

23 November 2018

Hong Kong

**EQUITIES**

|  |            |          |
|--|------------|----------|
| 1177 HK  | Outperform |          |
| Price (at 12:01, 22 Nov 2018 GMT)              |            | HK\$7.07 |
| Valuation                                      | HK\$       | 3.55     |
| - NAV  |            |          |
| 12-month target                                | HK\$       | 10.22    |
| Upside/Downside                                | %          | +44.6    |
| 12-month TSR                                   | %          | +45.3    |
| GICS sector                                    |            |          |
| Pharmaceuticals, Biotechnology & Life Sciences |            |          |
| Market cap                                     | HK\$bn     | 89       |
| Market cap                                     | US\$bn     | 12       |
| Free float                                     | %          | 51       |
| 30-day avg turnover                            | US\$m      | 47.2     |
| Number shares on issue                         | bn         | 12.64    |

**Investment fundamentals**

| Year end 31 Dec |   | 2017A  | 2018E  | 2019E  | 2020E  |
|-----------------|---|--------|--------|--------|--------|
| Revenue         | m | 14,819 | 19,596 | 25,215 | 31,460 |
| EBIT            | m | 3,232  | 5,031  | 6,575  | 8,138  |
| EBIT growth     | % | 7.9    | 55.7   | 30.7   | 23.8   |
| Reported profit | m | 2,171  | 2,770  | 3,416  | 4,213  |
| Adjusted profit | m | 2,074  | 2,770  | 3,416  | 4,213  |
| EPS rep         | ¢ | 13.0   | 22.2   | 27.0   | 33.3   |
| EPS rep growth  | % | 32.6   | 70.6   | 21.7   | 23.3   |
| EPS adj         | ¢ | 12.4   | 22.2   | 27.0   | 33.3   |
| EPS adj growth  | % | 20.8   | 78.6   | 21.7   | 23.3   |
| PER rep         | x | 54.3   | 31.8   | 26.2   | 21.2   |
| PER adj         | x | 56.9   | 31.8   | 26.2   | 21.2   |
| Total DPS       | ¢ | 2.9    | 5.3    | 6.5    | 8.0    |
| Total div yield | % | 0.4    | 0.7    | 0.9    | 1.1    |
| ROA             | % | 16.4   | 18.4   | 18.4   | 20.4   |
| ROE             | % | 24.2   | 18.0   | 14.9   | 16.2   |
| EV/EBITDA       | x | 28.2   | 15.2   | 12.1   | 9.9    |
| Net debt/equity | % | -38.3  | -9.7   | -18.7  | -26.6  |
| P/BV            | x | 12.8   | 4.1    | 3.7    | 3.2    |

Source: FactSet, Macquarie Research, November 2018  
(all figures in HKD unless noted)

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[www.macquarie.com/research/disclosures](http://www.macquarie.com/research/disclosures).

## Sino Biopharmaceutical (1177 HK) Trailblazer and innovator

**Key points**

- ▶ Innovative drug pioneer, supported by smart and experienced management.
- ▶ Beijing Tide to contribute 44% of the company's earnings growth in 2018.
- ▶ Initiating coverage with Outperform rating and TP of HK\$10.22, 45% upside.

**Earlier adopter of innovative drugs in China**

Sino Biopharmaceutical (SINO) is an early adopter of innovative drugs, with Runzhong one of the ten best-selling prescription drugs in 2017 in China. It has a good M&A track record, significantly improving sales of acquired assets and disposing at great profit. It has the largest sales force among manufacturers and the second-highest R&D spending, with 178 drugs under development: 25% from innovative drugs and 9% from biologics. Anlotinib (安罗替尼) is a Class 1.1 oncology drug, making SINO one of the few able to develop small-molecule target drugs. The drug was launched in May 2018 and achieved Rmb0.3bn sales in just two months. We target Rmb0.76bn sales for 2018 and 89% growth in 2019. Most of its biologics target launch in 2020.

**Beijing Tide pivotal this year**

Beijing Tide, a 57.6%-owned subsidiary, accounts for 26% of our target price. We estimate the subsidiary to account for 44% of SINO's core earnings growth in 2018, followed by 33% in 2019. During 2017, SINO's 33.6% stake in Beijing Tide accounted for 17% of the former's core profits, which we expect will rise to 24% in 2018 due to organic growth of Beijing Tide and an increase of SINO's stake to 57.6% on 1 March 2018. Beijing Tide produces sustained release formulations through the use of microscopic spheres. It was one of SINO's smartest investments and highlights its ability to access products and technology.

**Family ties: the good and bad**

SINO is a family business. Chairlady Theresa Tse (aged 26) was appointed in 2015. She is the daughter of founders and major shareholders Mr. Tse Ping (CEO aged 67) and Ms. Cheng Cheung Ling (Vice Chairlady aged 55). Tse Ping represents the third generation of the founding Chia Tai (正大集团) family, Asia's fourth richest, reputed for its entrepreneurship, long history in China and strong ties with authorities. We believe the DNA will not change and SINO will remain an adventurous and opportunistic trailblazer. Its subsidiaries are on average 60%-owned, which leads to a much larger minority interest than peers. In 2018, the company bought a 24% stake of Beijing Tide from the chairlady for Rmb11.4bn at 37x 18E PER, a full valuation considering the stock currently trades at 33x. The deal was funded by shares and diluted earnings by 12%.

**Valuation**

We apply 30x PE on 2019E EPS of all therapeutical areas to arrive at our target price of HK\$10.22, implying 45.3% TSR. We believe the multiple is justified in view of the strong earnings growth (34% in 2018 and 23% in 2019), versus peers trading at 27.9x (12% growth in 2019).

**Key risk**

A family business with connected transactions might lead to governance issues.

## Inside

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## MQ forecast vs Consensus forecast (Rmb bn)

|                   | 2015A | 2016A | 2017A | 2018E  | 2019E |
|-------------------|-------|-------|-------|--|-------|
| <b>Revenue</b>    | 11.8  | 13.5  | 14.8  | MQ <b>19.6</b> <b>25.2</b><br>Cons <b>20.6</b> <b>24.7</b><br>Dif% -5% 2%  |       |
| <b>Net profit</b> | 2.85  | 2.82  | 3.48  | MQ <b>2.77</b> <b>3.42</b><br>Cons <b>2.96</b> <b>3.66</b><br>Dif% -6% -7% |       |

Source: FactSet, November 2018

MQ: Macquarie forecast, Cons: FactSet consensus

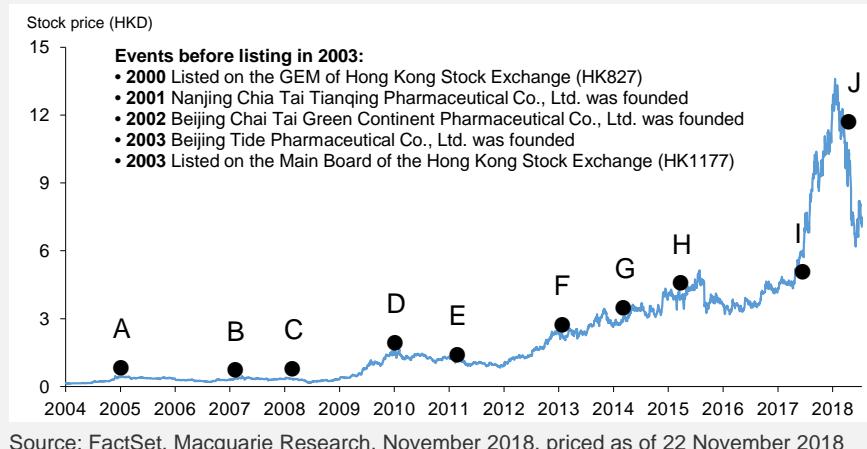
## Events after listing in 2003:

- A 2005:** Founded Jiangsu Chia Tai Fenghai Pharma & Yancheng Suhai Pharma and sold Shandong Chia Tai Freda Pharma
- B 2007:** Founded Jiangsu Chia Tai Qingjiang Pharma
- C 2008:** Founded Qingdao Chia Tai Haier Pharma
- D 2010:** Runzhong was launched  
Admitted into HSI-Consumer Goods and HSI SmallCap constituent stock
- E 2011:** Founded Chia Tai Shaoyang Orthopaedic Hospital
- F 2013:** Imatinib Mesylate and Zhiruo were launched
- G 2014:** Acquired of Karolinska Development and became the largest shareholder
- H 2015:** Acquired LifeBond, an Israel based medical device company, and became the second largest shareholder  
Invest US\$200mn in Pitango Venture Capital, the largest VC in Israel
- I 2017:** Acquired 42% stake of Qingdao Chia Tai Haier with Rmb352mn, total interest amount up to 93%
- J 2018:** Acquired 24% stake of Beijing Tide with total interest up to 57.6%  
Admitted into HSI constituent stock  
Anlotinib Hydrochloride was launched

## Company profile

- Sino Biopharmaceutical Limited (SINO) is a leading pharmaceutical group in China, with business encompassing an integrated cycle from research & development, manufacturing, to sales & marketing. Major subsidiaries include Chia Tai Tianqing (products: Runzhong and Tianqingsanmei), Nanjing Chia Tai Tianqing (Tuotuo and Tianqingning), Beijing Tide (Kaishi and Kaina), Jiangsu Chia Tai Fenghai (Xinhaineng and Fenghaineng), Qingdao Chia Tai Haier (Gaisanchun), and Jiangsu Chia Tai Qingjiang (Jiuli).
- SINO runs a diversified portfolio of products, with therapeutical areas across hepatitis, cardio-cerebral, oncology, analgesic, orthopaedics, and infectious, respiratory and anorectal diseases as well as parenteral nutrition. Blockbusters include Runzhong (润众) which hit Rmb3.2bn sales in FY17 and showed 7% YoY growth in 1H18. Tianqingsanmei (天晴甘美), Kaifen (凯纷) and Kaishi (凯时) are also blockbusters, with over Rmb1bn sales in FY17, followed by another five with sales over Rmb0.5bn and 23 over Rmb0.1bn.
- SINO is proactive in M&A, with the latest acquisition in November 2017 when it acquired a 42% stake in Qingdao Chia Tai Haier from Haier Group for Rmb352m, increasing its stake to 93%. In March 2018, it acquired 24% of Beijing Tide for HK\$12.9bn and consolidated the entity as a subsidiary with 57.6% stake.
- Chairwoman Theresa Tse is the fourth generation of the Tse (Clearavanont in Thailand) family and is the daughter of Mr. Tse Ping (CEO) and Ms. Cheng Cheung Lin (Vice Chairwoman), founders and major shareholders of the company. She graduated with a Bachelor Degree of Science in Economics from the Wharton School of University of Pennsylvania and became Chairwoman and Executive Director in 2015 and a major shareholder in 2018.
- SINO was listed on GEM Board in 2000, moving to the Main Board in 2003. It has grown rapidly throughout the last 20 years from revenue of Rmb250m and net profits of Rmb20m in 1998 to an estimated Rmb19.6bn and Rmb2.77bn in 2018. Moving forward, SINO has ambitious plans, with a strong pipeline of products, promising growth potential.
- From 2014 to 2017, revenue and earnings CAGR were 15% and 21%, respectively. The hepatitis, oncology and cardiovascular segments contributed 44%, 11% and 10% of 2017 revenue. We expect revenue and earnings to increase by 32% and 34% in 2018, due to consolidation of Beijing Tide as well as new product launches such as anlotinib (安罗替尼) and lidocaine cataplasms (利多卡因).

Fig 1 Company History



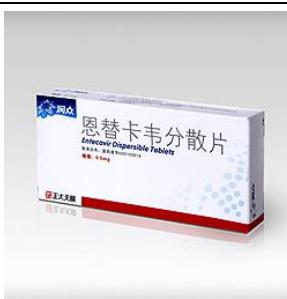
Source: FactSet, Macquarie Research, November 2018, priced as of 22 November 2018

## Trailblazer and innovator

### Earlier adopter of innovative drugs in China

**One of the very few Chinese drug companies able to develop a chemical product, market it successfully in China and sell it to a foreign company for global sales**

#### Runzhong (润众)



**Tianqingganmei (天晴甘美)**



**Tianqingganping (天晴甘平)**



Source: Company website (authorized by management), November 2018

Management has very good vision on where the healthcare industry is heading in terms of both policies and product development. In the 1990s, when most drug companies were still busy with traditional Chinese medicines (TCM) and the manufacture of active pharmaceutical ingredients and intermediates of western drugs, SINO management was prowling for differentiated products and business models. Compared to foreign drug companies or some domestic biotechnology start-ups these days, SINO can hardly be called technology-intensive. However, it has been ahead of peers almost all the time. It is one of the very few Chinese drug companies able to develop a chemical product through acquisition of a domestic company, market it successfully in China and sell it to a foreign company for global sales, which attests to its vision, execution and commercial prowess.

It bought a 55% stake in CTF in 1994 for Rmb6m, which made eye drops with active ingredients plus hyaluronan (approved in 1993). The advantages of hyaluronan, now commonly used, are its viscosity and long retention time on the surface of the eyes, making it suitable for dry eyes, would healing and lubricating joints. SINO sold its stake to Bausch & Lomb in 2005 for US\$200m at 18.6x trailing PE. In 2003, it bought a 35% stake in Beijing Tide for Rmb80m and grew its net profits to an estimated Rmb1.29bn in 2018. It produces sustained release formulations through the use of microscopic spheres that encapsulate active ingredients and control their release into the blood stream. The technology is useful in converting well-known drugs with poor characteristics such as short half-life and high toxicity into user-friendly products.

Tianqingganmei (天晴甘美) and Tianqingganping (天晴甘平) are good examples where SINO (through acquisition) successfully develops and markets modernized Chinese medicine. The two products and their previous versions are extracts from liquorice, a common ingredient present in many Chinese drug formulas targeting various disorders. In western pharmacology, liquorice interferes with the secretion of corticosteroids, which regulate bodily functions. In Chinese medicine, liquorice is considered to help protect liver cells from injuries caused by hepatitis B virus but it does not directly eliminate the virus. However, its relatively low side effects make it more tolerable than western drugs. The company's technology is in the extraction, separation and purification processes. It makes sense to combine its use with the anti-viral western drugs.

Seeing the big potential in the hepatitis B market in China (90m patients, among which 28m need immediate treatment), the company ran ahead of peers to launch the first-to-market generic of entecavir and branded it Tianding (天丁). Together with its other dosage forms (same active ingredient): Tianding and Ganze, we estimate close to Rmb4bn sales in 2018, making it **one of the ten best-selling non-TCM prescription drugs in China**. The advantages of first-to-market generics are fewer competition, higher margins and longer stays in the market. In the past, first-to-market generics were treated as new drugs in the approval process, but, under the new classification, they only need the qualification of a generic drug.

We also like SINO's R&D capability. Fukewei's (福可维) active ingredient is anlotinib (安罗替尼). This is a Class 1.1 drug in oncology. SINO is one of the few companies able to develop small-molecule target drugs in this field. The successful development and launch of anlotinib is **very important in showing the company's capability to develop innovative drugs and adapt to new drug development procedures** after a series of reforms with the regulators. The project was launched in May 2018 and achieved Rmb0.3bn sales in just two months. We target sales of Rmb0.76bn for 2018 and up 90% to Rmb1.44bn in 2019.

The company is also working on biological drugs. We believe a **potential surprise to the market is that most of their biologics are already in Phase 3** and target launch in 2020. They cover most of the targets of existing blockbuster biological drugs on the market such as Rituxan, Herceptin and Avastin. While development of biologics is more difficult than and very different from that of chemical drugs, it shows how SINO is able stay abreast of the latest trend. Management is smart in catching the right patient demographics, as shown by their picks of early-to-market generics. Ticagrelor in the cardiovascular field, budesonide in the respiratory field and bortezomib in the oncology field are just a few examples. When these future products are combined with one of the largest and most experienced sales force, their market impact should be huge. The ability to develop and market generics as well as the capability to launch the right generics quickly to the market are key strengths for SINO down the road, differentiating the company from its competitors.

## Beijing Tide the biggest driver in 2018

We forecast 32% and 34% growth in revenue and earnings in 2018 for SINO, driven by new launches and an increase in stake of Beijing Tide. 1H18 YoY growth achieved was 30% for revenue and 42% for core earnings. During 2017, SINO's 33.6% stake in Beijing Tide accounted for 17% of the former's core profits, which we expect will rise to 24% in 2018 due to organic growth of Beijing Tide and an increase of SINO's stake to 57.6% on 1 March, 2018. Beijing Tide was one of the smartest investments by the company's management and highlights their ability to access products and technology through good connection with authorities.

**Beijing Tide accounts for 26% of our target price**

We estimate Beijing Tide to account for 44% of SINO's core earnings growth in 2018, followed by 33% in 2019. Its three key drugs in multiple dosage forms face different fates in 2018. Flubiprofen injections (Kaifen) and its patch (Zepolas) should generate Rmb2.75bn sales, up over 35% YoY. Its cardiovascular drug Kaina (凯那) should see 20% growth to reach Rmb0.45bn in 2018, but we expect a decline for Kaishi (凯时) by 30% to Rmb0.76bn. The most-watched event should be the launch and performance of Debaining (得百宁) with active ingredient Lidocaine. We expect Beijing Tide earnings attributable to SINO to grow 32% in 2019 and 23% in 2020. It accounts for 26% of our target price.

**Fig 2 Contribution of Beijing Tide before and after consolidation (Rmb in thousand)**

|  | 2014      | 2015      | 2016      | 2017      | 2018F     | 2019F     | 2020F     |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Tide profit  | 686,345   | 783,048   | 928,787   | 1,067,742 | 1,290,509 | 1,531,097 | 1,739,000 |
| Sino Bio profit  | 1,173,999 | 1,437,083 | 1,637,378 | 2,073,820 | 2,769,845 | 3,415,978 | 4,213,054 |
| Profit attributable to Tide                              | 230,612   | 263,104   | 312,072   | 358,761   | 665,903   | 881,912   | 1,001,664 |
| % of profit attributable to Tide                         | 20%       | 18%       | 19%       | 17%       | 24%       | 26%       | 24%       |
| Sino Bio profit incremental                              | NA        | 263,084   | 200,295   | 436,442   | 696,025   | 646,133   | 797,075   |
| Profit incremental of Sino Bio attributable to Tide      | NA        | 32,492    | 48,968    | 46,689    | 307,142   | 216,009   | 119,752   |
| % of profit incremental of Sino Bio attributable to Tide | NA        | 12%       | 24%       | 11%       | 44%       | 33%       | 15%       |

Source: Company data, Macquarie Research, November 2018

We expect more exciting launches in coming years, driven by huge R&D investments and strong DNA in the development of innovative and first-to-market generic drugs. SINO currently has 2,000 R&D staff working in ten research centers. Some 4% of the R&D team have PhD degrees, and 59% have master's degrees. Of the 178 drugs under development, 25% are innovative drugs, 9% are biologicals and 65% are generics. In terms of therapeutic fields, oncology drugs account for 41%, followed by 12% in liver disorders, 10% in antibiotics.

## More than just a pharmaceutical company

**The strong management team with close relationships with each other, good connection with authorities and long experience in healthcare industry help the chairlady execute**

SINO is a family-owned business. Chairwoman Theresa Tse (aged 26) was appointed in 2015. She is the daughter of founders and major shareholders Mr. Tse Ping (aged 67) and Ms. Cheng Cheung Ling (aged 55). Executive Director Mr. Tse Hsin (aged 49) is a first cousin of Mr. Tse Ping. Other senior management includes family members such as Miss Tse Wun (aged 52), sister of Tse Hsin; Ms. Chia Fai (aged 61), sister of Mr. Tse Ping; Mr. Tse Hsuan, Johnny (aged 49), also first cousin of Mr. Tse Ping. Most have professional education and have been working with the company for a long time. The key shareholders are Ms. Cheng Cheung Ling (18%) through holding companies Chai Tai Bainian and Remarkable Industries, Mr. Tse Ping (12%) through holding company Validated Profits and Miss Theresa Tse (10%), through holding company France Investment. The strong management team, bonded by close family relationships, good connections with authorities and long experience in the healthcare industry help the chairwoman execute efficiently and plan future strategies.

