EQUITIES IntellectualProperty

Chinasoft International
Cloud rider

354 HK		Outperform
Price (at 13:00, 03 May 2018 GMT)		HK$6.08
Valuation - DCF (WACC 10.7%, beta 1.0, ERP 8.2%, RFR 3.6%, TGR 2.0%)	HK$	9.57
12-month target	HK$	10.00
Upside/Downside	%	+64.5
12-month TSR	%	+65.0
Volatility Index		Medium
GICS sector		Software & Services
Market cap	HK$m	14,615
Market cap	US$m	1,862
Free float	%	69
30-day avg turnover	US$m	22.7
Number shares on issue	m	2,404

Investment fundamentals

Year end 31 Dec		2017A	2018E	2019E	2020E
Revenue	m	9,244	11,279	13,669	16,698
EBIT	m	716	917	1,184	1,529
EBIT growth	%	18.8	28.1	29.1	29.2
Reported profit	m	566	755	987	1,275
Adjusted profit	m	716	755	987	1,275
EPS rep	Rmb	0.22	0.29	0.38	0.49
EPS rep growth	%	19.7	30.6	30.8	29.2
EPS adj	Rmb	0.28	0.29	0.38	0.49
EPS adj growth	%	35.0	3.4	30.8	29.2
PER rep	x	22.3	17.1	13.1	10.1
PER adj	x	17.7	17.1	13.1	10.1
Total DPS	Rmb	0.02	0.02	0.03	0.05
Total div yield	%	0.4	0.5	0.7	0.9
ROA	%	9.0	10.0	11.6	13.0
ROE	%	15.2	13.7	15.6	17.3
EV/EBITDA	x	14.0	11.2	9.1	7.2
Net debt/equity	%	-2.8	-9.0	-7.0	-6.3
P/BV	x	2.5	2.2	1.9	1.6

Source: FactSet, Macquarie Research, May 2018
(all figures in Rmb unless noted, TP in HKD)

Macquarie Governance and Risk Score (MGRS)
On our proprietary Governance and Risk Score Chinasoft International scores in the 3rd quartile of our current universe coverage.

Key points

- We initiate coverage with Outperform and a street-high target price of HK$10 (65% upside).
- We expect 30% NP CAGR over 2018-2022, thanks to new cloud business.
- Growth story at attractive valuation, 13x PE on 2019E, vs global peers' 18x.

We initiate coverage of Chinasoft International (CS) with an Outperform rating and a street-high target price of HK$10 (65% potential upside). We expect a CAGR of 20% in revenue and 30% in net profit over 2018-22, on: 1) solid growth in its traditional IT outsourcing business, anchored by Huawei, its largest client, strategic partner and shareholder with a 4% stake; and 2) rapid expansion in the new cloud business, partnering not only with Huawei but also the BATs (Baidu, Alibaba and Tencent), with higher margins. We consider CS a growth story with an attractive valuation—a PER of 13x on FY19E, vs global peers that are trading at 18x despite consensus earnings CAGR forecast of c.8% on average. Key downside risk lies in a potential Sino-US trade war and a ban on Huawei's business with US companies. Our scenario analysis indicates 10-20% revenue impact on CS (page 12) if such a ban takes effect, and the share price has already dropped 10% after *WSJ* report on 26 Apr (vs the HSI's fall of 1%).

Traditional business: solid growth to continue in IT outsourcing

Huawei is CS's largest client, having contributed close to 60% of CS's revenue in FY17. Revenue from Huawei has grown at an annualised rate of 50% since 2010, on: 1) Huawei's revenue CAGR of 20%; and 2) Huawei's operating margin shrinking at ~1ppt annually, necessitating ever higher outsourcing in order to cut costs, in our view. We expect the trend to continue and CS's traditional outsourcing business to grow 10%+ annually. Apart from Huawei, we expect CS's solid growth to be supported by: 1) strong growth in IT service spending in China, which as a proportion of GDP is far lower than in developed countries (Fig 12); 2) government support for the overall IT industry, targeting a ~10% revenue CAGR through 2020, according to the 13th Five Year Plan.

