, we believe the sales growth of those best-selling models in FY17, such as BJEV, ZD and Chery will come under pressure in FY18E as these models tend to leverage sales on smaller size and lower range per charge. Accordingly, we foresee the sales growth of these particular models to come in lower at 30%-50% YoY in FY18E versus FY17.

**Figure 5: NEV PV sales rise in Dec-17 ahead of potential subsidy change in FY18**



Source: CAAM, CSCI Research

**Figure 6: NEV shipment top-10 in 2017**

	Brand	Model	BEV/PHEV	Sales Volume (units)	Range Per Charge	Price after subsidy RMB 000'
1	BJEV 北汽新能源	EC Series	BEV	78,079	156km - 162km	49.8 - 62.8
2	ZD 知豆	D2	BEV	42,342	155km	46.8 - 59.8
3	BYD 比亚迪	Song DM 1.5T	PHEV	29,366	80km	215.9 - 245.9
4	Chery 奇瑞	EQ	BEV	25,140	200km	109.9 - 111.9
5	Geely 吉利	Emgrand EV	BEV	23,225	300km	139.8 - 195.8
6	JAC 江淮	IEV	BEV	23,153	166km - 180km	126.5 - 156.5
7	BYD 比亚迪	E5	BEV	22,423	305km	195.9 - 215.9
8	Changan 长安	奔奔 EV	BEV	21,047	180km - 210km	64.8 - 81.8
9	BYD 比亚迪	Qin 秦	PHEV	19,701	80km - 100km	185.9 - 209.9
10	SAIC 上汽荣威	RX5 1.5t EDU	PHEV	19,509	60km	209.9 - 229.9

Source: Auto Home, CSCI Research

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## Revived auto sales growth from 2018

- BYD is likely to witness a 50% YoY growth in total vehicle shipments to c.600k units in FY18E from 410k units in FY17, according to our estimates.
- Having switched to using NCM batteries from LFP batteries in its BEV PV production starting in FY18E, capacity utilisation of LFP is likely to decline going forward with more battery capacity set aside for external sales.
- We reaffirm our Buy rating and PT of HKD88, given the potential re-rating catalysts and on belief that the recent share price correction provides better re-entry opportunities.

**Total vehicle shipments likely to see a 50% YoY growth in FY18E versus a decline in FY17.** On the basis of our recent meeting with the management, we estimate BYD's FY18E aggregate vehicle sales would amount to 600k units, of which 200k units to be NEVs and 400k units the ICE model. Given that majority of the new NEV models scheduled to be launched in FY18E are designed based on the powerful "Dragon Face" prototype and will offer a longer range per charge, in particularly the brand new A0 SUV that is likely to be equipped with an extended range per charge of 400km as opposed to the initially planned 300km range leveraging on improvement in battery energy density, such upgrade should better compete with the ICE models with a similar price range and thus may rein in a higher amount of subsidies, in our view. As such, we believe 200k units of NEV shipment is an achievable goal in FY18E, whilst we also believe that an additional 100k units of ICE shipments will be easily achievable in FY18E on anticipation of robust monthly shipments of Song MAX given the limited competition for MVPs within the unit price range of RMB80,000-90,000.

**Consumption of NCM battery will grow rapidly in FY18E given all BEV PV production will switch to using NCM batteries instead of LFP.** In FY17, a total of c.7Gwh of LFP battery and 2Gwh NCM battery had been consumed in NEV production, of which 4Gwh LFP had been devoted to BEV buses, 3Gwh LFP to BEV PVs and 2Gwh NCM entirely to PHEV PVs. As the company will switch from using LFP batteries to NCM batteries in its BEV PV production from FY18E onwards, an aggregate 5Gwh of NCM battery capacity will be devoted to the production of BEV and PHEV PV models on assumption that NEV PV shipments in FY18E will remain at a similar level of FY17. However, on the basis that the new A0 BEV SUV and Qin Tang PHEV models may see substantial shipment volume growth in FY18E, we estimate total NCM battery consumption will increase to around 7Gwh-8Gwh whilst a maximum 5Gwh of LFP battery usage will be primarily devoted to BEV bus production. All in all, the remaining battery capacity in FY18E will be around 5Gwh LFP and 3Gwh-4Gwh NCM will be set aside for external sales, in our view.

**Valuation still attractive.** BYD is currently trading at 24x FY18E PER, which we deem still attractive as we believe the market has not fully factored in the valuation re-rating potential driven by the expected growth in either external battery sales or monorail sales. Hence, we believe the recent share price correction provides better re-entry opportunities.