**Some of the most exciting events happened before the company was listed**

Some of the most exciting events happened before the company was listed on the GEM board in 2000 and main board in 2003. In 1992, the year when the current chairwoman was born, her parents acquired a stake in the prestigious yet controversial quasi-SOE Sanjiu Pharmaceutical. At a time when foreign investment was not given an official green light in China, SINO's predecessor managed to secure a 49% stake through a US\$20m capital injection, impressively achieving a landmark deal when most of the pharmaceutical assets were in the hands of SOEs.

In 1994, the company made another important acquisition. Through a capital injection of Rmb6m, it bought a 55% stake in CTF, a company that made eye drops. In 2005, SINO sold this stake to Bausch & Lomb for US\$200m at 18.6x 2014 PE or 12x net asset value. This shrewd disposal provided funding for the company embark a new era of R&D into new projects.

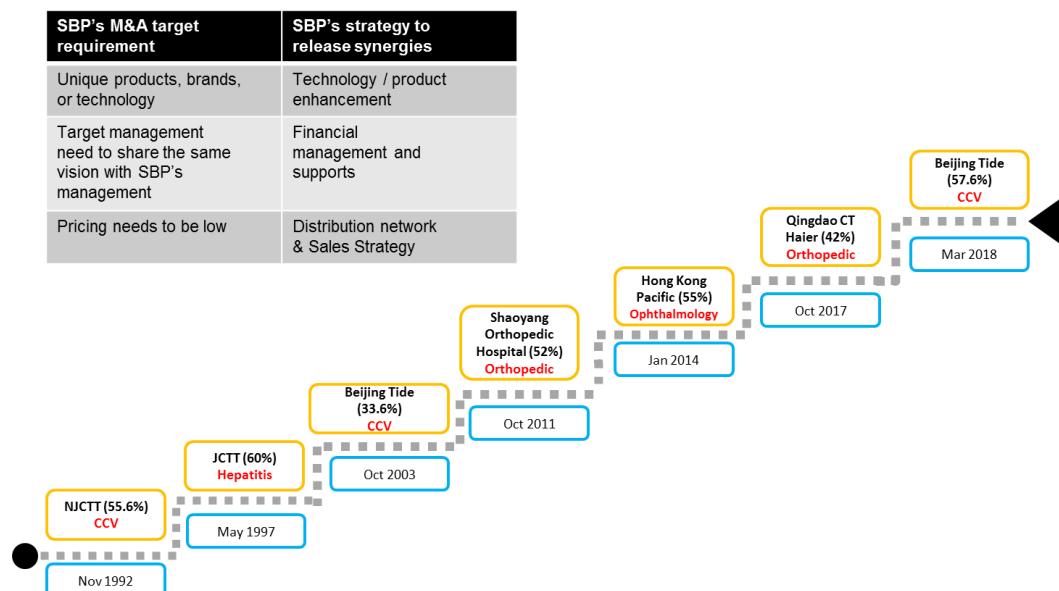
**Mr. Tse Ping belongs to the third generation of fourth-richest family in Asia**

Mr. Tse Ping belongs to the third generation of fourth-richest family in Asia, the founding family of Chia Tai (正大集团). CP Group is a conglomerate that started off as a producer of animal feed and livestock, and expanded into retail, telecommunications, finance, media, machinery and autos, and real estate, mainly in Thailand and China. It also has sizable stakes in Ping An Insurance (2318 HK, HK\$75.30, Outperform, TP: HK\$110.00, Scott Russell), and CITIC Pacific (267 HK, Not Rated). The first generation left Guangdong Province for Thailand in the 1920s but returned to China as the first foreign company to set up business in Shenzhen when China opened up in 1978. CP Group has now grown to annual revenue of US\$55bn with total staff of 350k. Chairman Dhanin Chearavanont, of the second generation of the family, passed the torch to his sons Soopakij and Suphachai in 2017. Tse Ping is Senior Vice Chairman of CP Group.

**We believe the DNA will not change and SINO will remain an adventurous and opportunistic trailblazer in the industry**

While his family was building the CG Group empire in Thailand, Tse Ping stayed behind in China. He had to endure a few years of hardship in the countryside during turbulent times and left for HK in the 1970s and ran the family's retail jewellery business. In the 1990s, he started acquiring stakes in various pharmaceutical companies. The strategy, in our view, is more like an investment holding company, diversifying exposure to different product types. The core strength of SINO is in sales and marketing. Through acquiring good products with weak distribution expertise, SINO's participation can significantly boost the profits of the acquired businesses. We think this strategy will not change. As for Chairwoman Theresa Tse, despite being brought up in a much more comfortable environment, we believe she will lead the company to look for acquisition opportunities. It is worth noting that her father started his career in the jewellery business and her mother started investing in the pharmaceutical business at a similar age to her current age. We think that this family will enable SINO to remain an opportunistic trailblazer in the industry.

**Fig 3 SINO M&A History**



Source: Company data, Macquarie Research, November 2018

Fig 4 Major subsidiaries of SINP as of 1H2018

| Company Name   | Business                | Shareholdings% |
|--|-------------------------|----------------|
| Chia Tai Pharmaceutical Investment (Beijing) Co., Ltd. | Investment              | 100            |
| Jiangsu Runji Investment Co., Ltd.                     | Investment              | 60             |
| Jiangsu Chia Tai Qingjiang Pharmaceutical Co., Ltd.    | R&D, Manufacture, Sales | 55.588         |
| Jiangsu Chia Tai Qingjiang Medicines Co., Ltd.         | Sales & Distribution    | 55.588         |
| China Biotech & Drug Development Limited               | R&D                     | 51             |
| Qingdao Chia Tai Haier Pharmaceutical Co., Ltd.        | R&D, Manufacture, Sales | 93             |
| Qingdao Heng Seng Tang Pharmacy Co., Ltd.              | Retail                  | 93             |
| Qingdao Chia Tai Haier Medicines Co., Ltd.             | Sales & Distribution    | 93             |
| Tianjin Zhenwutang Food Co., Ltd.                      | Manufacture & Sales     | 51             |
| Shanghai Tongyong Pharmaceutical Co.                   | R&D, Manufacture, Sales | 81.786         |
| Shanghai Tongzheng Import Export Co., Ltd.             | Sales & Distribution    | 81.786         |
| Jiangsu Chia Tai Fenghai Pharmaceutical Co., Ltd.      | R&D, Manufacture, Sales | 60.898         |
| Jiangsu Chia Tai Fenghai Medicines Co., Ltd.           | Sales & Distribution    | 60.898         |
| Nanjing Chia Tai Fenghai Medicines Technology Co., Ltd | Sales & Distribution    | 60.898         |
| Chia Tai-Tianqing Pharmaceutical Holdings Co., Ltd.    | R&D, Manufacture, Sales | 60             |
| Lianyungang Chia Tai Tianqing Medicines Co., Ltd.      | Sales & Distribution    | 60             |
| Lianyungang Tianrun Pharmacy Ltd.                      | Retail                  | 60             |
| Lianyungang Runzhong Pharmaceutical Co., Ltd.          | Manufacture & Sales     | 60             |
| Nanjing Shunxin Pharmaceutical Co., Ltd.               | Manufacture & Sales     | 60             |
| Nanjing Chia Tai Tianqing Pharmaceutical Co., Ltd.     | R&D, Manufacture, Sales | 55.6           |
| Beijing Tide Pharmaceutical Co. Ltd.                   | R&D, Manufacture, Sales | 57.6           |

Source: Company data, Macquarie Research, November 2018

## Valuation, recommendation, risks

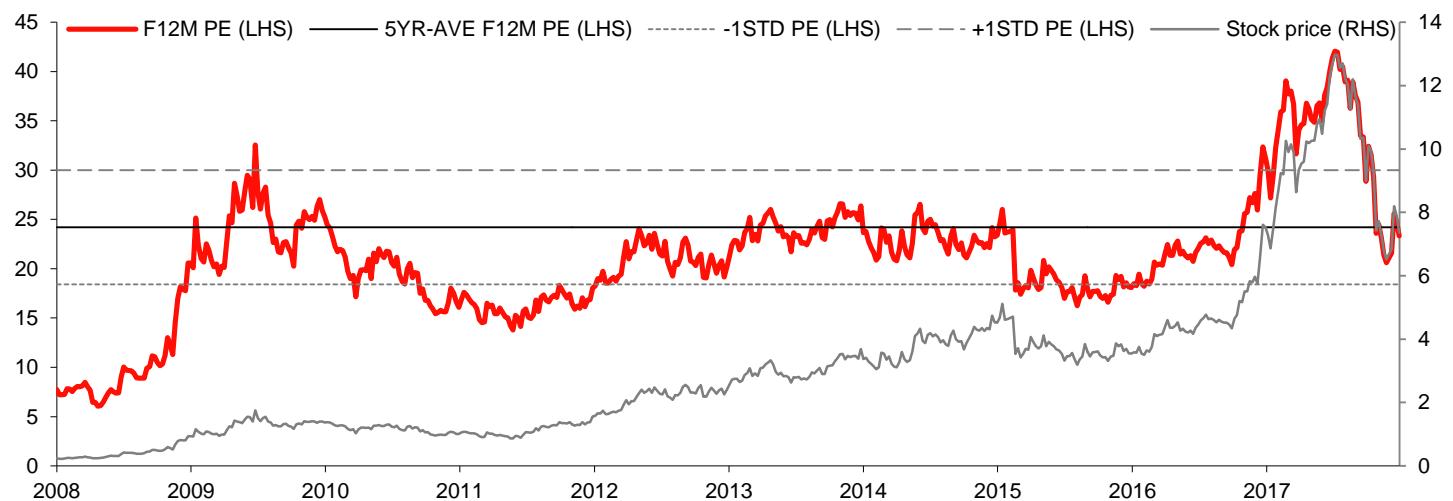
We base our target price on 2019E PE multiples, but we differ from our peers in providing 1) free cash flow analysis on each product and business, 2) a breakdown of revenue and earnings into individual products or subsidiaries and associates, with respective margin/SGA/tax assumptions, plus 3) major products under development, as far as into the pre-clinical stage if meaningful, associated with estimated probability of each event, R&D of each stage, and sales trajectory.

The discounted free cash flows will result in a gross asset value, which, after adding the net cash (or minus net debt) and working capital, will become net asset value (NAV). Currently, we use end-2019 to calculate our NAV estimates. NAV estimates are important in two important aspects:

- evaluating the present value of projects under development, which may not be able to contribute to earnings in the next three years;
- considering the impact on balance sheet after acquisitions and disposals, which may not be captured when just using a PE multiple to value a company.

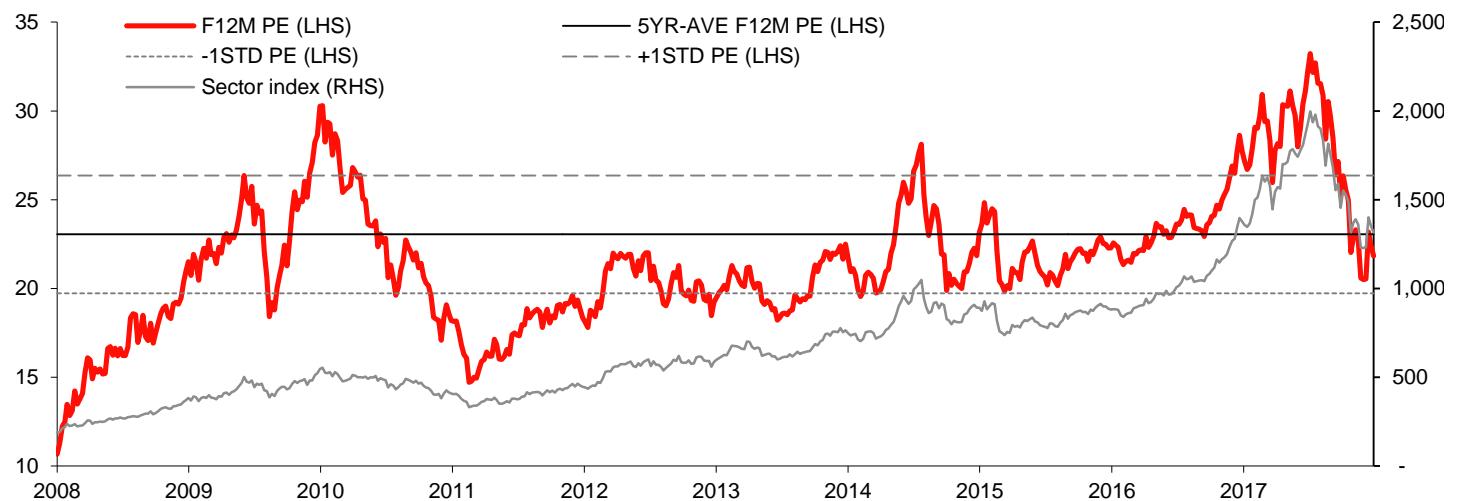
We apply 30x PE on 2019E EPS of all therapeutical areas, to arrive at our target price of HK\$10.22, implying 45.3% TSR. We believe the multiple is justified in view of the strong earnings growth (34% in 2018 and 23% in 2019) versus peers trading at 27.9x (12% growth in 2019). SINO currently trades at 26.2x 12-month forward PE, versus historically at 24.2x.

**Fig 5 SINO (1177-HK) Historical PE multiple, average PE and stock price (HKD)**



Source: Factset, Macquarie Research, November 2018, priced as of 22 November 2018

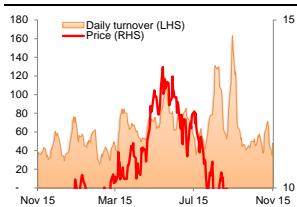
**Fig 6 Sector (Pharma) Historical PE multiple, average PE and sector index**



Source: Factset, Macquarie Research, November 2018, priced as of 22 November 2018

We estimate NAV of HK\$3.55, using a discount rate of 8.70%. Cost of equity is calculated using a risk-free rate of 3.5% and risk-free premium of 7%, which are the same across all healthcare companies under coverage. We assign a beta of 1.13 versus MSCI China, as compared to latest two-year weekly beta of 1.24 versus MSCI China-A (1.31 if versus Hang Seng Index).

### SINO stock and volume



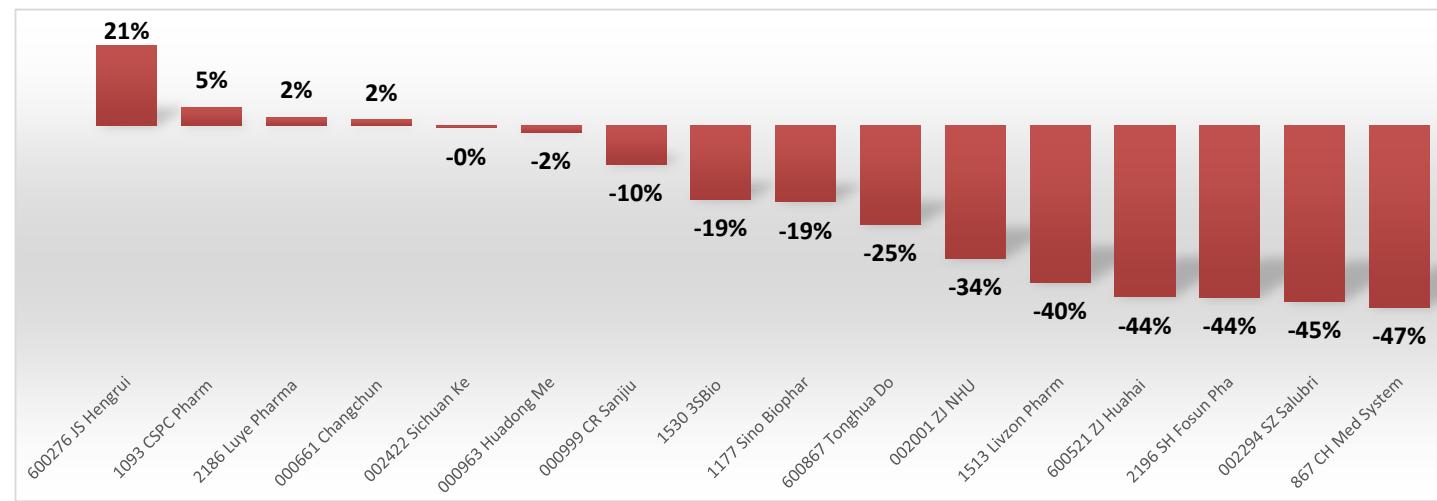
Source: FactSet, Macquarie Research, November 2018 (HKD)

Our NAV can be broken down into HK\$1.15/share from oncology, HK\$0.73 from hepatitis, HK\$0.41 from analgesic, HK\$0.34 from orthopaedic, HK\$0.31 from Cardio-cerebral, HK\$0.19 from Digestive, HK\$0.31 from Anti-infectious, Respiratory & Parenteral nutrititious, Vitamin C & caffeine, HK\$-0.88 from others and HK\$0.99 from working capital.

We project five years of total R&D expenditure of Rmb16.4bn. This is compared to about Rmb1.3bn spent during 1H18, or 13.7% of revenue. Such expenditure is supposed to go into preclinical and clinical drug development as well as bioequivalence studies for generic drugs. Not all of their revenue impact down the road has been fully captured in our model.

YTD, SINO has been a median performer among the pharmaceutical manufacturers, down 19%, exactly the sector median of our pharmaceutical index portfolio. We believe there is opportunity to bottom fish, given SINO's strong growing outlook.