New business: transforming into new

Cloud and related business (AI, big data featured by 5G/IoT; see Allen Chang's thematic) has been the fastest-growing segment in the IT industry, with 60% annual growth in China for the past several years. We project it will continue to increase by 40% p.a. through 2022. We consider CS's cloud business to be in a sweet spot and expect 50% revenue CAGR, thanks to: 1) its partnership with not only Huawei (CS is the only company that is allowed to embed a service manual into Huawei Cloud's sales manual for clients), but also the BATs in both China and 'One Belt One Road' countries; 2) its unique business model, ie. JointForce, the only crowd sourcing platform in China focusing on the IT industry; and 3) overseas expansion to obtain knowhow, eg. Acquired Catapult, a SaaS company, in 2013, one of Microsoft's highest-rated partners, with 16 Gold and 2 Silver MS Certified capabilities, according to CS. Microsoft is also a shareholder in CS, with a ~4% stake since 2011.

Growth story with attractive valuation

CS is trading at a PER of 13x on FY19E, vs 18x PER of global peers with merely 8% consensus earnings CAGR. Our TP implies a 21x PER. Major catalysts include potential further overseas M&A and successful new business expansion in both China and 'One Belt One Road' countries.

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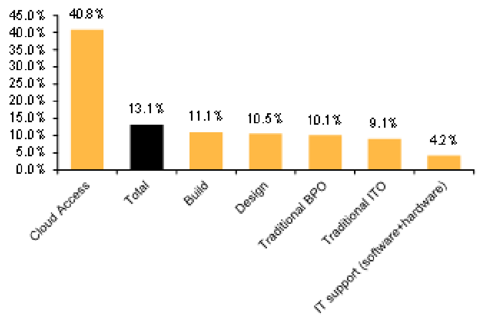
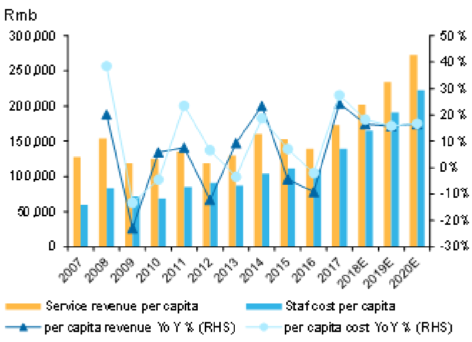
Inside

China Cloud Access to grow at ~41% CAGR (2017-2022E)



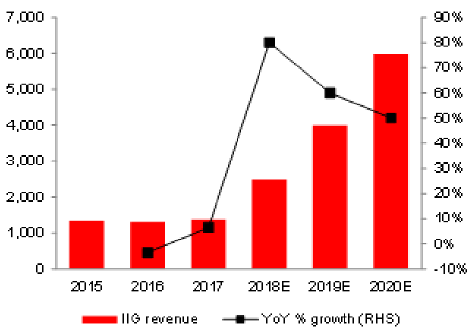
Source: Macquarie Research, April 2018

CS Per Capita productivity hikes



Source: Company data, Macquarie Research, April 2018

IIG to be new revenue growth driver (Rmb m)