## BYD (1211 HK)

### Buy

(unchanged)

<b>Price Target</b>	<b>HK\$88.0</b>
(Revision)	(Nil)
(upside)	(31%)

EPS	2017E	2018E
revision	(Nil)	(Nil)

Close price	HKD67.15
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Market cap.	USD24,736mn
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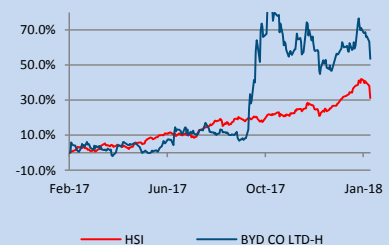
Free float	75.4%
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52-week range	HKD42.5 – HKD83.7
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3-mth ave. T/O	HKD549.1mn
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*Price as of 6<sup>th</sup> February*

### Stock rel HSI performance (%)


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**Income statement (RMBm)**

Year end: Dec	2015	2016	2017E	2018E	2019E
Revenue	77,612	100,208	104,338	152,681	181,256
COGS	(65,753)	(81,189)	(85,681)	(123,252)	(146,257)
Gross profit	11,859	19,018	18,657	29,429	34,999
Selling expenses	(2,868)	(4,196)	(5,008)	(7,634)	(9,063)
General and administrative	(3,429)	(3,690)	(3,652)	(5,344)	(6,344)
Other operating expenses	(1,998)	(3,172)	(3,308)	(4,886)	(5,800)
<b>EBITDA</b>	<b>9,562</b>	<b>15,588</b>	<b>14,190</b>	<b>19,266</b>	<b>21,492</b>
Depreciation & Amortization	(5,417)	(6,917)	(6,900)	(7,100)	(7,100)
Other income	1,410	297	822	804	784
<b>EBIT</b>	<b>5,555</b>	<b>8,968</b>	<b>8,112</b>	<b>12,969</b>	<b>15,176</b>
Net interest	(1,517)	(1,800)	(2,452)	(2,892)	(3,413)
JVs and associates	(243)	(600)	(295)	(295)	(295)
<b>Pretax profit</b>	<b>3,795</b>	<b>6,568</b>	<b>5,365</b>	<b>9,782</b>	<b>11,468</b>
Taxation	(657)	(1,088)	(891)	(1,624)	(1,904)
Minority interests	315	428	358	653	765
<b>Net profit</b>	<b>2,823</b>	<b>5,052</b>	<b>4,116</b>	<b>7,506</b>	<b>8,799</b>
Net profit (adjusted)	2,823	5,052	4,116	7,506	8,799
Basic EPS (RMB)	1.12	1.88	1.43	2.67	3.15
Diluted EPS (RMB)					
DPS (RMB)	-	0.55	0.45	0.83	0.97

**Balance sheet (RMBm)**

Year end: Dec	2015	2016	2017E	2018E	2019E
Cash	6,011	7,111	8,915	16,123	26,277
Short term investments					
Accounts receivables	26,679	45,733	50,306	55,337	60,870
Inventory	15,751	17,378	19,985	22,983	26,430
Other current assets	6,079	8,131	8,872	9,972	11,218
<b>Total current assets</b>	<b>54,519</b>	<b>78,354</b>	<b>88,079</b>	<b>104,415</b>	<b>124,796</b>
PP&E	38,126	42,049	44,949	47,649	50,349
Intangible Assets	7,103	6,759	7,659	7,559	7,459
Associates and JVs	1,889	2,245	2,850	3,300	3,300
Other long term assets	13,849	15,664	15,086	15,316	15,316
<b>Total long term assets</b>	<b>60,967</b>	<b>66,717</b>	<b>70,544</b>	<b>73,824</b>	<b>76,424</b>
<b>TOTAL ASSETS</b>	<b>115,486</b>	<b>145,071</b>	<b>158,622</b>	<b>178,239</b>	<b>201,220</b>
Short term debt	26,413	32,928	39,514	47,417	56,900
Accounts payables	30,656	34,663	30,000	32,400	34,992
Other current liabilities	9,041	10,726	11,793	13,427	15,451
<b>Total current liabilities</b>	<b>66,110</b>	<b>78,318</b>	<b>81,307</b>	<b>93,244</b>	<b>107,344</b>
Long term debt	11,230	9,339	16,500	18,150	19,965
Deferred tax	568	550	600	600	601
Convertible bonds					
Other long term liabilities	1,548	1,455	1,603	1,763	1,940
<b>Total long term liabilities</b>	<b>13,346</b>	<b>11,344</b>	<b>18,703</b>	<b>20,513</b>	<b>22,506</b>
<b>TOTAL LIABILITIES</b>	<b>79,457</b>	<b>89,661</b>	<b>100,010</b>	<b>113,757</b>	<b>129,850</b>
Shareholders' funds	32,294	51,256	54,101	59,318	65,441
Minority Interests	3,735	4,153	4,511	5,164	5,929
<b>TOTAL LIAB AND EQUITY</b>	<b>115,486</b>	<b>145,071</b>	<b>158,622</b>	<b>178,239</b>	<b>201,220</b>
Net cash / (debt)	(31,632)	(35,156)	(47,099)	(49,443)	(50,588)