Fig 7 YTD stock performance among peers



Source: Factset, Macquarie Research, November 2018, priced as of 22 November 2018

Fig 8 Comparables (Price in trading currency)

| Ticker         | Company         | Mkt. Cap. (US\$ bn) | Listed Curr. |        |        | P/E   |       |       | EV/EBITDA |       |       | P/BV  | Yield | 2018/19 growth |         |
|----------------|-----------------|---------------------|--------------|--------|--------|-------|-------|-------|-----------|-------|-------|-------|-------|----------------|---------|
|                |                 |                     | TP           | Price  | Rating | 2018F | 2019F | 2020F | 2018F     | 2019F | 2020F |       |       | Revenue        | Profits |
| 600276-CN      | Hengrui         | 34.0                | NR           | 63.32  | NR     | 58.1  | 45.8  | 36.4  | 50.0      | 12.2  | 0.2%  | 25.6% | 27.0% |                |         |
| 1093-HK        | CSPC            | 13.2                | 25.39        | 16.00  | OP     | 27.4  | 20.1  | 16.1  | 18.0      | 13.6  | 11.1  | 5.5   | 1.2%  | 26.1%          | 36.6%   |
| 1177-HK        | Sino Biopharm   | 12.0                | 10.22        | 7.07   | OP     | 31.8  | 26.2  | 21.2  | 15.2      | 12.1  | 9.9   | 4.1   | 0.7%  | 28.7%          | 23.3%   |
| 2196-HK        | Fosun Pharm-H   | 10.4                | NR           | 27.55  | NR     | 22.7  | 18.2  | 15.8  | 16.7      | 13.5  | 11.9  | 2.2   | 1.6%  | 18.1%          | 24.7%   |
| 000963-CN      | Huadong Med     | 7.4                 | NR           | 34.54  | NR     | 22.8  | 18.2  | 14.8  | 17.5      | 14.0  | 11.7  | 5.1   | 1.7%  | 12.9%          | 25.3%   |
| 002422-CN      | Sichuan Kelun P | 5.1                 | NR           | 24.59  | NR     | 28.6  | 22.7  | 18.4  | 12.5      | 10.4  | 9.3   | 2.8   | 1.2%  | 17.4%          | 26.3%   |
| 002001-CN      | ZJ NHU          | 4.6                 | NR           | 16.23  | NR     | 9.3   | 13.0  | 14.0  | 7.5       | 8.1   | 7.6   | 2.2   | 5.8%  | 19.6%          | -28.5%  |
| 000661-CN      | Changchun High  | 4.6                 | NR           | 187.95 | NR     | 32.6  | 24.8  | 19.0  | 20.7      | 15.4  | 11.8  | 6.1   | 0.6%  | 28.0%          |         |
| 600867-CN      | Tonghua Dongbao | 4.2                 | NR           | 14.44  | NR     | 29.0  | 25.2  | 19.8  | 22.6      | 18.2  | 14.6  | 5.8   | 1.3%  | 18.9%          | 15.2%   |
| 1530-HK        | 3SBio           | 4.0                 | NR           | 12.34  | NR     | 24.6  | 19.8  | 15.6  | 20.6      | 16.7  | 14.0  | 3.3   | 0.0%  | 21.9%          | 24.6%   |
| 002294-CN      | Salubris        | 3.7                 | 40.06        | 25.22  | OP     | 16.1  | 12.9  | 10.8  | 12.6      | 10.1  | 8.5   | 3.8   | 3.6%  | 21.9%          | 25.1%   |
| 000999-CN      | CR Sanjiu       | 3.5                 | NR           | 24.72  | NR     | 16.9  | 15.2  | 13.7  | 12.0      | 10.6  | 9.6   | 2.2   | 1.3%  | 13.1%          | 11.5%   |
| 1513-HK        | Livzon Pharm-H  | 3.2                 | 37.61        | 29.05  | OP     | 17.2  | 14.4  | 13.5  | 7.8       | 6.9   | 6.3   | 1.7   | 1.7%  | 14.5%          | 19.9%   |
| 867-HK         | CMS             | 3.1                 | NR           | 9.52   | NR     | 10.7  | 9.3   | 8.3   | 7.4       | 6.6   | 6.1   | 2.4   | 3.5%  | 9.7%           | 15.2%   |
| 2186-HK        | Luye            | 2.6                 | 8.76         | 6.46   | OP     | 15.4  | 13.4  | 12.2  | 10.4      | 9.0   | 8.3   | 2.4   | 1.0%  | 21.0%          | 15.8%   |
| 600521-CN      | ZJ Huahai Pharm | 2.5                 | NR           | 14.03  | NR     | 76.8  | 150.0 | 49.0  | 20.2      | 15.0  | 15.9  | 3.3   | 1.1%  | 19.7%          | -48.8%  |
| <b>Median</b>  |                 |                     |              |        |        | 23.7  | 19.0  | 15.7  | 17.1      | 13.5  | 11.7  | 3.3   | 1.3%  | 19%            | 16%     |
| <b>Average</b> |                 |                     |              |        |        | 27.0  | 27.9  | 18.6  | 18.1      | 13.0  | 11.3  | 4.2   | 1.7%  | 18%            | 12%     |

OP: Outperform, N: Neutral, UP: Underperform, NR: Non-rated; Rated forecasts by Macquarie Research and non-rated forecasts by FactSet Consensus.

Source: FactSet, Macquarie Research, November 2018, priced as of 22 November 2018

### Key Risks

The strong family ties, support from authorities and connected transactions among family members' holdings, sister companies and SINO may raise corporate governance risks. With a gigantic family tree covering diverse businesses in China and Thailand, we do not have full disclosure of the latest fundamentals of the assets of non-listed family assets.

Before SINO was listed on the GEM Board in 2000 (HKEX in 2003), according to Tse Ping, during the financial crisis in the late 1990s he had to sell off eight pharmaceutical companies to raise capital for the family to repay its debt. These were stakes in drug manufacturers which he acquired between 1991 and 1997 and improved through strengthening their sales and marketing. Then, by investing his own money, he gained control of the remaining businesses and founded SINO.

In January 2018, SINO bought a 24% stake in Beijing Tide from the chairwoman through the issuance of shares at HK\$12.73. The purchase price was about 27% of our estimated 2018 earnings. After the acquisition, SINO will own 57.6% of Beijing Tide and consolidate its operations. Beijing Tide contributed 24% of SINO's earnings in 2018, according to our estimates; and the former's attributable growth contributed 44% of SINO's earnings growth in 2018. While the deal is crucial in supporting 2018 earnings growth, it was purchased at an expensive price, in our opinion. The deal was valued at 37x 2018 or 30x 2020 PE multiples based on our estimates. The chairlady's stake in the company increased from 0% to 12%, diluting the interests of the rest.

***There may be more of the above transactions down the road, causing concerns to some investors.***

***The current major revenue contributors have been on the market for a while and are facing the problem of sales almost peaking or slowing down***

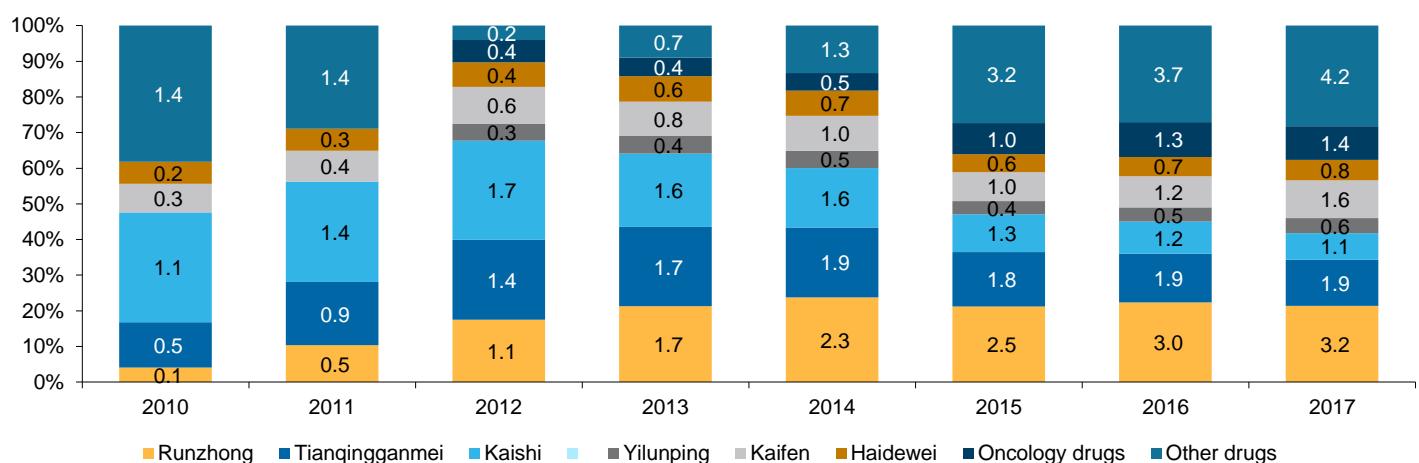
There may be more such transactions down the road, causing concerns to some investors. In addition to the 42% shareholding of SINO, the company's founding family has strong incentive to get key operating subsidiaries on track, as they also directly hold respective 5%/9.4%/27% equity shares in key subsidiaries Jiangsu Chia Tai Tianqing, Nanjing Chia Tai Tianqing and Beijing Tide.

The current major revenue contributors have been in the market for many years and are facing the problem of sales almost peaking, such as Runzhong, Tianqingshanmei, Kaishi and Kaina, which accounted for almost half of the company's revenue in 2017. The oncology segment has been growing quickly. However, if the traditional segment is slowing down faster than expected, there is risk SINO will suffer a gap in growth. A new drug for hepatitis, Qingzhong, may erode the market share of Runzhong, considering their similarity. The growth in the next two years depends heavily on the performance of blockbuster drugs, like anlotinib, tenofovir and budesonide.

Most of the subsidiaries are owned 60% or so by SINO, which generates a large minority interest. The company increased the shareholding of its associate Beijing Tide and consolidated it.

According to management, they would like to acquire more shareholding in their subsidiaries if there is an opportunity. We are keen to see what it is going to happen in this aspect.

**Fig 9 Sales and weight change of key drugs (Rmb bn)**



Source: Company Data, Macquarie Research, November 2018

## Product analysis

The company has been specialized in the hepatitis B market for more than a decade, with their blockbuster innovative drug Tianqingganmei launched in 2005 and the first-to-market generic entecavir launched in 2010. These two drugs contributed 34% of the company's revenue in 2017.

Beginning 2012, the company entered the oncology field and launched a couple of early-to-market generics, such as antimetabolites including Saiweijian, Shoufu and Qingweike, and target drugs such as imatinib and gefitinib. In 2018, they launched their innovative target drug anlotinib, which could achieve an estimated sales of Rmb0.8bn in 2018. Oncology drugs would become No. 1 revenue contributor by 2020. Other drugs need to be noted include Aisuping, with its chemical of esomerprazole, would record a revenue of Rmb0.8bn in 2018.

One major associate of the company is Beijing Tide, specialized in extended drug delivery system in the CCV and analgesic fields; blockbuster drugs such as Kaifen, Kaishi and Kaina, combined with Kaifen's cataplasm form Zepusi, have been growing fast at a CAGR of 23% in the past three years. Tide has been consolidated with Sino Biopharm since March 2018.

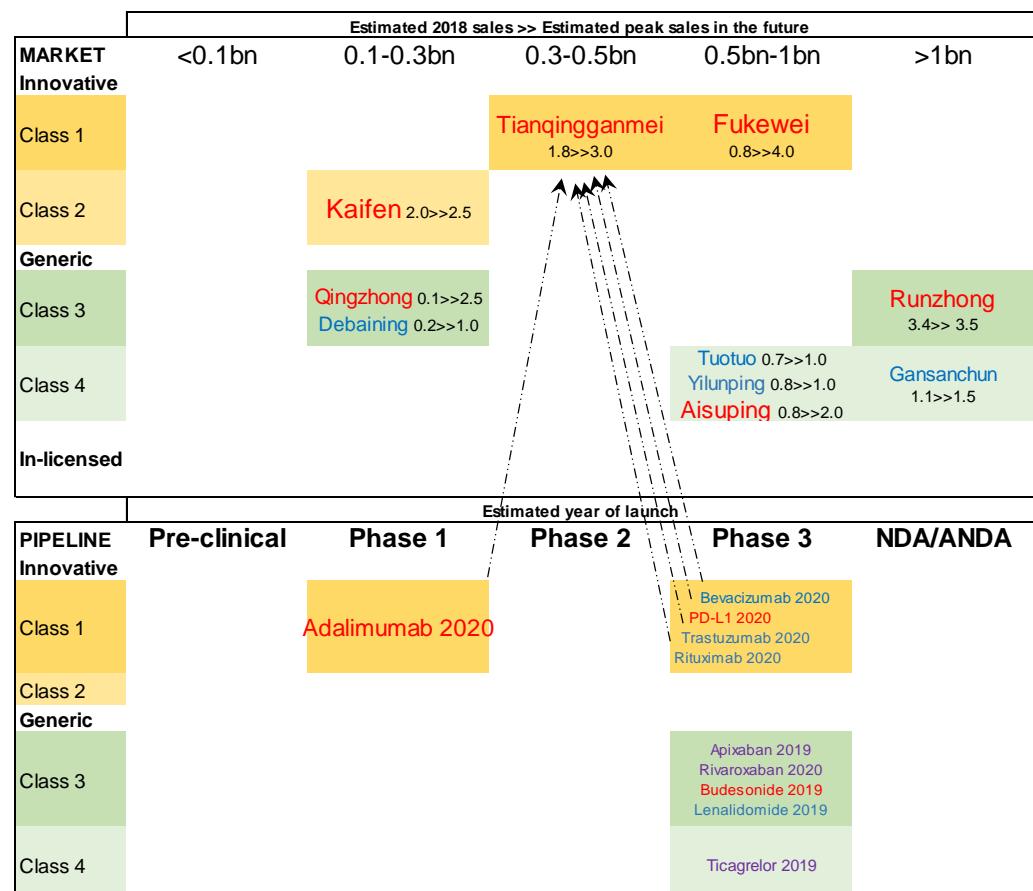
### Pipeline analysis

In its traditionally advantageous hepatitis filed, Qingzhong, the new generation hepatitis B drug, is scheduled to launch in 2019. Similar to Runzhong, Qingzhong is also the first-to-market generic, and we believe it will accelerate growing after launch and record sales of Rmb0.6bn in 2019.

In the CCV field, a couple of high potential generics are schedule to launch in 2019, including ticagrelor, apixaban and rivaroxaban. In the oncology filed, blockbuster generics, bortezomib and lenalidomide, were launched in 2018 and will launch in 2019, respectively. In the respiratory field, budesonide is scheduled to launch in 2019, with our estimated peak sales of Rmb3bn.

The company is also developing biological drugs, covering almost all of the popular drug targets. Most of the biologics are supposed to launch in 2020, and we estimate biologics will record sales of Rmb1.5bn that year and become the main growth driver the following five.

**Fig 10 Major market and pipeline drugs with estimated launch date and peak sales (Rmb)**

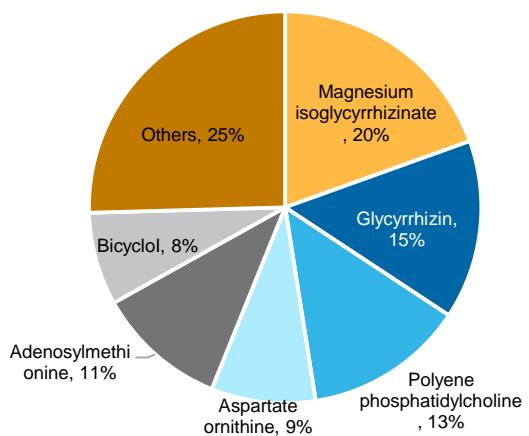


Source: Macquarie Research, November 2018

**Fig 11 Tianqiganganmei**

- Sales trend: Tianqiganganmei recorded sales of Rmb1.9bn in 2017, accounting for 13% of total revenue, with a growth CAGR of 2.4% in 2013-2017. As a Class 1.1 innovative drug, it faced little pricing pressure. In the future, we estimate it will grow at a single digit and achieve a peak sales of Rmb3bn.
- Market size: according to WHO data, there are 90m HBV patients and 28m of them need immediate treatment. Based on Menet data, the drugs market is over Rmb50bn, among which 55% are liver protection drugs.
- Growth potential: Tianqiganganmei is an innovative drug with patent protection lasting until 2022. Future growth could come from increasing treatment rates and intensified pressure on use of adjuvant drugs.

Source: Company Data, Macquarie Research, November 2018

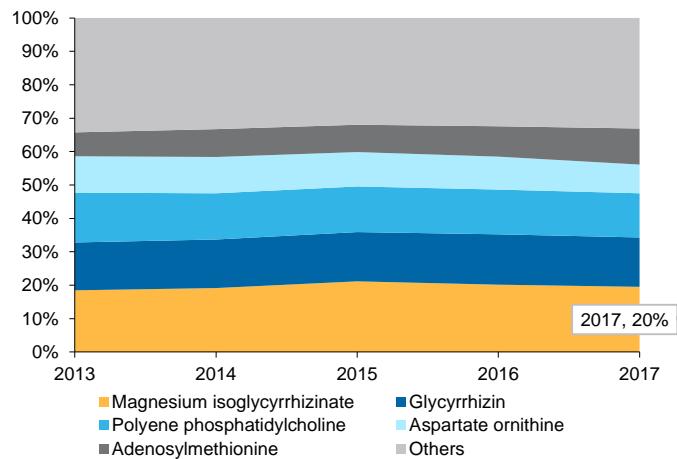
**Fig 12 Market breakdown of liver protection drugs**

Source: Company Data, Macquarie Research, November 2018

**Fig 13 Tianqiganganmei**

- Mechanism of action (MOA): its active ingredient is isoglycyrrhizinate, an isomer of glycyrrhizinate, an effective chemical extracted from liquorice. In a clinical trial with 400 patients, ALT and AST level decreased by more than 90% after treatment. It is believed to reduce inflammatory effects by inhibiting related enzymes.
- History: Tianqiganganmei launched in 2005 and before that, the company introduced a series of glycyrrhizinate drugs. There are four major drugs in the liver protection drug market; beside the two talked previously, there are phosphatidylcholine and aspartate/ornithine.
- Potential risk: the specific mechanism of Tianqiganganmei is not yet very clear and it faces competition from normal glycyrrhizinate drugs.

Source: Company Data, Macquarie Research, November 2018

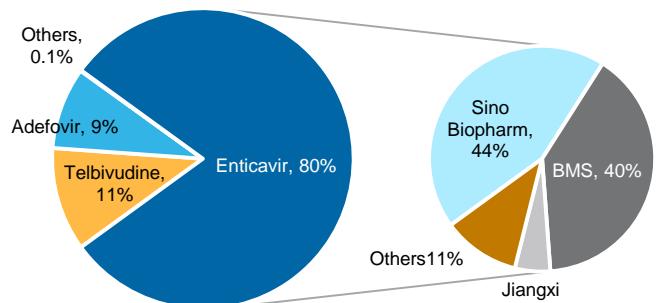
**Fig 14 Market share change of liver protection drugs**

Source: PDB, Macquarie Research, November 2018

**Fig 15 Runzhong**

- Sales trend: Runzhong recorded sales of Rmb3.2bn in 2017, accounting for 21% of total revenue, with a growth CAGR of 17% in 2013-2017. The price change is c. -30% between the most two recent procurement. In the future, we believe it would grow at a high single-digit and achieve peak sales of Rmb3.5bn.
- Market size: according to WHO data, there are 90m HBV patients and 28m of them need immediate treatment. Based on Menet data, the drugs market is over Rmb50bn, among which 45% are anti-virus drugs.
- Growth potential: there are eight entecavir drugs in the market and another three are under ANDA review. According to CDC, less than 10% of hepatitis B patients got treated in 2015, indicating a huge growth potential.

Source: Company Data, Macquarie Research, November 2018

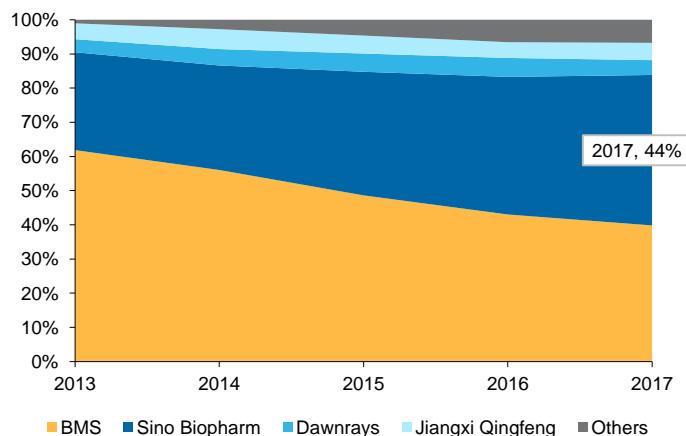
**Fig 16 Market breakdown of anti HBV drugs and entecavir**

Source: Company Data, Macquarie Research, November 2018

**Fig 17 Runzhong**

- MOA: active ingredient of Runzhong is entecavir. Entecavir is a deoxyguanosine analogue that belongs to a class of carbocyclic nucleoside drugs, which act by inhibiting reverse transcription, DNA replication and transcription in the viral replication process.
- History: Runzhong was brought to the market in 2010 as a first-to-market generic of the innovator drug Baraclude developed by BMS. Nucleotide analogue drugs dominate the anti-HBV drug market, among which entecavir and tenofovir are the best choices.
- Potential risk: the price cut was sharp during the last round of tendering, and also, Runzhong needs to face the competition from tenofovir with even lower resistance rate during use.