Source: Company data, Macquarie Research, April 2018

Cloud rider

Company profile

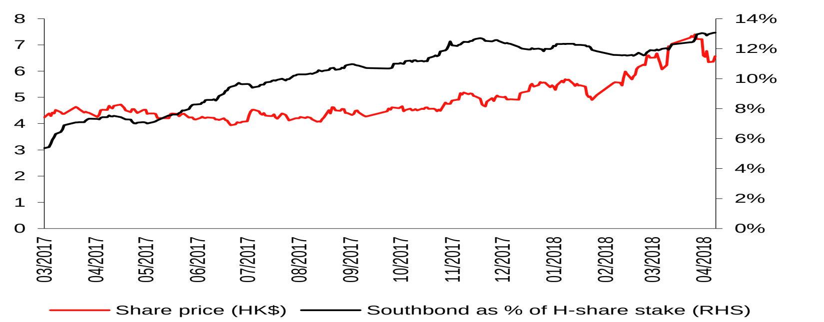
- Chinasoft International Limited (CS) is an IT Service company based in Beijing that develops and provides information technology (IT) solutions & IT outsourcing services for a variety of industries, primarily financial services, government, tobacco, manufacturing, energy, telecommunications and internet companies. Moreover, the company has been expanding into new businesses including JointForce, an internet-based IT service crowdsourcing platform, cloud migration, cloud consulting & SaaS customization services.
- Currently, the company's business includes two sectors: 1) Technical & Professional Services Group (TPG, 85% of total revenue by 2017), mainly programmer outsourcing services and tailored IT solutions; and 2) Internet IT Services Group (IIG), which focuses on long-tail or non-recurring clients including the JointForce platform.
- CS works closely with its top 5 clients. For example, ChinaSoft is an "enterprise gold label" agent for the Huawei Technologies group (59% of revenue contribution by end-2017). Additionally, Catapult, a US SaaS provider acquired by CS in 2013, is described by CS as the best partner of Microsoft with 16 Gold and 2 Silver MS Certified capabilities. It is a nominee of the annual global cloud productivity partner and (USA) National Annual Solution Partner, receiving recognition from Microsoft global partner alliance, according to CS.
- Founded in 2000, CS was listed on the HK GEM in 2003 and moved its listing to the HK Main Board in 2008. CS is also on the name list of SH-SZ-HK connect. The company has a total of ~50K staff, of which ~45K are programmers.

Fig 1 CS to enjoy strong growth in new businesses with a more diversified client base

Rmb mn	2017	2022E	5-year CAGR	GP margin	Client concentration
IT outsourcing & system solution	7,616	12,700	11%	25% to 35%	Huawei (~60%); HSBC (~10%); Tencent (3%)
Cloud & Bigdata & AI	670	7,000	60%	45%	Diversified (local government & enterprises)
JointForce	300	5,000	76%	10% for subcontract, ~80% for membership	Diversified (major long-tail demands)
SaaS	30	3,000	151%	40% - 45%	Diversified (US clients via Catapult)

Source: Company data, Macquarie Research, May 2018

Fig 2 CS has increasing participation from Southbound investors (~13% recently), which is relatively higher than many other small & mid-caps in HK



Source: Bloomberg, Macquarie Research, May 2018

Cloud rider

Investment thesis

We initiate coverage of Chinasoft International (CS) with an Outperform rating and Street-high TP of HK$10 (65% potential upside). We expect its top line to grow by 20% and NP to increase by a 30% CAGR through 2022; thanks to 1) solid growth in its traditional IT outsourcing business, anchored by Huawei, its largest client, strategic partner and shareholder with a 4% stake; 2) rapid expansion in the new cloud business, partnering not only with Huawei but also BATs, with higher margins. We consider CS a growth story with an attractive valuation; 21x FY19E PER implied by our TP vs 18x PER of global peer with merely ~8% consensus earnings growth on average.

Key downside risk lies in the potential Sino-US trade war and ban on Huawei's business with US companies. Our scenario analysis indicates 10-20% revenue impact on CS (page 12) even if the ban came true, while its share price already dropped by ~10% post WSJ report on 26 Apr.

Major catalysts include potential further overseas M&A; and successful new business expansion.