Source: Company, Bloomberg, CSCI Research estimates

**Cash flow statement (RMBm)**

Year end: Dec	2015	2016	2017E	2018E	2019E
<b>EBIT</b>	<b>5,555</b>	<b>8,968</b>	<b>8,112</b>	<b>12,969</b>	<b>15,176</b>
Depreciation & amortis	5,417	6,917	6,900	7,100	7,100
Net interest	1,517	1,800	2,452	2,892	3,413
Taxes paid	657	1,088	891	1,624	1,904
Changes in working cap	(6,106)	(5,705)	(17,331)	(4,931)	2,808
Others	(3,197)	(14,913)	7,871	1,305	(6,450)
<b>Cash flow from operati</b>	<b>3,842</b>	<b>(1,846)</b>	<b>8,895</b>	<b>20,959</b>	<b>23,950</b>
Capex	(5,751)	(6,217)	(10,700)	(9,700)	(9,700)
Acquisitions					
Disposals	2,348	233	-	-	-
Others	(7,333)	(7,438)	(27)	(680)	-
<b>Cash flow from investi</b>	<b>(10,736)</b>	<b>(13,421)</b>	<b>(10,727)</b>	<b>(10,380)</b>	<b>(9,700)</b>
Dividends	(37)	(237)	(1,272)	(2,288)	(2,676)
Issue of shares	-	14,369	-	-	-
Change in debt	5,774	4,532	7,161	1,650	1,815
Others	3,013	(2,394)	(2,254)	(2,732)	(3,235)
<b>Cash flow from financi</b>	<b>8,750</b>	<b>16,270</b>	<b>3,635</b>	<b>(3,370)</b>	<b>(4,096)</b>
<b>Change in cash</b>	<b>1,856</b>	<b>1,003</b>	<b>1,804</b>	<b>7,208</b>	<b>10,154</b>
Free cash flow	(1,909)	(8,062)	(1,805)	11,259	14,250

**Key ratios**

Year end: Dec	2015	2016	2017E	2018E	2019E
<b>Operating ratios</b>					
Gross margin	15.3	19.0	17.9	19.3	19.3
EBITDA margin (%)	12.3	15.6	13.6	12.6	11.9
Effective tax rate (%)	17.3	16.6	16.6	16.6	16.6
Revenue growth (%)	40.2	29.1	4.1	46.3	18.7
Net income growth (%)	551.3	78.9	(18.5)	82.3	17.2
EPS growth adj (%)	528.7	66.9	(23.7)	86.8	17.7
DPS growth (%)			(16.9)	82.3	17.2
<b>Efficiency ratios</b>					
ROE (%)	8.7	9.9	7.6	12.7	13.4
ROCE (%)	9.1	13.4	11.5	17.6	19.9
Asset turnover (x)	0.7	0.7	0.7	0.9	0.9
Op cash / EBIT (x)	0.7	(0.2)	1.1	1.6	1.6
Depreciation / CAPEX (x)	0.9	1.1	0.6	0.7	0.7
Accounts receivable da	115	132	168	126	117
Accounts payable days	157	147	138	92	84
<b>Leverage ratios</b>					
Net gearing (%)	97.9	68.6	87.1	83.4	77.3
Net debt / EBITDA (x)	3.3	2.3	3.3	2.6	2.4
Interest cover (x)	3.7	5.0	3.3	4.5	4.4
Current ratio (x)	0.8	1.0	1.1	1.1	1.2
<b>Valuation</b>					
PER (x)	56.0	33.5	44.0	23.5	20.0
EV/EBITDA (x)	20.0	13.5	15.7	11.7	10.6
PBR (x)	4.3	3.1	2.9	2.7	2.4
Dividend yield (x)	-	0.01	0.01	0.01	0.02



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## Company Rating Definition

The Benchmark: Hong Kong Hang Seng Index; Time Horizon: 12 months

<b>Buy</b>	12-month absolute total return: $\geq 10\%$
<b>Hold</b>	12-month absolute total return: $> -10\%$ but $< 10\%$
<b>Sell</b>	12-month absolute total return: $\leq -10\%$

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