Source: Company Data, Macquarie Research, November 2018

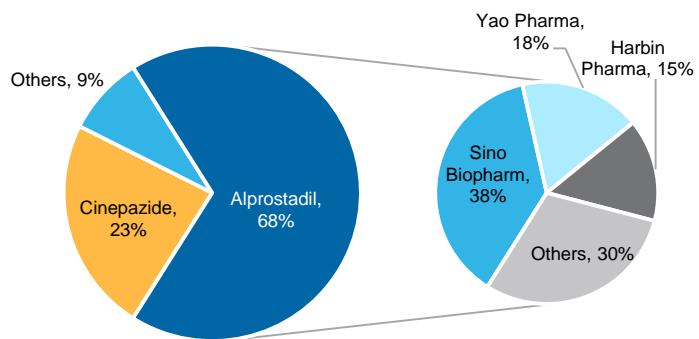
**Fig 18 Market share change of Runzhong**

Source: PDB, Macquarie Research, November 2018

**Fig 19 Kashi**

- Sales trend: Kashi recorded sales of Rmb1.1bn in 2017, accounting for 7.4% of total revenue, with a growth CAGR of -9.3% in 2013-2017. The price change is negligible in recent years. In the future, we believe it would decrease gradually with a single-digit growth rate.
- Market size: there are more than 200m hypertension patients in China, and the drug market size is c. Rmb30bn. The market size specifically for peripheral vasodilators is around Rmb4bn.
- Growth potential: there are seven alprostadil drugs in the market and another seven are under ANDA review. Kaishi has been listed on the 2009 and 2017 NRDL and is sold in more 30 provinces. Due to the crowded market, upside potential is limited and sales may decline.

Source: Company Data, Macquarie Research, November 2018

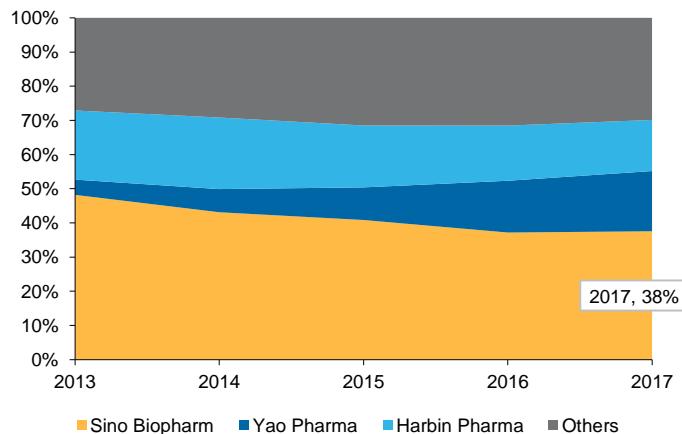
**Fig 20 Market breakdown of hypertension drugs**

Source: Company Data, Macquarie Research, November 2018

**Fig 21 Kashi**

- MOA: alprostadil is a naturally occurring prostaglandin, which belongs to the vasodilator drug family. It works by opening blood vessels by relaxing smooth muscles.
- History: Kaishi was brought to market by Beijing Tide in 1998 and is the first alprostadil liposome approved by CFDA, which could extend the release of alprostadil. Current market has been dominated by Sino Biopharm and Yao Pharma, combined together, accounting for more than 50% of the market.
- Potential risk: the weight of peripheral vasodilator drugs within the CCV drugs has been decreasing and Kaishi has peaked on sales and faces fierce competition from new generation of vasodilator drugs.

Source: Company Data, Macquarie Research, November 2018

**Fig 22 Market share change of Kashi within alprostadil**

Source: PDB, Macquarie Research, November 2018

**Fig 23 Yilunping**

- Sales trend: Yilunping recorded sales of Rmb634m in 2017, accounting for 4.3% of total revenue, with a growth CAGR of 13% in 2013-2017. The annual price change is very mild in recent years. In the future, we believe Yilunping will reach peak sales of Rmb1bn.
- Market size: hypertension is the No. 1 cause of cardiovascular diseases and there are c. 300m hypertension patients in China. And the respective drug market is estimated to be around Rmb30bn in 2017.
- Growth potential: there are five irbesartan/ hydrochlorothiazide drugs in the market and another six are under ANDA review. Major growth would come from its inclusion into the 2017 NRDL and growth of the whole hypertension drugs market.

Source: Company Data, Macquarie Research, November 2018

**Fig 25 Yilunping**

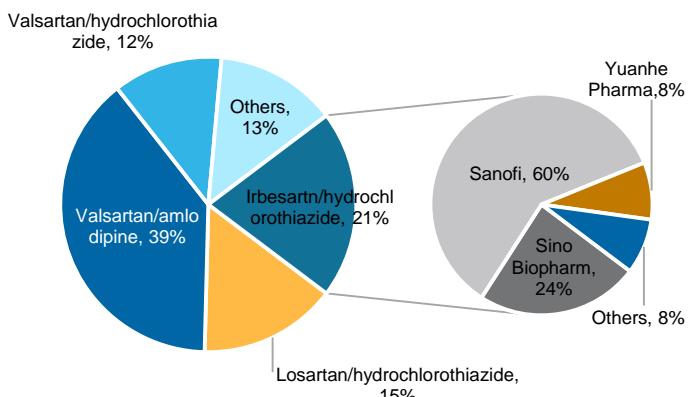
- MOA: Yilunping is composed of two active ingredients, irbesartan and hydrochlorothiazide. Hydrochlorothiazide belongs to the thiazide-type diuretics and irbesartan belongs to the hypertension drug class of ARBs, which block the activation of angiotensin II AT1 receptors and thus reduce blood pressure.
- History: Yilunping was brought to the market by Nanjing CTTQ in 2005, as the first-to-market generic. There are two major players in the market: Yilunping has a 24% market share; the innovator drug marketed by Sanofi has a 60% market share.
- Potential risk: major threat could come from other combination hypertension drugs, like valsartan combined with hydrochlorothiazide or amlodipine.

Source: Company Data, Macquarie Research, November 2018

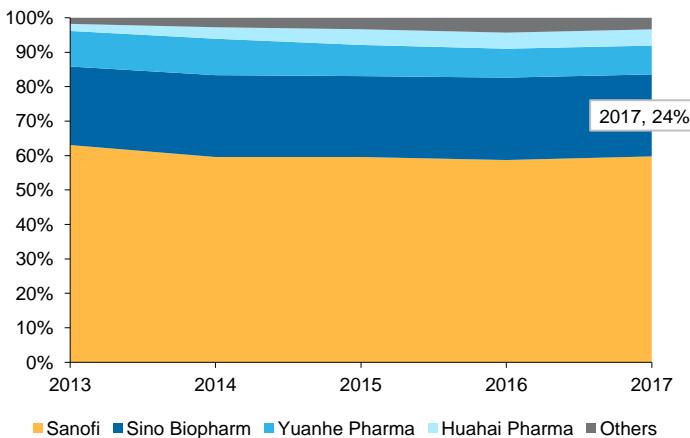
**Fig 27 Tuotuo**

- Sales trend: Tuotuo recorded sales of Rmb567m in 2017, accounting for 3.8% of total revenue, with a growth CAGR of 28% in 2013-2017. Price changes little during recent years. In the future, we believe Tuotuo will reach a peak sales of Rmb1bn.
- Market size: according to Chinese Circulation Journal, 40% of adults in China have dyslipidemia issues. Based on MOFCOM data, the market size of hyperlipidemia drugs, major category of dyslipidemia field, reaches cRmb20bn in 2017.
- Growth potential: there are six rosuvastatin drugs in the market and another three are under ANDA review. Major growth is from fast growth of the hyperlipidemia drugs market and substitution of innovator drugs from MNCs.

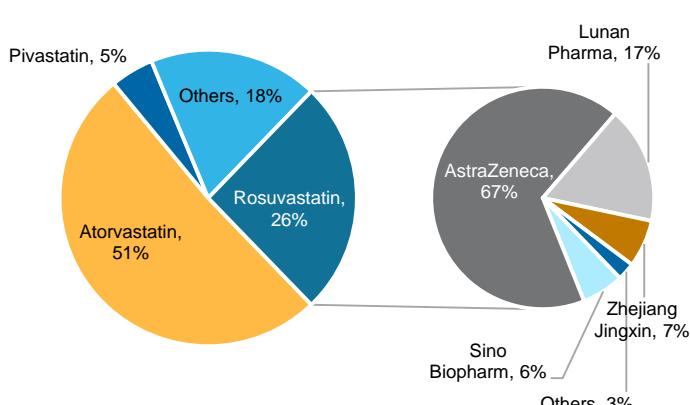
Source: Company Data, Macquarie Research, November 2018

**Fig 24 Market breakdown of compound hypertension drugs**

Source: Company Data, Macquarie Research, November 2018

**Fig 26 Market share change of Yilunping**

Source: PDB, Macquarie Research, November 2018

**Fig 28 Market breakdown of hyperlipidemia drugs**

Source: Company Data, Macquarie Research, November 2018

**Fig 29 Tuotuo**

- MOA: active pharmaceutical ingredient of Tuotuo, rosuvastatin, belongs to the statin class of drugs. Since the reaction catalysed by HMG-CoA reductase is the rate-limiting step in cholesterol synthesis, statin drugs work by inhibiting this enzyme and thus reduce the synthesis of cholesterol.
- History: Tuotuo was brought to the market by Nanjing CTTQ in 2008, as the third-to-market generic. Statin drugs are the first-line treatment of hyperlipidemia and account for 90% of the market. Among the statin drugs, atorvastatin and rosuvastatin are mostly prescribed.
- Potential risk: competition in the statin drugs market has been strong and as the fourth biggest player, there is even more pressure on pricing and sales penetration.

Source: Company Data, Macquarie Research, November 2018

**Fig 31 Kaifen**

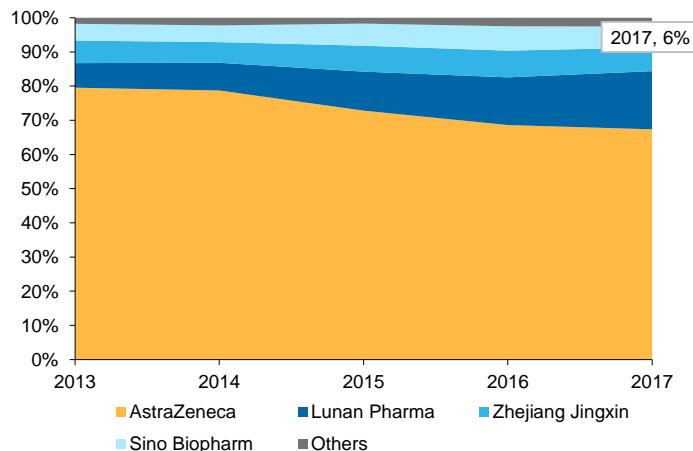
- Sales trend: Kaifen recorded sales of Rmb1.6bn in 2017, accounting for 11% of total revenue, with a growth CAGR of 20% in 2013-2017. The annual price change is negligible recently. In the future, we believe Kaifen will reach a peak sales of Rmb2bn.
- Market size: based on PDB data and our estimate, the NSAID drug market in China is around Rmb4bn in 2017, with c. 40% of the market share going to flurbiprofen.
- Growth potential: there are three flurbiprofen drugs in the market and another one is under ANDA review. Major growth is from sales penetration and faster-than-average growth of the NSAID drugs market within musculoskeletal drugs.

Source: Company Data, Macquarie Research, November 2018

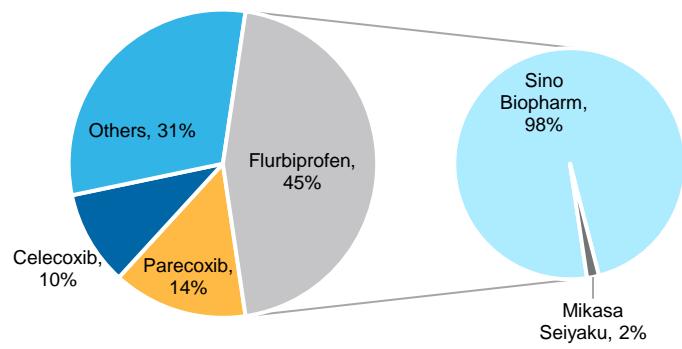
**Fig 33 Kaifen**

- MOA: active ingredient of Kaifen is flurbiprofen, belonging to the class of NSAIDs. NSAIDs work by inhibiting the activity of cyclooxygenase enzymes (COX), which are involved in the synthesis of prostaglandin causing inflammation and thromboxane causing blood clotting.
- History: Kaifen was brought to the market by Beijing Tide in 2004 and was the first-to-market generic with the innovator drug yet to enter the China market back then. As of now, Kaifen acquires almost 100% of the current flurbiprofen market.
- Potential risk: it was first listed on 2009 NRDL, and the market has been dominated, indicating limited upside space and it might face competition from newcomers.

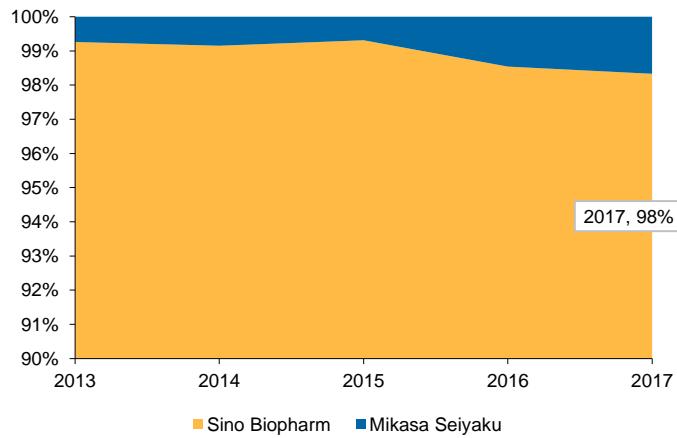
Source: Company Data, Macquarie Research, November 2018

**Fig 30 Market share change of Tuotuo**

Source: PDB, Macquarie Research, November 2018

**Fig 32 Market breakdown of NSAID drugs**

Source: Company Data, Macquarie Research, November 2018

**Fig 34 Market share change of Kaifen**

Source: PDB, Macquarie Research, November 2018

**Fig 35 Saiweijian/Shoufu/Qingweike**

- Sales trend: Saiweijian/Shoufu/Qingweike recorded sales of Rmb665 in 2017, accounting for 4.5% of total revenue, with a growth CAGR of 24% in the last three years. In the future, we believe these three drugs combined together, could ramp up sales fast and record a peak sales of Rmb1.5bn.
- Market size: as a major segment of oncology drugs in China, we estimate the antimetabolite drugs market is around Rmb25bn and would grow slowly in the future.
- Growth potential: these drugs are in the early stage, with Saiweijian and Qingweike being first-to-market generics and Shoufu being third-to-market. Qingweike was included onto the 2017 NRDL, expecting fast growth.

Source: Company Data, Macquarie Research, November 2018

**Fig 37 Saiweijian/Shoufu/Qingweike**

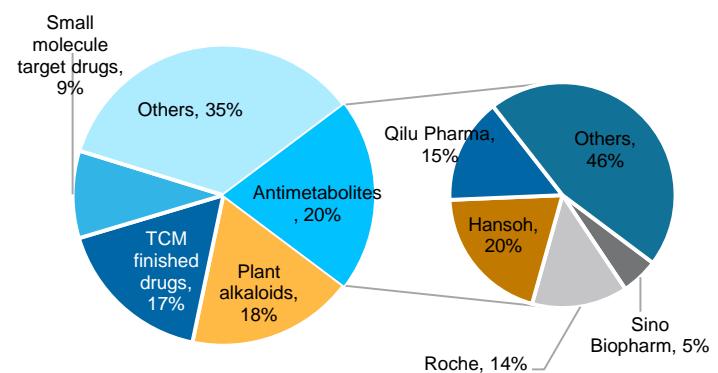
- MOA: these three drugs belong to the drug category of antimetabolites, which interfere with synthesis or replication of DNA/RNA within cancer cells. Raltitrexed is folate antimetabolite, inhibiting pyrimidine formation; capecitabine works by inhibiting thymidine synthesis; decitabine is a hypomethylating agent and inhibiting DNA replication.
- History: Saiweijian, Shoufu and Qingweike got approved by CFDA, respectively, in 2009, 2014, and 2012.
- Potential risk: the current oncology drug market structure in China is outdated, with more than 50% being traditional chemotherapy drugs. Expecting the fast growth of target therapy drugs, we estimate the antimetabolite drugs market will grow slowly.

Source: Company Data, Macquarie Research, November 2018

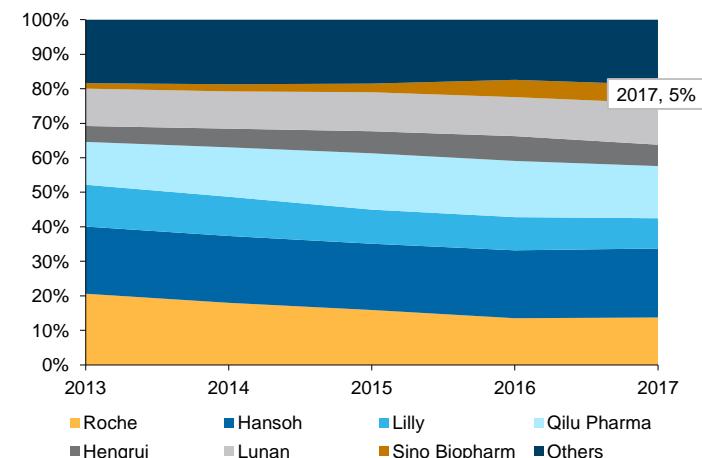
**Fig 39 Genike/Yinishu**

- Sales trend: Genike and Yinishu recorded sales of Rmb174m and Rmb109m, respectively, in 2017, combined accounting for 1.9% of total revenue. In the future, we believe these two drugs will ramp up sales rapidly and reach a peak sales of Rmb1.5bn.
- Market size: these two drugs are mainly used for acute lymphoblastic leukemia (ALL) and chronic myelogenous leukaemia (CML) with Philadelphia Chromosome (Ph+), adding to c. 13k new cases per year in China. Based on the drug cost, the market size is around Rmb3.5bn.
- Growth potential: there are four imatinib and two dasatinib drugs in the market. Major growth could come from their inclusion onto 2017 NRDL and market acquisition from MNCs.

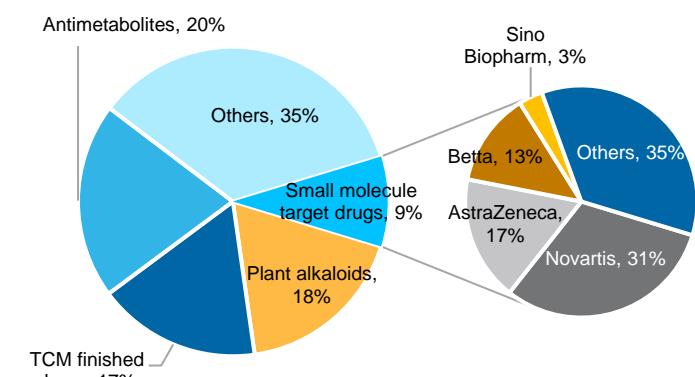
Source: Company Data, Macquarie Research, November 2018

**Fig 36 Breakdown of antimetabolite oncology drugs**

Source: Company Data, Macquarie Research, November 2018

**Fig 38 Market share change of antimetabolite drugs**

Source: PDB, Macquarie Research, November 2018

**Fig 40 Market breakdown of rhG-CSF and PEG-rhG-CSF**

Source: Company Data, Macquarie Research, November 2018

**Fig 41 Genike/Yinishu**

- MOA: 25% ALL patients and 95% CML patients have the special Philadelphia Chromosome and forms a tyrosine kinase called bcl-abl, which constitutively activates and makes cells continuously grow and proliferate. These two target drugs could bind to the active site of the enzyme and inhibit its activity.
- History: Genike launched in 2013, as the first-to-market generic, for first-line treatment of Ph+ CML and ALL. Yinishu also launched in 2013 as the first-to-market generic, for second-line treatment of imatinib-resistant Ph+ CML and ALL.
- Potential risk: it might face strong competition from domestic players, especially for imatinib, which was also developed and marketed by Hansoh and CSPC.