Fig 3 CS to enjoy strong growth in new business with more diversified client bases

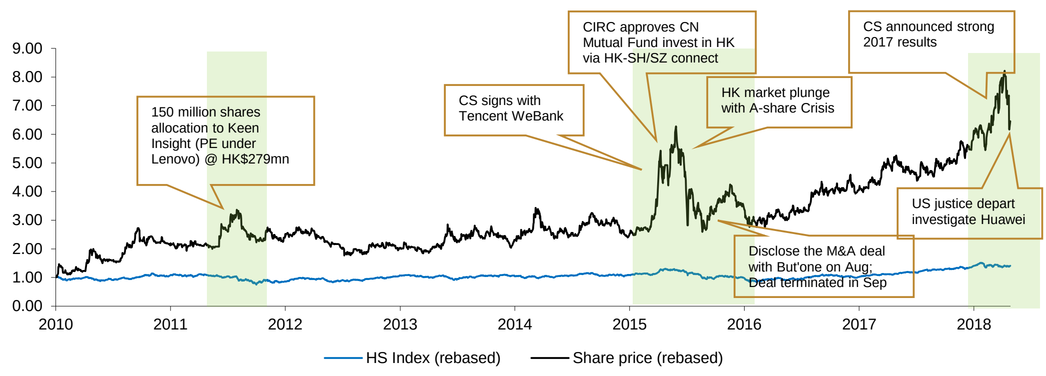
Rmb mn	2017	2022E	5-year CAGR	GP margin	Client concentration
IT outsourcing & system solution	7,616	12,700	11%	25% to 35%	Huawei (>80%); HSBC (~10%); Tencent (3%)
Cloud & Big data & AI	670	7,000	60%	45%	Diversified (local government & enterprises, no revenue contribution from Huawei we estimate)
JointForce	300	5,000	76%	10% for subcontract, ~80% for membership	Diversified (mainly long-tail demands)
SaaS	30	3,000	151%	40% - 45%	Diversified (US clients via Catapult)

Source: Company data, Macquarie Research, May 2018

The share price dropped by 10% post the WSJ's report on 26 April that Huawei became another target of the US Justice Department for violating of Iran sanctions. We see less impact on Huawei vs. ZTE and thus on CS, even if the U.S. ban comes through, considering: 1) the investigation is not new and this is a continuous investigation by the US government for the same case back in 2016; 2) Huawei is less dependent on suppliers of key components; 3) Huawei has limited revenue exposure to the US. **Thus we expect a ~10-20% potential impact on CS's topline, if the US ban on Huawei takes effect, based on our scenario analysis (page 12).**

That said, the impact could be lower, considering that (1) Huawei is not likely to shut down its major product lines given its strong domestic and overseas (excluding US and Europe) business; and (2) less revenue means potentially more cost savings and thus higher demand for IT outsourcing.

Fig 4 CS continuously has outperformed the HS index in last 7 years (rebased since 2010)



Note: Share price as of 3 May closing; Source: Bloomberg, Macquarie Research, May 2018

Traditional business: solid growth to continue in IT outsourcing

China Soft (CS) divides its business into two sectors: 1) **Technical & Professional Services Group (TPG**, 85% of total revenue in 2017), which mainly focuses on programmer outsourcing services and tailored IT solutions for long-term contracts (3 to 5 years); and 2) **Internet IT Services Group (IIG)**, which focuses on long-tail or non-recurring client demand via a JointForce (JF) platform. IIG also offers cloud-related services such as cloud migration, cloud consulting and SaaS customization services.

Technical & Professional Services (TPG)

The TPG segment, contributing 85% of CS' total revenue (2017), offers IT services/solutions to large scale clients crossing several critical industries of China (i.e. financial institutions, telecommunication carriers, and internet giants), usually coupled with a long-term contract (3-5yrs). TPG, one part of CS's bi-wheels growth model, requires an experienced project management skillset, human resources capabilities and a deep understanding of clients' demands.

Generally speaking, the company charges its clients based on either 1) per capita per month (mainly applied in the IT outsourcing business), or 2) based on applications (mainly applied in IT solution and consulting).

China's IT outsourcing industry will continue solid growth at a ~9% CAGR during 2017-2020E, estimated by Gartner*. We expect CS, as one of the market leaders, to continue to outperform with a 10%+ revenue CAGR, thanks to its competitive edge in: 1) well-established long-term relationships with major clients, particularly Huawei; 2) strong brand equity on the back of its consistent accuracy performance (i.e. lowest coding error across all Huawei IT service vendors, according to the company); and 3) vast, well-trained programmer inventory.

*Note: *Gartner is a US research and advisory firm founded in 1979 that provides IT-related insights.*

China software industry has been outgrowing global average

The China software industry far outperformed the global average level during 2008-2016 (CN 26% CAGR vs. Global IT spending CAGR at 2%).

The China software industry, in our view, will continue to outgrow the global average at a ~10% CAGR in the near to mid-term on the back of: 1) low penetration, in terms of IT service spending as a proportion of GDP compares to developed countries; 2) gov support, evidenced by the National 13^{th} Five Year Plan; and 3) boost demand created by innovative technology (i.e. Cloud and Big data). This forecast is also supported by Gartner, which estimates overall China IT spending to grow at a 13% CAGR from 2017-2022E.

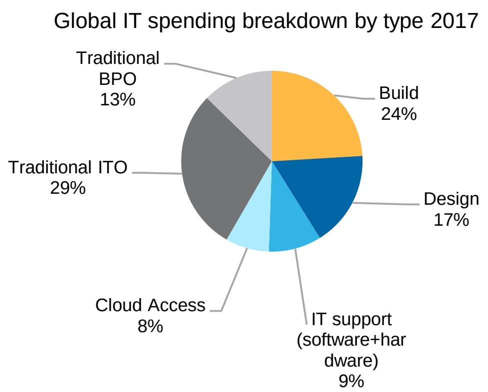
IT spending is composed of 5 segments: 1) IT design, 2) IT system (infrastructure, network and applications) build-up, 3) IT running (Traditional ITO & BPO), 4) IT support (software and hardware) and 5) Cloud access.

Fig 5 China software industry to outperform the global (2017-2022E)

Name	Description	*CAGR (17-22E)*		CS capability
		World	***China***	
IT design	Defined as the elements of an IT system such as the architecture, modules and components to satisfy specific needs of an organization	*7.6%*	*10.5%*	Yes
IT system build-up	Physically builds up the IT basic infrastructure network, including network services, Infrastructure services and application services	*2.7%*	*11.1%*	Yes
IT running	Running IT like a business, which includes budgeting, investment plan, chargeback, resource allocation and cost optimization	*3.7%*	*9.3%*	Yes
- ITO	Outsourcing of IT-related work, including programming, data entry, client service centre and other ad-hoc labour-intensive software development projects	*3.6%*	*9.1%*	Yes
- BPO	Utilizing IT to help structure or improve the business process, or to improve efficiency of the underlying business; IT services company typically offers advisory as well as engineering resources to support project developments	*4.1%*	*10.1%*	Yes
IT support	Provide assistance to users to solve specific problems	*0.6%*	*4.2%*	Yes
Cloud access	Cloud migration, Cloud solution and Cloud management for users	*17.8%*	*40.8%*	Yes

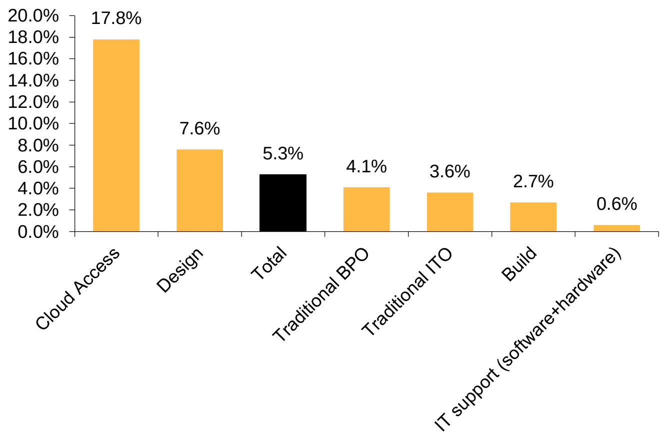
Source: Gartner, Macquarie Research, May 2018