Source: Company Data, Macquarie Research, November 2018

**Fig 43 Bortezomib**

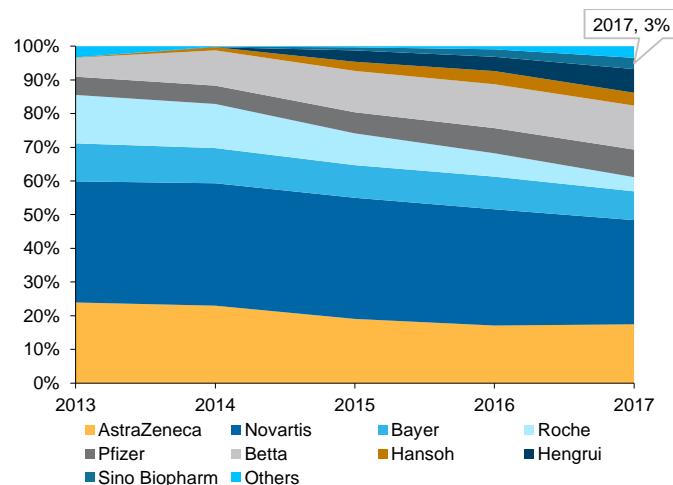
- Sales potential: the innovative drug of bortezomib was Velcade and it recorded a peak sales of US\$1.9bn globally in 2015. We estimate the current market size for bortezomib is around Rmb2bn in China. As the potential first-to-market generic, it could reach a potential peak sales of Rmb1bn.
- MOA: bortezomib is the first proteasome inhibitor to be used on human bodies. Bortezomib works by inhibiting proteasome, and prevent it degrading pro-apoptotic factors, which would trigger programmed cell death in cancer cells.
- Competitive landscape: there are four bortezomib in the market, 25 are either under ANDA review or in clinical trials.

Source: Company Data, Macquarie Research, November 2018

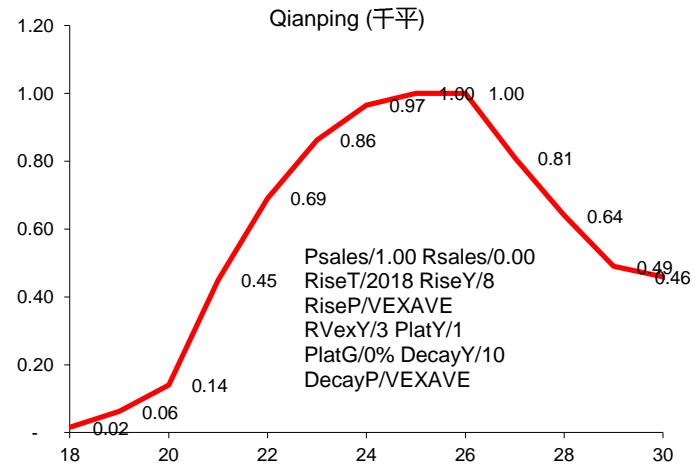
**Fig 45 Tenofovir**

- Sales potential: the innovative drug of tenofovir is Viread developed by Gilead and it recorded peak sales of US\$1.5bn globally in 2017. There are 28m HBV patients need immediate treatment in China. Based on Menet data, the anti-HBV drugs market is over Rmb20bn. We estimate the peak sales of this first-to-market generic could reach Rmb2.5bn.
- MOA: tenofovir belongs to the class of carbocyclic nucleoside drugs, which act by inhibiting reverse transcription, DNA replication and transcription in the viral replication process.
- Competitive landscape: there are seven tenofovir drugs in the market, 18 are under ANDA review and another 28 are in clinical trials.

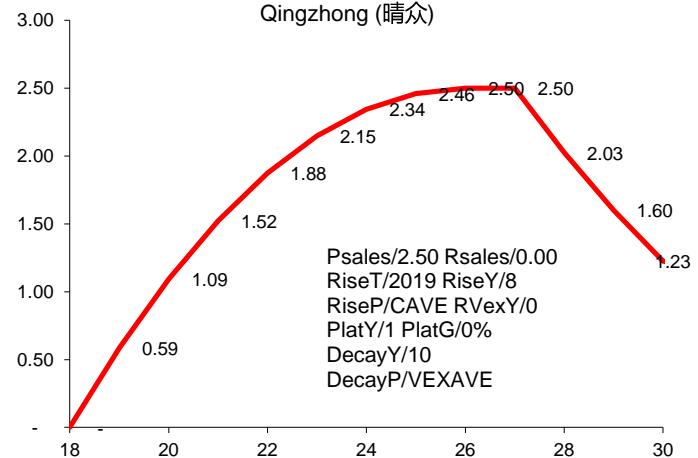
Source: Company Data, Macquarie Research, November 2018

**Fig 42 Market share change of Jinyouli within PEG-rh-GCSF**

Source: PDB, Macquarie Research, November 2018

**Fig 44 Sales forecast simulation of bortezomib (Rmb bn)**

Source: Macquarie Research, November 2018

**Fig 46 Sales forecast simulation of tenofovir (Rmb bn)**

Source: Macquarie Research, November 2018

**Fig 47 Anlotinib**

- Sales potential: the comparable drug of anlotinib is sunitinib developed by Pfizer and it recorded a global sales of US\$1.0bn in 2017. As a Class 1.1 innovative drug, anlotinib shows better clinical results, especially in extension of OS. We believe anlotinib could be the best-in-class drug and achieve a peak sales of Rmb4bn.
- MOA: anlotinib belongs to the tyrosine kinase inhibitor (TKI) class of drugs. They work by inhibiting one or more tyrosine kinases, which play an important role in tumour angiogenesis and tumour cell proliferation. We estimate anlotinib has multiple targets.
- Competitive landscape: there are four VEGFR-targeting drugs in the market, 17 are under the NDA/ANDA review and another 93 are in clinical trials.

Source: Company Data, Macquarie Research, November 2018

**Fig 49 Lenalidomide**

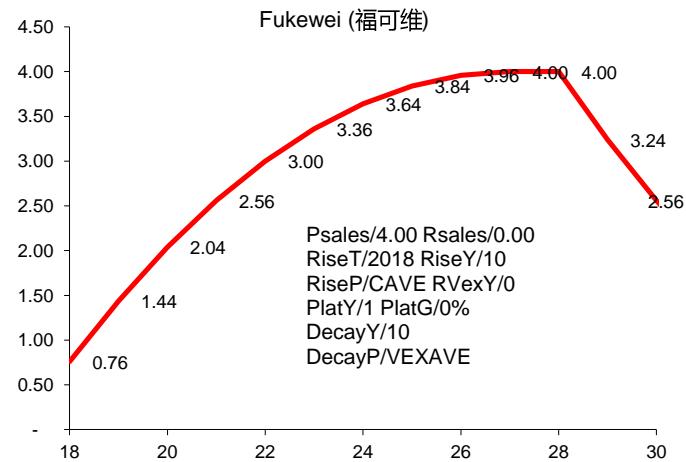
- Sales potential: the innovative drug of lenalidomide was developed by Celgene and marketed under the name Revlimid. It is among the top 10 best-selling drugs and recorded sales of US\$3.1bn in 2017. We estimate the drug market size for MM and MDS is around Rmb3bn, and as a potential second-to-market generic, it could achieve a potential peak sales of Rmb500m.
- MOA: it is believed to inhibit COX-2 related to inflammation. Besides that, it could induce cell apoptosis by inhibition of bone marrow stromal cell support, by anti-angiogenic and anti-osteoclastogenic effect, and by immunomodulatory activity.
- Competitive landscape: besides Revlimid and generic from Shuanglu, another three are under ANDA review.

Source: Company Data, Macquarie Research, November 2018

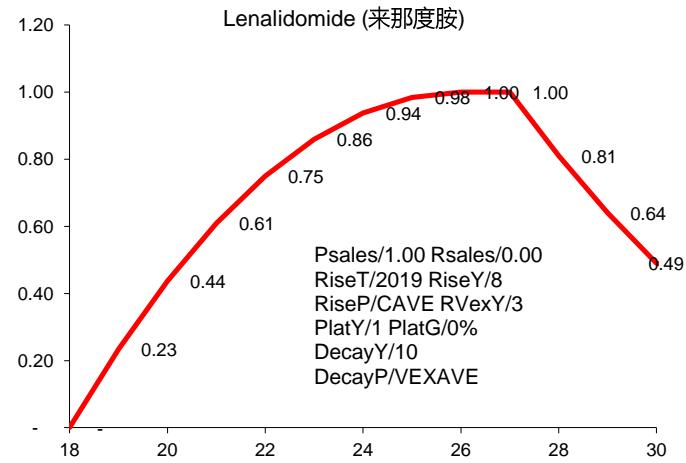
**Fig 51 Bevacizumab**

- Sales potential: the innovative drug of bevacizumab is Avastin developed by Genentech (subsidiary of Roche) and it recorded sales of US\$6.1bn globally in 2017. We estimate the potential market size of mab drugs targeting VEGF is around Rmb7bn in China. Depending on the time to enter the market, biosimilar of bevacizumab could reach a peak sales of Rmb2bn.
- MOA: bevacizumab is a recombinant humanized monoclonal antibody that blocks angiogenesis by inhibiting VEGF-A, a growth factor that stimulates angiogenesis in cancer.
- Competitive landscape: there is no bevacizumab biosimilar in the China market. One is under review by the NDA and another 33 are in clinical trials.

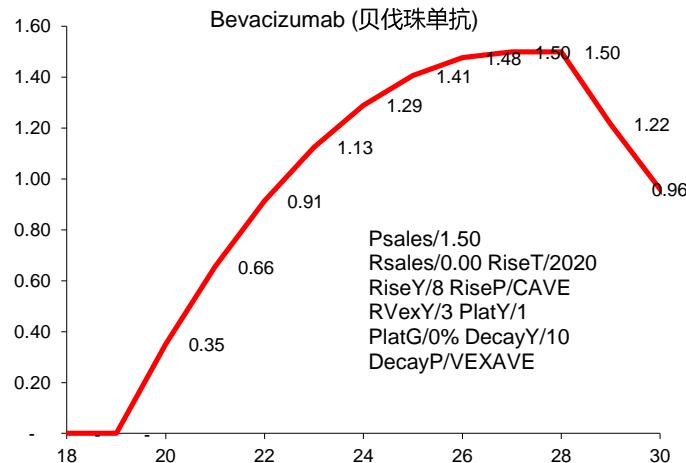
Source: Company Data, Macquarie Research, November 2018

**Fig 48 Sales forecast simulation of anlotinib (Rmb bn)**

Source: Macquarie Research, November 2018

**Fig 50 Sales forecast simulation of lenalidomide (Rmb bn)**

Source: Macquarie Research, November 2018

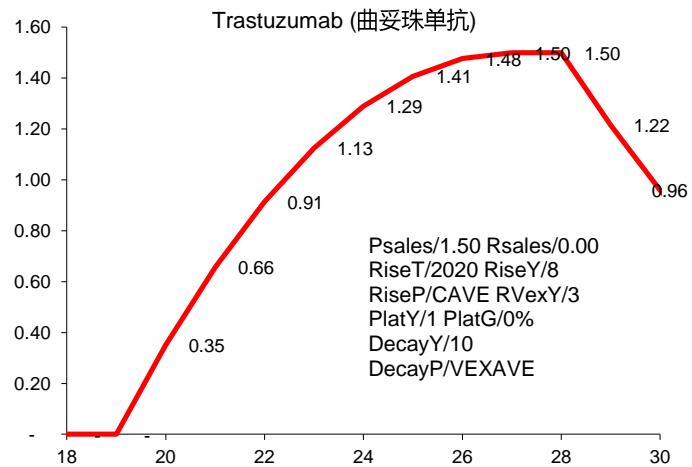
**Fig 52 Sales forecast simulation of bevacizumab (Rmb bn)**

Source: Macquarie Research, November 2018

**Fig 53 Trastuzumab**

- Sales potential: the innovative drug of trastuzumab is Herceptin developed by Genentech (subsidiary of Roche) and it recorded sales of US\$5.6bn globally in 2017. We estimate the potential market size of mab drugs targeting HER2 is around Rmb5bn in China. Depending on the time to launch, first-to-market biosimilar could achieve a peak sales of Rmb2bn.
- MOA: trastuzumab is a mab drug targeting HER2 receptor. HER2 belongs the EGF pathway, when it is overexpressed, cells would become overly active in proliferation and become cancer cells.
- Competitive landscape: there is no Herceptin biosimilar in the market, one is under NDA review and another 17 are in clinical trials.

Source: Company Data, Macquarie Research, November 2018

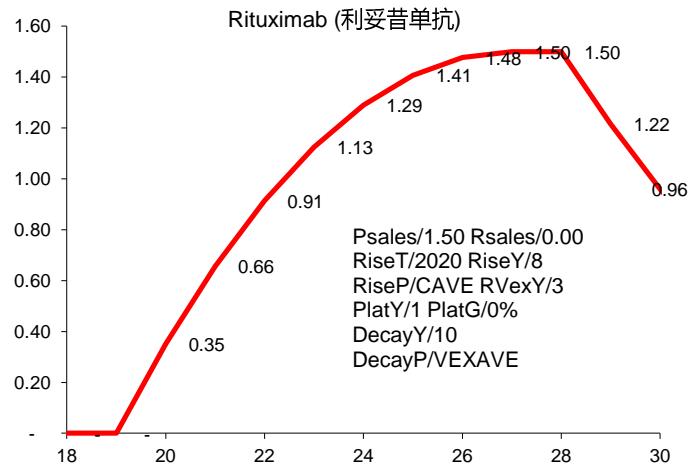
**Fig 54 Sales forecast simulation of trastuzumab (Rmb bn)**

Source: Macquarie Research, November 2018

**Fig 55 Rituximab**

- Sales potential: the innovative drug of rituximab is Rituxan developed by Genentech (subsidiary of Roche) and it recorded sales of US\$7.1bn globally in 2017. We estimate the potential market size of mab drugs targeting CD20 is around Rmb6bn in China. Depending on the time to launch, first-to-market biosimilar could achieve a peak sales of Rmb2bn.
- MOA: rituximab is a mab drug against the protein CD20, which is primarily expressed on the surface of B cells. When binding to B cells, it would modify the protein structure and let natural killer cells eliminate the B cells.
- Competitive landscape: there is no Rituxan biosimilar in the China market, one is under NDA review and another 16 are in clinical trials.

Source: Company Data, Macquarie Research, November 2018

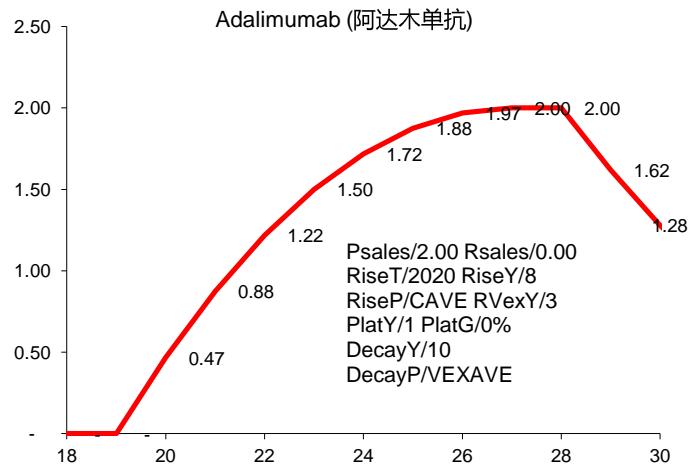
**Fig 56 Sales forecast simulation of rituximab (Rmb bn)**

Source: Macquarie Research, November 2018

**Fig 57 Adalimumab**

- Sales potential: the innovative drug of adalimumab is Humira developed by Abbvie and it recorded sales of US\$18bn globally in 2017. We estimate the potential market size of mab drugs targeting TNF $\alpha$  is around Rmb10bn in China. Depending on the time to launch, first-to-market biosimilar could achieve a peak sales of Rmb3bn.
- MOA: adalimumab is a mab drug binding to tumour necrosis factor-alpha (TNF $\alpha$ ), a cytokine mainly binding to TNF $\alpha$  receptors and leading to inflammatory response of autoimmune diseases.
- Competitive landscape: there is no Humira biosimilar in the market, four are under NDA review and another 30 are in clinical trials.

Source: Company Data, Macquarie Research, November 2018

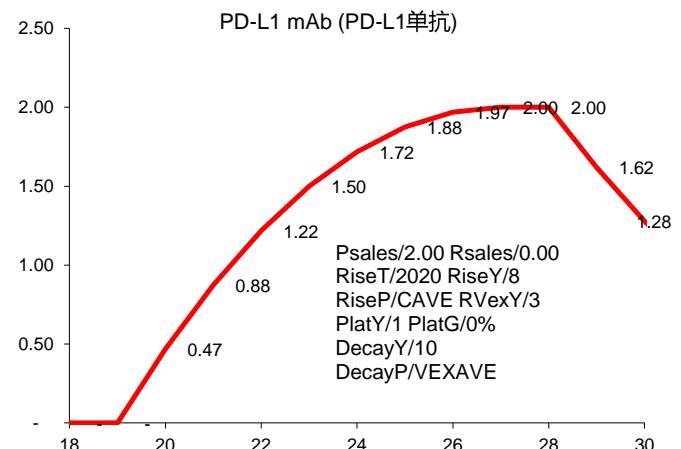
**Fig 58 Market breakdown of Adalimumab (Rmb bn)**

Source: Macquarie Research, November 2018

**Fig 59 TQB-2450**

- Sales potential: the comparable drug is atezolizumab, developed by Genentech and marketed under the name Tecentriq. It launched in 2016 and in 2017 recorded sales of US\$487m. We estimate the potential market size for PD-1/PD-L1 drugs is over Rmb100bn in China and depending on the launch schedule, first-to-market biosimilar could achieve a peak sales of Rmb3bn.
- MOA: Tecentriq is a mab drug targeting programmed cell death-ligand 1 (PD-L1), which is overexpressed in some tumour cells and could inhibit T cells through binding to the PD-1 and CD80 receptors on the surface.
- Competitive landscape: besides the innovator drug, there is no PD-L1 drug in China market and there are seven in clinical trials.

Source: Company Data, Macquarie Research, November 2018

**Fig 60 Market breakdown of TQB-2450 (Rmb bn)**

Source: Macquarie Research, November 2018

## Financial analysis

**Organic earnings growth of 15-25% in three years while expect dramatic shift within treatment fields**

**Oncology drugs would become No. 1 revenue contributor by 2022**

**44% and 33% of net profit growth would be attributable to Tide in 2018 and 2019**

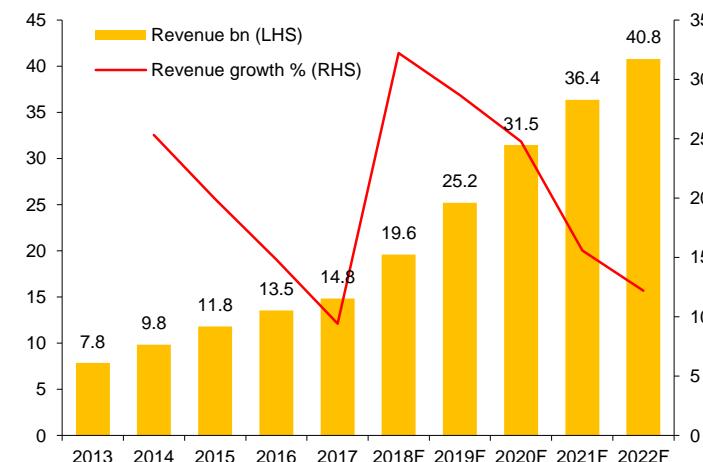
The company has achieved c. 17% revenue growth CAGR in the last five years and in the next five years, we believe it will maintain an organic growth rate of between 15-20%, while changing the drug mix dramatically. Most of the current revenue comes from its traditional advantage treatment field, hepatitis, accounting for 44% of its 2017 revenue. Oncology drugs and CCV drugs account for 11% and 10% of revenue in 2017, respectively. The contribution of hepatitis drugs is decreasing from 48% in 2015 to 44% in 2017, due to sales ramp up of other treatment fields.

According to our estimate, oncology would become the No. 1 revenue contributor by 2022, accounting for 29% of revenue by then. In 2018, the company launched the innovative VEGFR target drug anlotinib, which could record estimated sales of Rmb8bn in 2018.

In 2018, the company increased its shareholding in Beijing Tide and consolidate it since March 2018. Based on our forecast, Tide will account for 24% and 26% of net profit, respectively, in 2018 and 2019. And 44% and 33% of the profit growth would be attributable to Tide in 2018 and 2019.

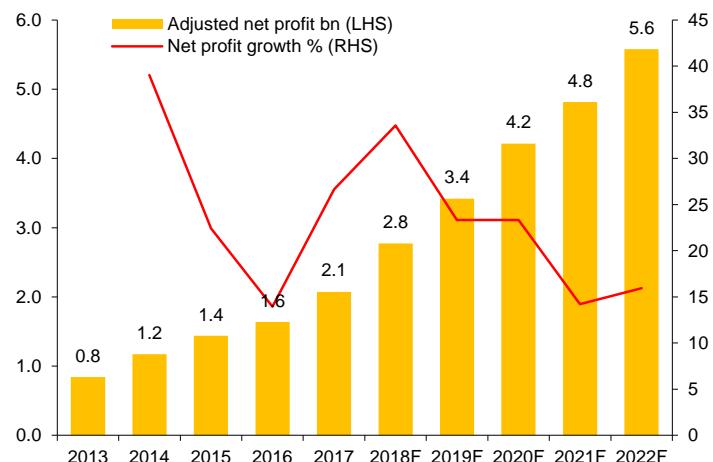
Gross margin of the company has been stable at c. 80%, higher than industry average of c. 70%. In the future, we believe this ratio would increase slightly due to launch of more innovative drugs. Sino Biopharm has a R&D to revenue ratio of 14% in 1H18, much higher than industry average of c. 6%. In the next five years, we believe this ratio would keep current high level as the development of biologics enter later stage. SG&A ratio is around 45%, in line with sector average.

**Fig 61 Revenue and growth of 1177-HK (Rmb bn)**



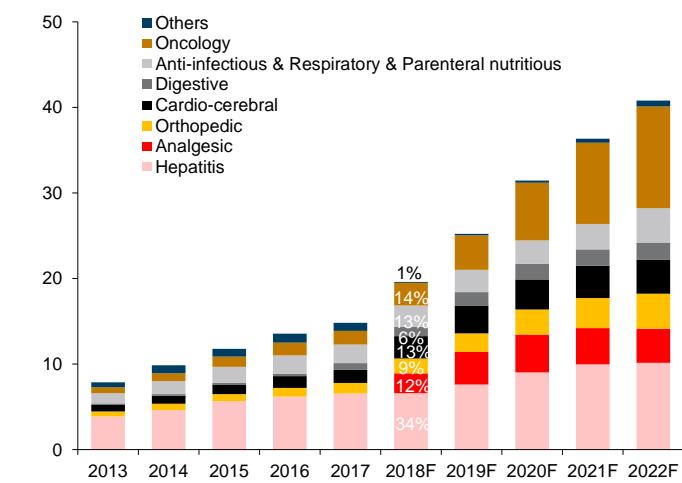
Source: Factset, Macquarie Research, November 2018

**Fig 62 Net profit and growth of 1177-HK (Rmb bn)**



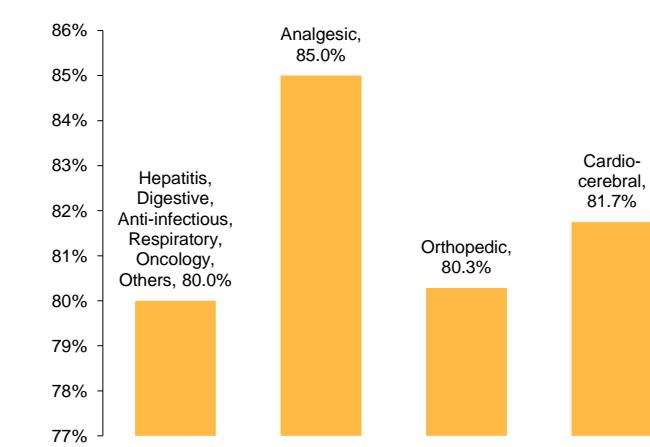
Source: Factset, Macquarie Research, November 2018

**Fig 63 Revenue breakdown of 1177-HK (Rmb bn)**

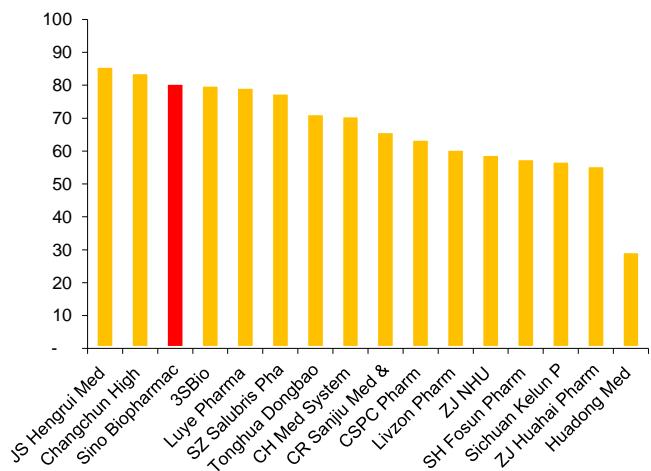


Source: Factset, Macquarie Research, November 2018

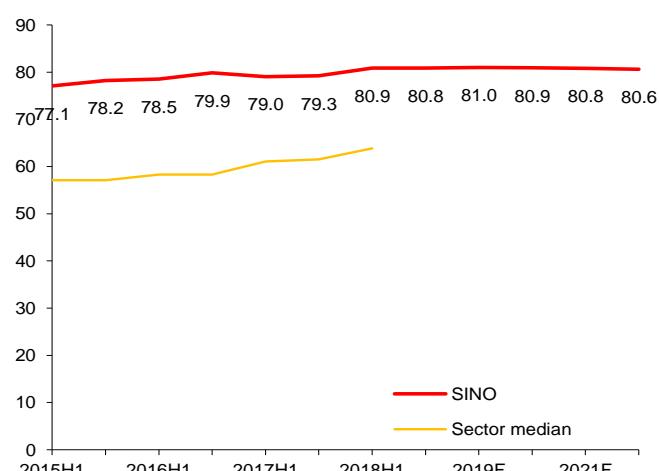
**Fig 64 Gross margin breakdown 2018F of 1177-HK**



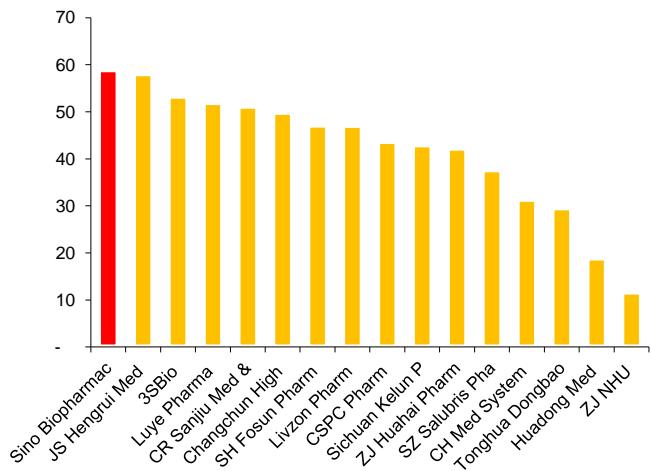
Source: Factset, Macquarie Research, November 2018

**Fig 65 Gross margin of 1177-HK vs peers – 1H18 (%)**

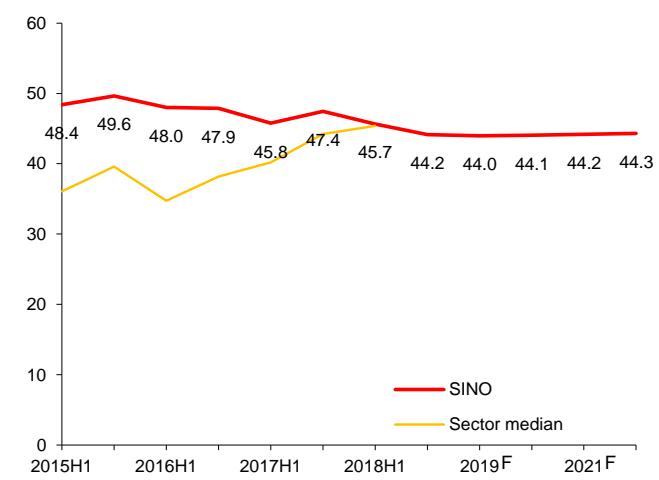
Source: Factset, Macquarie Research, November 2018

**Fig 66 Gross margin trend of 1177-HK (%)**

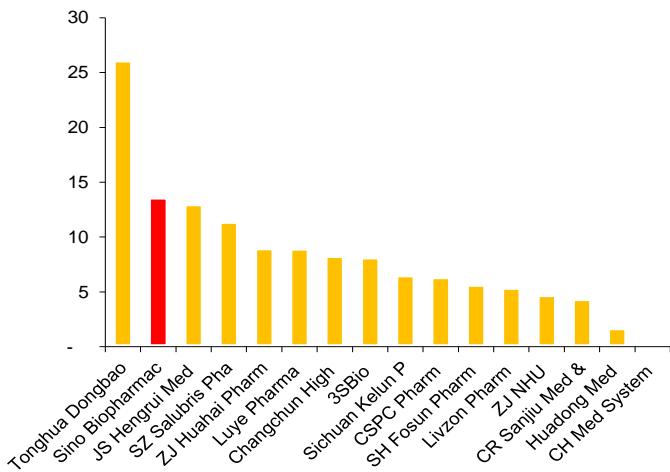
Source: Factset, Macquarie Research, November 2018

**Fig 67 SGA ratio of 1177-HK vs peers – 1H18 (%)**

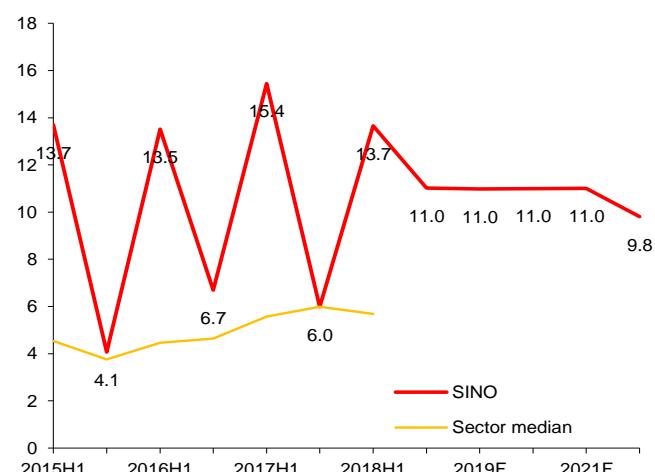
Source: Factset, Macquarie Research, November 2018

**Fig 68 SGA ratio trend of 1177-HK (%)**

Source: Factset, Macquarie Research, November 2018

**Fig 69 R&D ratio of 1177-HK vs peers - 1H18 (%)**

Source: Company Data, Macquarie Research, November 2018

**Fig 70 R&D ratio trend of 1177-HK (%)**

Source: Company Data, Macquarie Research, November 2018

### Balance sheet

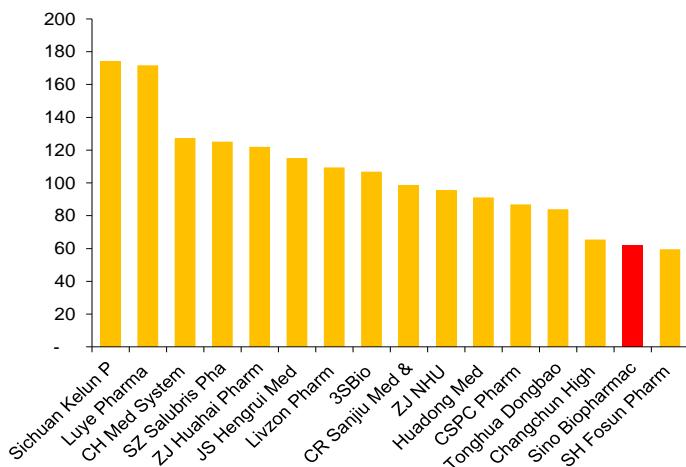
**Inventory days in line with historical data and higher than average due to the sales model adopted by big pharma**

**Total debt ratio is reasonable with enough room to raise fund in the future**

Inventory days of 1H18 is around 100, which has been in line with its historical data. Into the future, we estimate this ratio to remain stable unless the centralized procurement policy is applied across the nation, which might affect the inventory management strategy of pharma companies. Receivable days is around 110 in 1H18, also in line with the historical data, which we estimate will keep the same level in the future, considering there is no big change in the sales model for big pharma. We believe there are two reasons why it is higher than industry average: first, the large sales might prolong the payment cycle; second, the “direct-sales” model with no intermediate distributor providing quick payment will also increase the receivable cycle to some extent. However, we believe this would not be a big concern as they are dealing with national distributors and has built up good relationship with them.

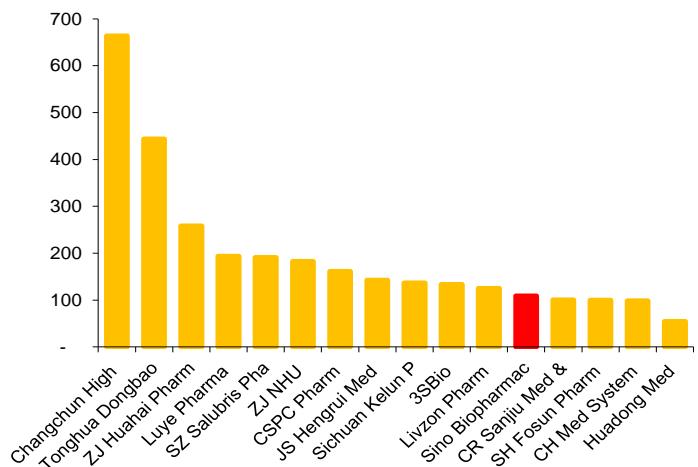
About debt, most of the pharma companies are in a position of net cash, which we believe would not be a big issue for most pharma. Among its peers, Sino Biopharm has a total gearing ratio of c. 20%, healthy and lower than average. In the future, Sino Biopharm does have enough room to raise money when it's necessary.

**Fig 71 Receivables days of 1177-HK vs peers – 1H18**



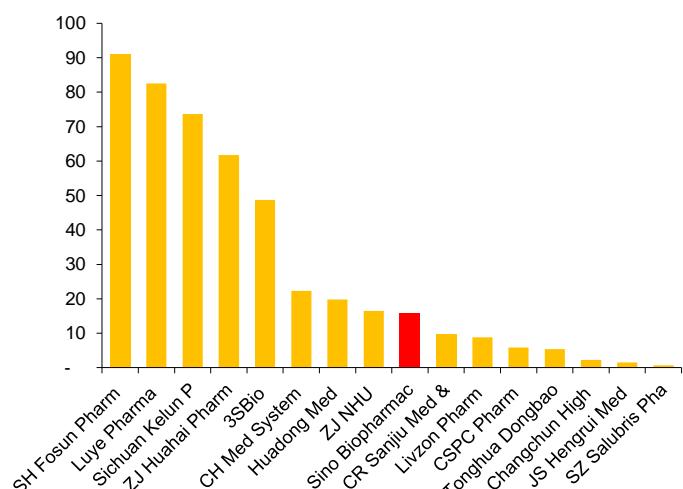
Source: Factset, Macquarie Research, November 2018

**Fig 72 Inventories days of 1177-HK vs peers – 1H18**



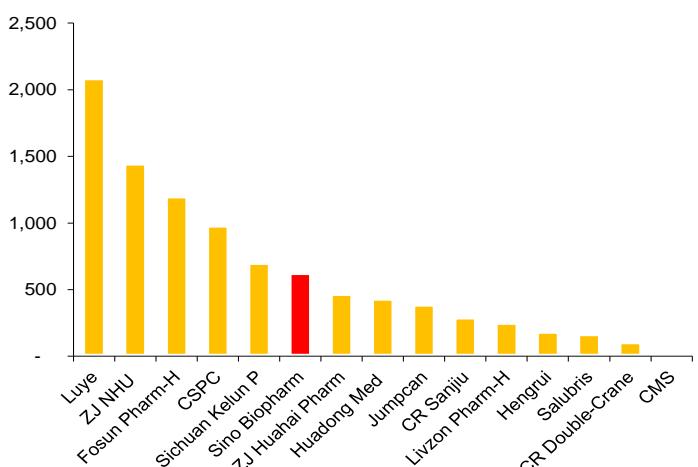
Source: Factset, Macquarie Research, November 2018