Fig 6 Traditional ITO & BPO service account for 42% of global IT spending by 2017



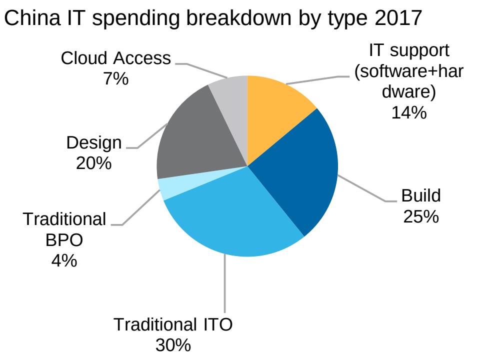
Source: Gartner, Macquarie Research, May 2018

Fig 7 Global Traditional ITO spending to grow at single-digit CAGR (2017-2022E)



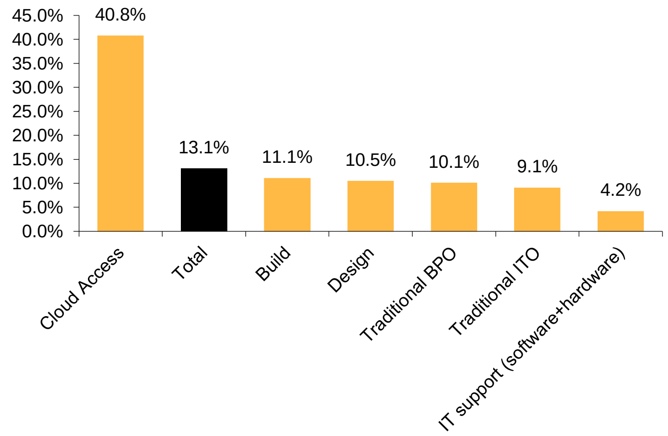
Source: Gartner, Macquarie Research, May 2018

Fig 8 Traditional ITO & BPO service account for 34% of China IT spending by 2017



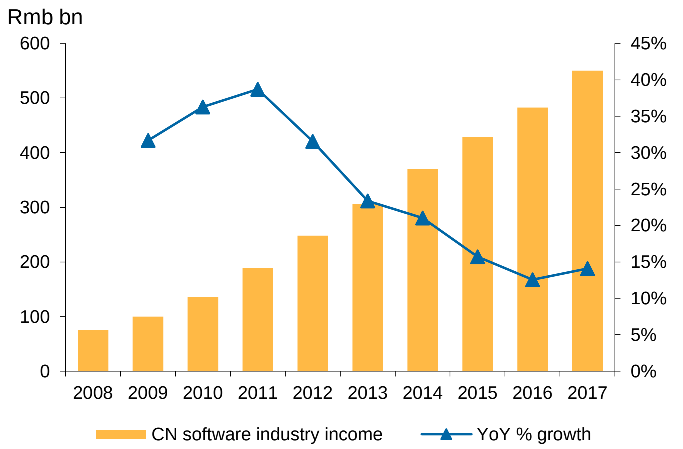
Source: Gartner, Macquarie Research, May 2018

Fig 9 China Traditional ITO spending to grow at ~10% CAGR (2017-2022E)



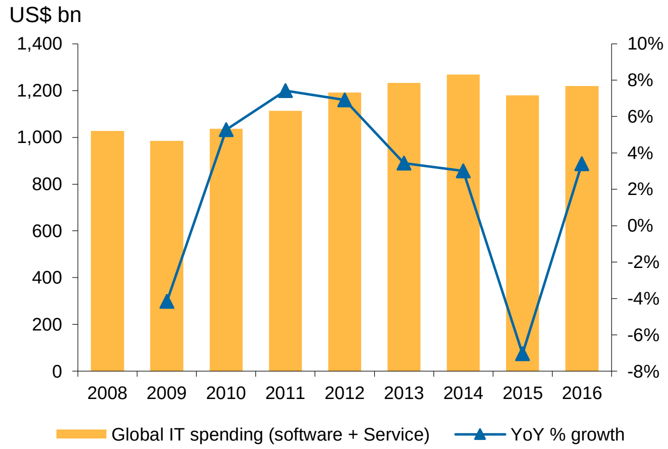
Source: Gartner, Macquarie Research, May 2018