**Fig 73 Total gearing of 1177-HK vs peers – 1H18 (%)**



Source: Factset, Macquarie Research, November 2018

**Fig 74 Capex of 1177-HK vs peers – 1H18 (Rmb mn)**



Source: Factset, Macquarie Research, November 2018

Fig 75 Income statement and balance sheet forecasts (Rmb bn)

| INCOME STATEMENT                        | 2013         | 2014         | 2015         | 2016         | 2017         | 2018F        | 2019F        | 2020F        | 2021F        | 2022F        |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Revenue</b>                          | <b>7.8</b>   | <b>9.8</b>   | <b>11.8</b>  | <b>13.5</b>  | <b>14.8</b>  | <b>19.6</b>  | <b>25.2</b>  | <b>31.5</b>  | <b>36.4</b>  | <b>40.8</b>  |
| COGS                                    | (1.8)        | (2.3)        | (2.6)        | (2.8)        | (3.1)        | (3.8)        | (4.8)        | (6.0)        | (7.0)        | (7.9)        |
| <b>Gross profit</b>                     | <b>6.1</b>   | <b>7.5</b>   | <b>9.2</b>   | <b>10.7</b>  | <b>11.7</b>  | <b>15.8</b>  | <b>20.4</b>  | <b>25.5</b>  | <b>29.4</b>  | <b>32.9</b>  |
| <b>Gross margin</b>                     | <b>77.5%</b> | <b>76.4%</b> | <b>77.7%</b> | <b>79.2%</b> | <b>79.1%</b> | <b>80.8%</b> | <b>81.0%</b> | <b>80.9%</b> | <b>80.8%</b> | <b>80.6%</b> |
| Selling, marketing & administrative     | (4.0)        | (4.9)        | (5.8)        | (6.5)        | (6.9)        | (8.7)        | (11.1)       | (13.9)       | (16.1)       | (18.1)       |
| Research and development                | (0.7)        | (0.9)        | (1.1)        | (1.4)        | (1.6)        | (2.2)        | (2.8)        | (3.5)        | (4.0)        | (4.0)        |
| Other operating income/expenses         | 0.0          | 0.1          | 0.1          | 0.1          | 0.0          | -            | -            | -            | -            | -            |
| Exceptional items                       | 0.0          | 0.0          | (0.0)        | (0.1)        | 0.2          | -            | -            | -            | -            | -            |
| <b>EBIT excluding exceptional</b>       | <b>1.4</b>   | <b>1.9</b>   | <b>2.5</b>   | <b>3.0</b>   | <b>3.2</b>   | <b>5.0</b>   | <b>6.6</b>   | <b>8.1</b>   | <b>9.3</b>   | <b>10.8</b>  |
| <b>EBITDA excluding exceptional</b>     | <b>1.6</b>   | <b>2.1</b>   | <b>2.7</b>   | <b>3.3</b>   | <b>3.6</b>   | <b>5.4</b>   | <b>6.9</b>   | <b>8.5</b>   | <b>9.6</b>   | <b>11.1</b>  |
| Interest expenses                       | (0.0)        | (0.0)        | (0.1)        | (0.1)        | (0.1)        | (0.1)        | (0.1)        | (0.1)        | (0.1)        | (0.1)        |
| Interest income                         | 0.1          | 0.1          | 0.1          | 0.0          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          |
| Share of results of associates          | 0.2          | 0.3          | 0.3          | 0.3          | 0.4          | 0.1          | -            | -            | -            | -            |
| Other non-operating income/expenses     | 0.0          | 0.0          | 0.1          | 0.1          | 0.4          | -            | -            | -            | -            | -            |
| <b>Profit before tax</b>                | <b>1.7</b>   | <b>2.2</b>   | <b>2.8</b>   | <b>3.2</b>   | <b>4.2</b>   | <b>5.2</b>   | <b>6.6</b>   | <b>8.1</b>   | <b>9.3</b>   | <b>10.8</b>  |
| <b>Income tax</b>                       | <b>(0.3)</b> | <b>(0.3)</b> | <b>(0.4)</b> | <b>(0.5)</b> | <b>(0.5)</b> | <b>(0.8)</b> | <b>(1.0)</b> | <b>(1.2)</b> | <b>(1.4)</b> | <b>(1.6)</b> |
| <b>Profit before minority interests</b> | <b>1.4</b>   | <b>1.9</b>   | <b>2.4</b>   | <b>2.7</b>   | <b>3.7</b>   | <b>4.4</b>   | <b>5.6</b>   | <b>6.9</b>   | <b>7.9</b>   | <b>9.2</b>   |
| Minority interests                      | 0.6          | 0.7          | 0.9          | 1.1          | 1.5          | 1.6          | 2.2          | 2.7          | 3.1          | 3.6          |
| <b>Net profit</b>                       | <b>0.82</b>  | <b>1.20</b>  | <b>1.44</b>  | <b>1.64</b>  | <b>2.17</b>  | <b>2.77</b>  | <b>3.42</b>  | <b>4.21</b>  | <b>4.81</b>  | <b>5.58</b>  |
| Dividends                               | 0.20         | 0.24         | 0.33         | 0.38         | 0.50         | 0.66         | 0.82         | 1.01         | 1.15         | 1.34         |
| Preferred distributions                 | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            |
| <b>Adjusted net profit</b>              | <b>0.84</b>  | <b>1.17</b>  | <b>1.44</b>  | <b>1.72</b>  | <b>2.07</b>  | <b>2.77</b>  | <b>3.42</b>  | <b>4.21</b>  | <b>4.81</b>  | <b>5.58</b>  |
| <b>EPS (adjusted)</b>                   | <b>0.08</b>  | <b>0.11</b>  | <b>0.13</b>  | <b>0.15</b>  | <b>0.19</b>  | <b>0.22</b>  | <b>0.27</b>  | <b>0.33</b>  | <b>0.38</b>  | <b>0.44</b>  |
| <b>DPS</b>                              | <b>0.02</b>  | <b>0.02</b>  | <b>0.03</b>  | <b>0.03</b>  | <b>0.04</b>  | <b>0.05</b>  | <b>0.06</b>  | <b>0.08</b>  | <b>0.09</b>  | <b>0.11</b>  |
| Special DPS                             | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            |
| Average basic shares                    | 11.12        | 11.12        | 11.12        | 11.12        | 11.12        | 12.38        | 12.64        | 12.64        | 12.64        | 12.64        |
| Average fully-diluted shares            | 11.12        | 11.12        | 11.12        | 11.12        | 11.12        | 12.38        | 12.64        | 12.64        | 12.64        | 12.64        |
| End-of-period basic shares              | 11.12        | 11.12        | 11.12        | 11.12        | 11.12        | 12.64        | 12.64        | 12.64        | 12.64        | 12.64        |
| BALANCE SHEET                           |              |              |              |              |              |              |              |              |              |              |
| Investment properties                   | -            | -            | 0.4          | 0.4          | 0.4          | 0.4          | 0.4          | 0.4          | 0.4          | 0.4          |
| Property, plant and equipment           | 1.6          | 1.9          | 2.2          | 2.7          | 3.5          | 3.5          | 3.5          | 3.5          | 3.5          | 3.5          |
| Land bank                               | 0.2          | 0.3          | 0.3          | 0.5          | 0.8          | 0.8          | 0.8          | 0.8          | 0.8          | 0.8          |
| Interests in associates and JCEs        | 0.9          | 1.1          | 1.1          | 0.9          | 1.0          | 0.8          | 0.6          | 0.6          | 0.6          | 0.6          |
| Investments                             | 0.1          | 0.3          | 0.9          | 0.9          | 1.1          | 1.1          | 1.1          | 1.1          | 1.1          | 1.1          |
| Receivables (L/T)                       | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            |
| Intangible assets                       | 0.1          | 0.2          | 0.3          | 0.3          | 0.3          | 10.2         | 10.2         | 10.2         | 10.2         | 10.2         |
| Deferred tax assets                     | 0.1          | 0.1          | 0.2          | 0.4          | 0.4          | 0.4          | 0.4          | 0.4          | 0.4          | 0.4          |
| Other assets (L/T)                      | 0.2          | 0.9          | 0.2          | (0.4)        | (0.3)        | 4.6          | 4.6          | 4.6          | 4.6          | 4.6          |
| <b>Total non-current assets</b>         | <b>3</b>     | <b>5</b>     | <b>5</b>     | <b>6</b>     | <b>7</b>     | <b>22</b>    | <b>21</b>    | <b>21</b>    | <b>21</b>    | <b>21</b>    |
| Properties completed/under development  | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            |
| Inventories                             | 0.6          | 0.7          | 0.8          | 0.9          | 0.9          | 1.1          | 1.4          | 1.8          | 2.1          | 2.4          |
| Receivables (S/T)                       | 1.6          | 1.9          | 1.9          | 2.0          | 2.1          | 2.7          | 3.5          | 4.3          | 5.0          | 5.6          |
| Other assets (S/T)                      | (0.1)        | (0.1)        | 1.0          | 3.5          | 3.0          | 3.0          | 3.0          | 3.0          | 3.0          | 3.0          |
| Restricted cash and investments         | 0.2          | 1.5          | 2.6          | 2.8          | 4.1          | 4.1          | 4.1          | 4.1          | 4.1          | 4.1          |
| Cash and cash equivalents               | 2.3          | 2.5          | 2.1          | 3.5          | 3.7          | 1.3          | 4.2          | 7.5          | 11.1         | 15.7         |
| <b>Total current assets</b>             | <b>5</b>     | <b>7</b>     | <b>8</b>     | <b>13</b>    | <b>14</b>    | <b>12</b>    | <b>16</b>    | <b>21</b>    | <b>25</b>    | <b>31</b>    |
| <b>Total assets</b>                     | <b>8</b>     | <b>11</b>    | <b>14</b>    | <b>18</b>    | <b>21</b>    | <b>34</b>    | <b>38</b>    | <b>42</b>    | <b>47</b>    | <b>52</b>    |
| Deferred revenue                        | 0.0          | 0.0          | 0.0          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          |
| Payables                                | 0.4          | 0.6          | 0.6          | 0.8          | 0.9          | 1.1          | 1.4          | 1.8          | 2.1          | 2.4          |
| Taxes payable                           | 0.1          | 0.2          | 0.3          | 0.3          | 0.5          | 0.7          | 0.9          | 1.1          | 1.3          | 1.5          |
| <b>Other liabilities (S/T)</b>          | <b>1.4</b>   | <b>1.8</b>   | <b>2.4</b>   | <b>3.1</b>   | <b>3.4</b>   | <b>3.4</b>   | <b>3.4</b>   | <b>3.4</b>   | <b>3.4</b>   | <b>3.4</b>   |
| Bank and other borrowings (S/T)         | 0.1          | 0.3          | 1.2          | 1.4          | 0.7          | 0.7          | 0.7          | 0.7          | 0.7          | 0.7          |
| <b>Total current liabilities</b>        | <b>2</b>     | <b>3</b>     | <b>5</b>     | <b>6</b>     | <b>6</b>     | <b>6</b>     | <b>7</b>     | <b>7</b>     | <b>8</b>     | <b>8</b>     |
| Bank and other borrowings (L/T)         | -            | 1.0          | 0.3          | 1.7          | 2.2          | 2.2          | 2.2          | 2.2          | 2.2          | 2.2          |
| Deferred tax liabilities                | 0.1          | 0.1          | 0.1          | 0.2          | 0.2          | 0.2          | 0.2          | 0.2          | 0.2          | 0.2          |
| Other liabilities (L/T)                 | 0.1          | 0.1          | 0.1          | 0.2          | 0.2          | 0.2          | 0.2          | 0.2          | 0.2          | 0.2          |
| <b>Total non-current liabilities</b>    | <b>0</b>     | <b>1</b>     | <b>0</b>     | <b>2</b>     | <b>3</b>     | <b>3</b>     | <b>3</b>     | <b>3</b>     | <b>3</b>     | <b>3</b>     |
| <b>Total liabilities</b>                | <b>2</b>     | <b>4</b>     | <b>5</b>     | <b>8</b>     | <b>9</b>     | <b>9</b>     | <b>9</b>     | <b>10</b>    | <b>10</b>    | <b>11</b>    |
| Issued capital                          | 0.1          | 0.1          | 0.2          | 0.2          | 0.2          | 0.2          | 0.2          | 0.2          | 0.2          | 0.2          |
| Share premium and reserves              | 1.9          | 2.1          | 2.2          | 2.5          | 2.4          | 12.5         | 12.5         | 12.5         | 12.5         | 12.5         |
| Retained earnings                       | 2.3          | 3.1          | 4.1          | 5.2          | 6.6          | 8.9          | 11.6         | 15.0         | 18.8         | 23.2         |
| <b>Shareholders' equities</b>           | <b>4</b>     | <b>5</b>     | <b>6</b>     | <b>8</b>     | <b>9</b>     | <b>22</b>    | <b>24</b>    | <b>28</b>    | <b>32</b>    | <b>36</b>    |
| Perpetual securities                    | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            |
| Minority interests                      | 1.4          | 1.8          | 2.2          | 2.8          | 3.4          | 3.6          | 4.1          | 4.6          | 5.0          | 5.5          |
| <b>Total equities</b>                   | <b>6</b>     | <b>7</b>     | <b>9</b>     | <b>11</b>    | <b>13</b>    | <b>25</b>    | <b>28</b>    | <b>32</b>    | <b>37</b>    | <b>41</b>    |
| <b>Total liabilities and equities</b>   | <b>8</b>     | <b>11</b>    | <b>14</b>    | <b>18</b>    | <b>21</b>    | <b>34</b>    | <b>38</b>    | <b>42</b>    | <b>47</b>    | <b>52</b>    |

Source: Company data, Macquarie Research, November 2018

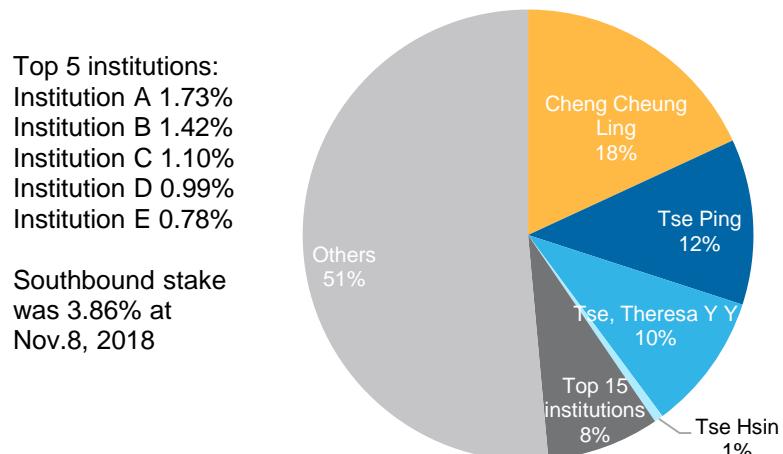
## Appendices

Fig 76 Management

|                                     | Tse, Theresa Y Y (謝其潤)   | Tse Ping (謝炳)   | Cheng Cheungling (鄭翔玲)   | Tse Hsin (謝忻)  | Zhang Xiquan (張喜全)  |
|-------------------------------------|--|---|--|--|---|
| Management                          | <ul style="list-style-type: none"> <li>Chairlady</li> <li>Executive Director</li> <li>Age 25</li> <li>Daughter of Tse Ping and Cheng Cheung Ling</li> <li>Niece of Tse Hsin</li> </ul>   | <ul style="list-style-type: none"> <li>CEO</li> <li>Founder</li> <li>Executive Director</li> <li>Age 66</li> <li>Father of Tse, Theresa</li> </ul>                              | <ul style="list-style-type: none"> <li>Vice Chairlady</li> <li>Executive Director</li> <li>Age 54</li> <li>Mother of Tse, Theresa</li> </ul> | <ul style="list-style-type: none"> <li>Vice President</li> <li>Executive Director</li> <li>Spokesman</li> <li>Age 48</li> <li>Uncle of Tse, Theresa</li> </ul>   | <ul style="list-style-type: none"> <li>Vice President</li> <li>Director of R&amp;D</li> <li>Age 48</li> </ul>   |
| Age & Relationship                  |  |   |  |  |   |
| Scientific & Education              | <ul style="list-style-type: none"> <li>Bachelor of Economics, Wharton School of Business, University of Pennsylvania</li> <li>Previously worked in the investment, finance and business development departments of several companies.</li> </ul> | N/A   | <ul style="list-style-type: none"> <li>Clinician</li> <li>MBA, Peking University</li> </ul>  | <ul style="list-style-type: none"> <li>Bachelor's Degree in Industrial Engineering, University of Hong Kong</li> </ul>   | <ul style="list-style-type: none"> <li>Master of Science, Nankai University</li> <li>National Technology Advancement Second Honour Award</li> <li>Jiangsu Province Technology Advancement Second Honour Award</li> <li>Shanghai Technology Advancement Second and Third Honour Awards.</li> </ul> |
| History & Experience                | <ul style="list-style-type: none"> <li>2015-now Chairlady, Sino Biopharma</li> <li>2011-15 Wharton School, University of Pennsylvania</li> </ul>   | <ul style="list-style-type: none"> <li>2015-now CEO, Sino Biopharma</li> <li>2000-15 Chairman and founder, Sino Biopharma</li> <li>Vice Chairman of Charoen Pokphand</li> </ul> | <ul style="list-style-type: none"> <li>1985-96 Technician, Workshop Director, Sales Manager at Lianyungang Medicine Factory</li> </ul>       | <ul style="list-style-type: none"> <li>1995 Joined the Group as assistant to the president</li> <li>Currently: Director of CT Tianqin, NJCTT, and Qingdao CT and the president of Chia Tai Shaoyang Orthopedic Hospital</li> </ul> | <ul style="list-style-type: none"> <li>1994 Graduated from Nankai University</li> <li>1997 Joined the Group as research scientist</li> </ul>  |
| Compensation & Stock position (Rmb) | <ul style="list-style-type: none"> <li>Annual salary: 2017 8.87mn, 2016 5.96mn</li> </ul>  | <ul style="list-style-type: none"> <li>Annual salary: 2017 36.7mn, 2016 28.3mn</li> <li>2017 hold 16.49% shareholding</li> </ul>  | <ul style="list-style-type: none"> <li>Annual salary: 2017 11.1mn</li> <li>2017 hold 25.14% shareholding</li> </ul>                          | <ul style="list-style-type: none"> <li>Annual salary: 2017 2.18mn, 2016 1.59mn</li> <li>2017 hold 0.83% shareholding</li> </ul>  | N/A   |
| Special notes                       | <ul style="list-style-type: none"> <li>"Most Outstanding Business Women in China for 2018" by Forbe China online</li> </ul>  | <ul style="list-style-type: none"> <li>Responsible for the overall operations of the Group</li> <li>Wealth ranking 232 in China by Forbes</li> </ul>                            | <ul style="list-style-type: none"> <li>"Top 10 Innovative Figures in China" in 2018</li> </ul>   | <ul style="list-style-type: none"> <li>Responsible for the acquisition and merger activities of the Group</li> </ul>   | <ul style="list-style-type: none"> <li>Lead R&amp;D of new drugs with expertise in drug candidate selection and joint development with collaborators</li> </ul>   |

Source: Company Data, Macquarie Research, November 2018

Fig 77 Ownership Structure



Source: FactSet, Macquarie Research, November 2018

## Macquarie Quant View

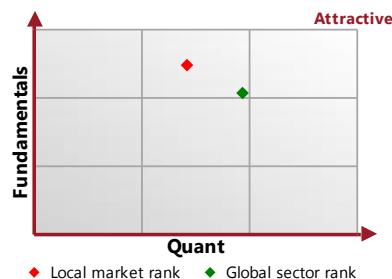
The Quant View page below has been derived from models that are developed and maintained by Sales and Trading personnel at Macquarie. The models are not a product of the Macquarie Research Department.

The quant model currently holds a neutral view on Sino Biopharmaceutical. The strongest style exposure is Profitability, indicating this stock is efficiently converting investments to earnings; proxied by ratios like ROE or ROA. The weakest style exposure is Valuations, indicating this stock is over-priced in the market relative to its peers.

**338/948**

Global rank in  
Pharma, Biotech & Life Sciences

% of BUY recommendations 76% (16/21)  
Number of Price Target downgrades 2  
Number of Price Target upgrades 1

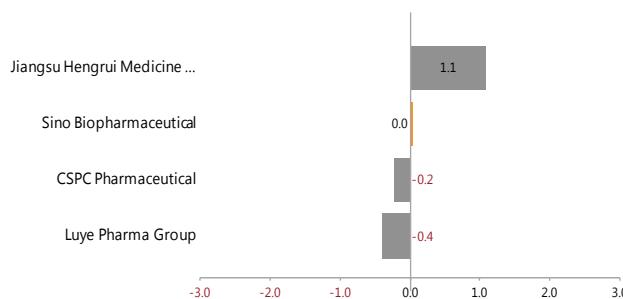


Displays where the company's ranked based on the fundamental consensus Price Target and Macquarie's Quantitative Alpha model.

Two rankings: Local market (Hong Kong) and Global sector (Pharma, Biotech & Life Sciences)

### Macquarie Alpha Model ranking

A list of comparable companies and their Macquarie Alpha model score (higher is better).



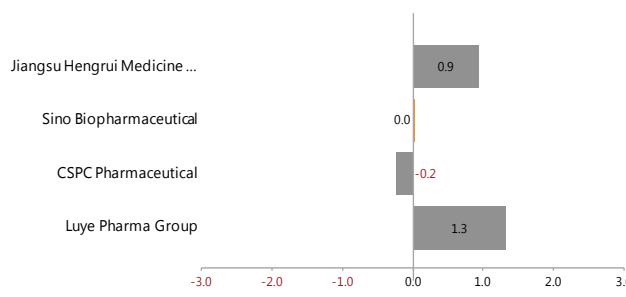
### Factors driving the Alpha Model

For the comparable firms this chart shows the key underlying styles and their contribution to the current overall Alpha score.