Fig 10 China Software Industry realized a 26% revenue CAGR (08-16)



Source: CN IT Statistics Yearbook, Wind, Macquarie Research, May 2018

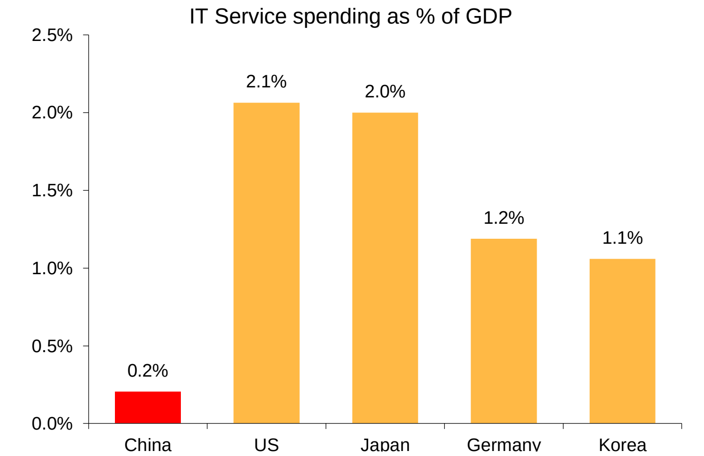
Fig 11 Global IT spending only realized a 2% CAGR (08-16) at same period



Source: Wind, Web news, Macquarie Research, May 2018

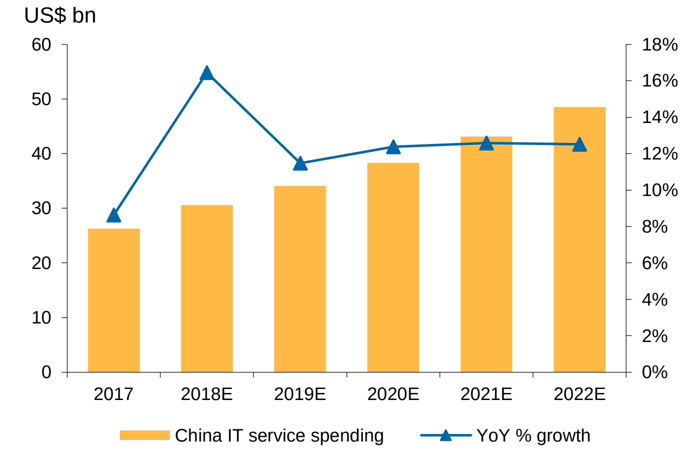
According to the National Information 13th five year plan (FYP), which was released by State Council on 15 Dec 2016, the overall market size of the whole IT industry in China is targeted to reach Rmb26.2trillion by 2020 vs. Rmb17.1trillion at 2015, indicating a CAGR of 9%. This is higher than the IT services global growth rate of 2-3%, in our view. The driven momentum comes from the Chinese enterprises' strong demand of improving productivity and operation efficiency via IT system upgrading.

Fig 12 China IT Service spending as % of GDP still low (2017)