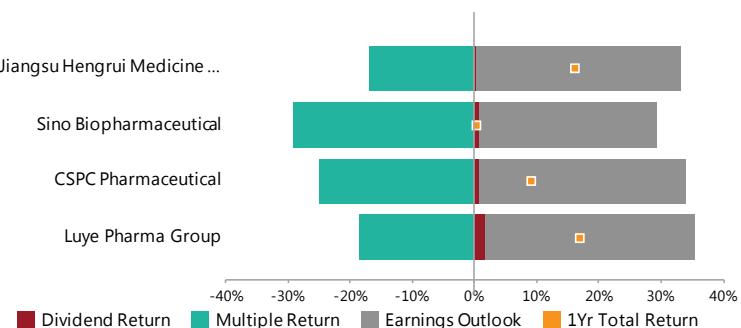
### Macquarie Earnings Sentiment Indicator

The Macquarie Sentiment Indicator is an enhanced earnings revisions signal that favours analysts who have more timely and higher conviction revisions. Current score shown below.



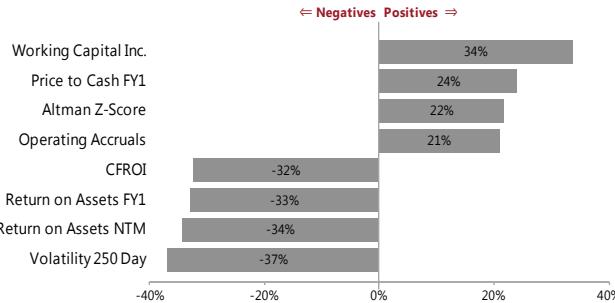
### Drivers of Stock Return

Breakdown of 1 year total return (local currency) into returns from dividends, changes in forward earnings estimates and the resulting change in earnings multiple.



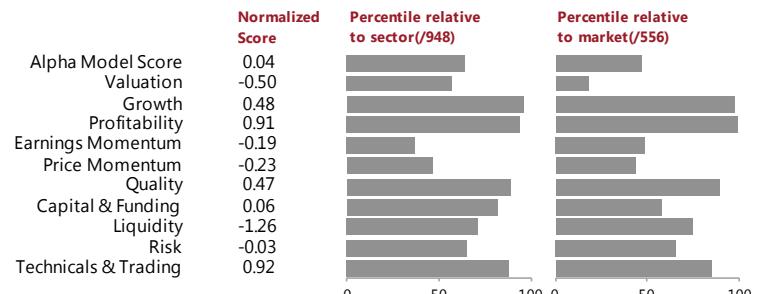
### What drove this Company in the last 5 years

Which factor score has had the greatest correlation with the company's returns over the last 5 years.



### How it looks on the Alpha model

A more granular view of the underlying style scores that drive the alpha (higher is better) and the percentile rank relative to the sector and market.



Source (all charts): FactSet, Thomson Reuters, and Macquarie Quant. For more details on the Macquarie Alpha model or for more customised analysis and screens, please contact the Macquarie Global Quantitative/Custom Products Group ([cpg@macquarie.com](mailto:cpg@macquarie.com))

## Sino Biopharmaceutical (1177 HK)

| Interim Results          | 1H/18A         | 2H/18E       | 1H/19E        | 2H/19E        | Profit & Loss                     | 2017A           | 2018E         | 2019E         | 2020E         |
|--------------------------|----------------|--------------|---------------|---------------|-----------------------------------|-----------------|---------------|---------------|---------------|
| Revenue                  | m 9,725        | 9,871        | 12,607        | 12,607        | Revenue                           | m 14,819        | 19,596        | 25,215        | 31,460        |
| <b>Gross Profit</b>      | <b>m 7,867</b> | <b>7,976</b> | <b>10,216</b> | <b>10,216</b> | <b>Gross Profit</b>               | <b>m 11,729</b> | <b>15,843</b> | <b>20,431</b> | <b>25,460</b> |
| Cost of Goods Sold       | m 1,859        | 1,895        | 2,392         | 2,392         | Cost of Goods Sold                | m 3,091         | 3,753         | 4,784         | 5,999         |
| <b>EBITDA</b>            | <b>m 2,363</b> | <b>3,003</b> | <b>3,455</b>  | <b>3,455</b>  | <b>EBITDA</b>                     | <b>m 3,567</b>  | <b>5,366</b>  | <b>6,910</b>  | <b>8,473</b>  |
| Depreciation             | m 200          | 135          | 168           | 168           | Depreciation                      | m 335           | 335           | 335           | 335           |
| Amortisation of Goodwill | m 0            | 0            | 0             | 0             | Amortisation of Goodwill          | m 0             | 0             | 0             | 0             |
| Other Amortisation       | m 0            | 0            | 0             | 0             | Other Amortisation                | m 0             | 0             | 0             | 0             |
| <b>EBIT</b>              | <b>m 2,163</b> | <b>2,868</b> | <b>3,287</b>  | <b>3,287</b>  | <b>EBIT</b>                       | <b>m 3,232</b>  | <b>5,031</b>  | <b>6,575</b>  | <b>8,138</b>  |
| Net Interest Income      | m 14           | -8           | 3             | 3             | Net Interest Income               | m 5             | 5             | 5             | 5             |
| Associates               | m 63           | 75           | 0             | 0             | Associates                        | m 409           | 138           | 0             | 0             |
| Exceptionals             | m 69           | -69          | 0             | 0             | Exceptionals                      | m 161           | 0             | 0             | 0             |
| Forex Gains / Losses     | m 0            | 0            | 0             | 0             | Forex Gains / Losses              | m 0             | 0             | 0             | 0             |
| Other Pre-Tax Income     | m 88           | -88          | 0             | 0             | Other Pre-Tax Income              | m 389           | 0             | 0             | 0             |
| <b>Pre-Tax Profit</b>    | <b>m 2,398</b> | <b>2,777</b> | <b>3,290</b>  | <b>3,290</b>  | <b>Pre-Tax Profit</b>             | <b>m 4,196</b>  | <b>5,174</b>  | <b>6,580</b>  | <b>8,144</b>  |
| Tax Expense              | m -429         | -327         | -493          | -494          | Tax Expense                       | m -542          | -755          | -987          | -1,222        |
| <b>Net Profit</b>        | <b>m 1,969</b> | <b>2,450</b> | <b>2,797</b>  | <b>2,796</b>  | <b>Net Profit</b>                 | <b>m 3,654</b>  | <b>4,419</b>  | <b>5,593</b>  | <b>6,922</b>  |
| Minority Interests       | m -603         | -1,046       | -1,088        | -1,088        | Minority Interests                | m -1,483        | -1,649        | -2,177        | -2,709        |
| <b>Reported Earnings</b> | <b>m 1,366</b> | <b>1,404</b> | <b>1,708</b>  | <b>1,708</b>  | <b>Reported Earnings</b>          | <b>m 2,171</b>  | <b>2,770</b>  | <b>3,416</b>  | <b>4,213</b>  |
| <b>Adjusted Earnings</b> | <b>m 1,366</b> | <b>1,404</b> | <b>1,708</b>  | <b>1,708</b>  | <b>Adjusted Earnings</b>          | <b>m 2,074</b>  | <b>2,770</b>  | <b>3,416</b>  | <b>4,213</b>  |
| EPS (rep)                | ¢ 11.1         | 11.1         | 13.5          | 13.5          | EPS (rep)                         | ¢ 13.0          | 22.2          | 27.0          | 33.3          |
| EPS (adj)                | ¢ 11.1         | 11.1         | 13.5          | 13.5          | EPS (adj)                         | ¢ 12.4          | 22.2          | 27.0          | 33.3          |
| EPS Growth yoy (adj)     | % 71.9         | 85.7         | 21.8          | 21.6          | EPS Growth (adj)                  | % 20.8          | 78.6          | 21.7          | 23.3          |
| PE (rep)                 |                |              |               |               | PE (rep)                          | x 54.3          | 31.8          | 26.2          | 21.2          |
| PE (adj)                 |                |              |               |               | PE (adj)                          | x 56.9          | 31.8          | 26.2          | 21.2          |
| EBITDA Margin            | % 24.3         | 30.4         | 27.4          | 27.4          | Total DPS                         | ¢ 2.9           | 5.3           | 6.5           | 8.0           |
| EBIT Margin              | % 22.2         | 29.1         | 26.1          | 26.1          | Total Div Yield                   | % 0.4           | 0.7           | 0.9           | 1.1           |
| Earnings Split           | % 49.3         | 50.7         | 50.0          | 50.0          | Basic Shares Outstanding          | m 16,677        | 12,638        | 12,638        | 12,638        |
| Revenue Growth           | % 30.0         | 34.5         | 29.6          | 27.7          | Diluted Shares Outstanding        | m 16,677        | 12,474        | 12,640        | 12,640        |
| EBIT Growth              | % 60.3         | 52.4         | 52.0          | 14.6          |                                   |                 |               |               |               |
| Profit and Loss Ratios   | 2017A          | 2018E        | 2019E         | 2020E         | Cashflow Analysis                 | 2017A           | 2018E         | 2019E         | 2020E         |
| Revenue Growth           | % 9.4          | 32.2         | 28.7          | 24.8          | <b>EBITDA</b>                     | <b>m 3,766</b>  | <b>3,520</b>  | <b>4,398</b>  | <b>5,429</b>  |
| EBITDA Growth            | % 8.2          | 50.5         | 28.8          | 22.6          | Tax Paid                          | m -464          | -755          | -987          | -1,222        |
| EBIT Growth              | % 7.9          | 55.7         | 30.7          | 23.8          | Chgs in Working Cap               | m 431           | -451          | -559          | -642          |
| Gross Profit Margin      | % 79.1         | 80.8         | 81.0          | 80.9          | Net Interest Paid                 | m -12           | 5             | 5             | 5             |
| EBITDA Margin            | % 24.1         | 27.4         | 27.4          | 26.9          | Other                             | m 948           | -4,881        | 0             | 0             |
| EBIT Margin              | % 21.8         | 25.7         | 26.1          | 25.9          | <b>Operating Cashflow</b>         | <b>m 4,669</b>  | <b>-2,563</b> | <b>2,857</b>  | <b>3,571</b>  |
| Net Profit Margin        | % 14.0         | 14.1         | 13.5          | 13.4          | Acquisitions                      | m -288          | 271           | 138           | 0             |
| Payout Ratio             | % 23.3         | 23.7         | 24.0          | 24.0          | Capex                             | m 0             | 0             | 0             | 0             |
| EV/EBITDA                | x 28.2         | 15.2         | 12.1          | 9.9           | Asset Sales                       | m -1,091        | -9,844        | 0             | 0             |
| EV/EBIT                  | x 30.8         | 16.2         | 12.7          | 10.3          | Other                             | m -1,614        | 0             | 0             | 0             |
| Balance Sheet Ratios     |                |              |               |               | <b>Investing Cashflow</b>         | <b>m -2,993</b> | <b>-9,573</b> | <b>138</b>    | <b>0</b>      |
| ROE                      | % 24.2         | 18.0         | 14.9          | 16.2          | Dividend (Ordinary)               | m -450          | -501          | -665          | -820          |
| ROA                      | % 16.4         | 18.4         | 18.4          | 20.4          | Equity Raised                     | m 0             | 10,090        | 0             | 0             |
| ROIC                     | % 37.9         | 55.2         | 24.6          | 29.9          | Debt Movements                    | m -97           | 0             | 0             | 0             |
| Net Debt/Equity          | % -38.3        | -9.7         | -18.7         | -26.6         | Other                             | m -939          | 166           | 528           | 532           |
| Interest Cover           | x nmf          | nmf          | nmf           | nmf           | <b>Financing Cashflow</b>         | <b>m -1,486</b> | <b>9,755</b>  | <b>-137</b>   | <b>-288</b>   |
| Price/Book               | x 12.8         | 4.1          | 3.7           | 3.2           | Net Chg in Cash/Debt              | m 190           | -2,381        | 2,858         | 3,283         |
| Book Value per Share     | 0.6            | 1.7          | 1.9           | 2.2           | <b>Free Cashflow</b>              | <b>m 4,669</b>  | <b>-2,563</b> | <b>2,857</b>  | <b>3,571</b>  |
|                          |                |              |               |               | Balance Sheet                     | 2017A           | 2018E         | 2019E         | 2020E         |
|                          |                |              |               |               | Cash                              | m 7,779         | 5,399         | 8,257         | 11,540        |
|                          |                |              |               |               | Receivables                       | m 2,051         | 2,684         | 3,454         | 4,310         |
|                          |                |              |               |               | Inventories                       | m 919           | 1,131         | 1,442         | 1,808         |
|                          |                |              |               |               | Investments                       | m 370           | 370           | 370           | 370           |
|                          |                |              |               |               | Fixed Assets                      | m 3,483         | 3,483         | 3,483         | 3,483         |
|                          |                |              |               |               | Intangibles                       | m 308           | 10,152        | 10,152        | 10,152        |
|                          |                |              |               |               | Other Assets                      | m 6,024         | 10,635        | 10,497        | 10,497        |
|                          |                |              |               |               | <b>Total Assets</b>               | <b>m 20,935</b> | <b>33,854</b> | <b>37,655</b> | <b>42,160</b> |
|                          |                |              |               |               | Payables                          | m 1,030         | 1,229         | 1,539         | 1,904         |
|                          |                |              |               |               | Short Term Debt                   | m 741           | 741           | 741           | 741           |
|                          |                |              |               |               | Long Term Debt                    | m 2,210         | 2,210         | 2,210         | 2,210         |
|                          |                |              |               |               | Provisions                        | m 680           | 875           | 1,087         | 1,301         |
|                          |                |              |               |               | Other Liabilities                 | m 3,663         | 3,663         | 3,663         | 3,663         |
|                          |                |              |               |               | <b>Total Liabilities</b>          | <b>m 8,324</b>  | <b>8,718</b>  | <b>9,240</b>  | <b>9,819</b>  |
|                          |                |              |               |               | Shareholders' Funds               | m 9,209         | 21,567        | 24,318        | 27,712        |
|                          |                |              |               |               | Minority Interests                | m 3,402         | 3,569         | 4,096         | 4,629         |
|                          |                |              |               |               | Other                             | m 0             | 0             | 0             | 0             |
|                          |                |              |               |               | <b>Total S/H Equity</b>           | <b>m 12,611</b> | <b>25,136</b> | <b>28,415</b> | <b>32,340</b> |
|                          |                |              |               |               | <b>Total Liab &amp; S/H Funds</b> | <b>m 20,935</b> | <b>33,854</b> | <b>37,655</b> | <b>42,160</b> |

All figures in HKD unless noted.

Source: Company data, Macquarie Research, November 2018

## Important disclosures:

| Recommendation definitions   | Volatility index definition*  | Financial definitions  |
|--|---|--|
| <b>Macquarie - Australia/New Zealand</b><br>Outperform – return >3% in excess of benchmark return<br>Neutral – return within 3% of benchmark return<br>Underperform – return >3% below benchmark return                              | This is calculated from the volatility of historical price movements.   | All "Adjusted" data items have had the following adjustments made:<br>Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense<br>Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests |
| Benchmark return is determined by long term nominal GDP growth plus 12 month forward market dividend yield, which is currently around 9%.  | <b>Very high-highest risk</b> – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative. | <b>EPS</b> = adjusted net profit / efpowa*<br><b>ROA</b> = adjusted ebit / average total assets<br><b>ROA Banks/Insurance</b> = adjusted net profit / average total assets<br><b>ROE</b> = adjusted net profit / average shareholders funds<br><b>Gross cashflow</b> = adjusted net profit + depreciation  |
| <b>Macquarie - Asia/Europe</b><br>Outperform – expected return >+10%<br>Neutral – expected return from -10% to +10%<br>Underperform – expected return <-10%  | <b>High</b> – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.            | *equivalent fully paid ordinary weighted average number of shares  |
| <b>Mazi Macquarie – South Africa</b><br>Outperform – expected return >+10%<br>Neutral – expected return from -10% to +10%<br>Underperform – expected return <-10%  | <b>Medium</b> – stock should be expected to move up or down at least 30–40% in a year.  | All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).  |
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| <b>Macquarie - USA</b><br>Outperform (Buy) – return >5% in excess of Russell 3000 index return<br>Neutral (Hold) – return within 5% of Russell 3000 index return<br>Underperform (Sell) – return >5% below Russell 3000 index return | <b>Recommendations</b> – 12 months<br><b>Note:</b> Quant recommendations may differ from Fundamental Analyst recommendations                                |  |

## Recommendation proportions – For quarter ending 30 September 2018

|              | AU/NZ  | Asia   | RSA    | USA    | CA     | EUR    |   |
|--------------|--------|--------|--------|--------|--------|--------|---|
| Outperform   | 51.56% | 59.51% | 45.05% | 46.88% | 67.86% | 46.70% | (for global coverage by Macquarie, 3.70% of stocks followed are investment banking clients) |
| Neutral      | 33.20% | 28.92% | 37.36% | 47.70% | 25.00% | 42.73% | (for global coverage by Macquarie, 2.04% of stocks followed are investment banking clients) |
| Underperform | 15.23% | 11.57% | 17.58% | 5.42%  | 7.14%  | 10.57% | (for global coverage by Macquarie, 0.47% of stocks followed are investment banking clients) |

## 1177 HK vs HSI, &amp; rec history



(all figures in HKD currency unless noted)

## 2318 HK vs HSI, &amp; rec history



(all figures in HKD currency unless noted)

Note: Recommendation timeline – if not a continuous line, then there was no Macquarie coverage at the time or there was an embargo period.  
Source: FactSet, Macquarie Research, November 2018

## 12-month target price methodology

1177 HK: HK\$10.22 based on a PER methodology

2318 HK: HK\$110.00 based on a Sum of Parts methodology

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| Date        | Stock Code (BBG code) | Recommendation | Target Price |
|-------------|-----------------------|----------------|--------------|
| 17-Nov-2018 | 1177 HK               | Outperform     | HK\$10.22    |
| 15-Mar-2017 | 1177 HK               | Outperform     | HK\$5.13     |
| 24-Sep-2016 | 1177 HK               | Outperform     | HK\$5.33     |

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| Hiroyuki Sakaida (Japan)         | (813) 3512 6695  |
| Chan Hwang (Korea)               | (822) 3705 8643  |
| Jeffrey Ohlweiler (Taiwan)       | (8862) 2734 7512 |
| Inderjeetsingh Bhatia (India)    | (9122) 6720 4087 |
| Conrad Werner (ASEAN, Singapore) | (65) 6601 0182   |
| Jayden Vantarakis (Indonesia)    | (6221) 2598 8310 |
| Anand Pathmakanthan (Malaysia)   | (603) 2059 8833  |
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## Asia Sales

### Regional Heads of Sales

|                            |                  |
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| Amelia Mehta (Asia)        | (65) 6601 0211   |
| Alan Chen (Asia)           | (852) 3922 2019  |
| Sandeep Bhatia (India)     | (9122) 6720 4101 |
| Tim Huang (Indonesia)      | (6221) 2598 8303 |
| Thomas Renz (Geneva)       | (41 22) 818 7712 |
| Tomohiro Takahashi (Japan) | (813) 3512 7823  |
| John Jay Lee (Korea)       | (822) 3705 9988  |
| Nik Hadi (Malaysia)        | (603) 2059 8888  |
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### Regional Heads of Sales cont'd

|                             |                   |
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| Paul Colaco (San Francisco) | (1 415) 762 5003  |
| Eric Lin (Taiwan)           | (8862) 2734 7590  |
| Angus Kent (Thailand)       | (662) 694 7601    |
| Mothlib Miah (UK/Europe)    | (44 20) 3037 4893 |
| Christina Lee (US)          | (44 20) 3037 4873 |

### Sales Trading

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| Stanley Dunda (Indonesia) | (6221) 515 1555 |

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|------------------------------|-------------------|
| Suhaida Samsudin (Malaysia)  | (603) 2059 8888   |
| Michael Santos (Philippines) | (632) 857 0813    |
| Chris Reale (New York)       | (1 212) 231 2555  |
| Marc Rosa (New York)         | (1 212) 231 2555  |
| Justin Morrison (Singapore)  | (65) 6601 0288    |
| Brendan Rake (Thailand)      | (662) 694 7707    |
| Mike Keen (UK/Europe)        | (44 20) 3037 4905 |