Source: World Bank, Company data, Macquarie Research, May 2018

Fig 13 China IT Service spending could reach US$50bn by 2022

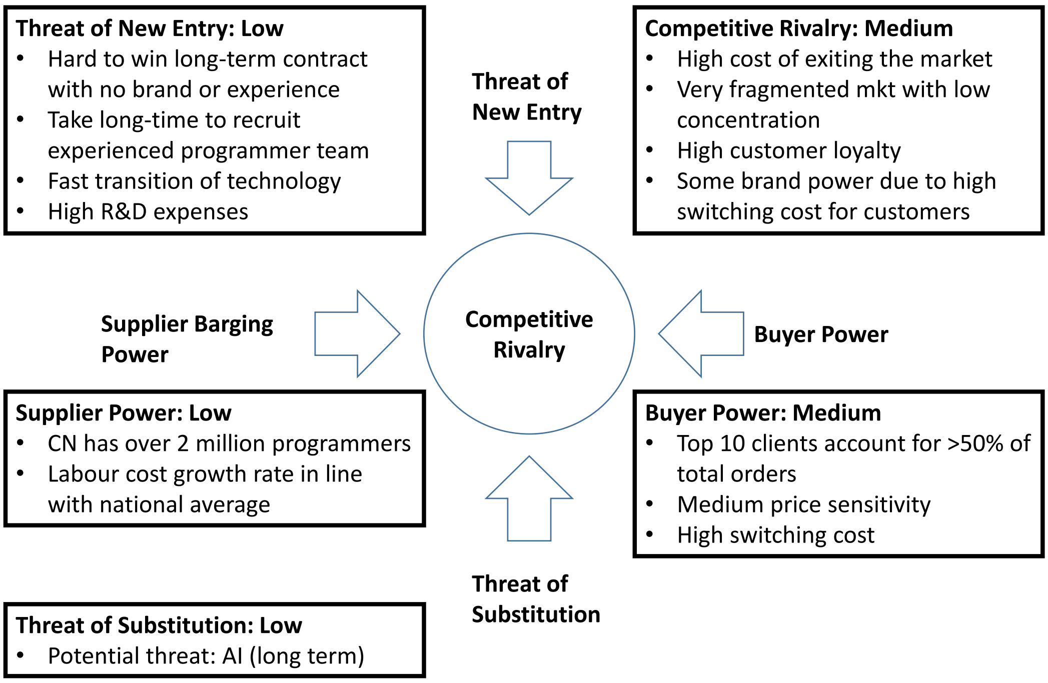


Source: Gartner, Macquarie Research, May 2018

Porter's Five Forces Analysis on CS's traditional business

The ITO & IT solution market in China is very fragmented with competition intensifying. Based on our analysis, we think CS is well-positioned and resilient in market share given its deeply involved relationship with major clients, consistent performance accuracy and well-established programmer inventory with effective cost control.

Fig 14 Porter five force analysis of TPG segment



Source: Macquarie Research, May 2018

Our analysis reveals CS' solid position in China's IT outsourcing market from different aspects:

- **Power of client: Medium**. Despite high revenue concentration from Huawei and other Top 10 clients, we consider CS still has some kind of negation power with its large clients given high switching costs.
- **Power of supplier: Low**. The company has few labour issues, in our view. Its unit labour cost grew by an ~8% CAGR during 2013-2016, which is in line with the industry average and National average. According to IDC, China had ~1.9 million programmers by 2015 vs. 50k+ that CS currently has.
- **Competitive rivalry: Medium**. The ITO & solution market is highly fragmented, with a leading company such as CS having only a low-single-digit share, according to our estimate. That said, client loyalty is high with expensive switching costs and nearly all the major peers focusing on differing industries or segments with limited direct competition. For example, CS focuses on Financial, Telecom, Tobacco and tech industry, while one of its major competitors, Neusoft (东软), focuses on Medical & Automobile.
- **Threat of new entry: Low**. Despite the relatively low Capex required initially compared to some other asset-heavy industries, we consider the entry barrier high as it is difficult for a new player to win long-term contracts without an established brand, experience and programmer inventory.
- **Threat of substitution: Low**. There's very limited substitutions for ITO & IT solution service in the short term mainly because keeping an in-house programmer team is much more expensive and inflexible for clients. Artificial Intelligence (AI) may become a threat for a labour-intensive industry like outsourcing, but this is quite a long-term story, in our view.

Partner with Huawei

Huawei is CS' No.1 client, contributing close to 60% of the company's revenue as of 2017 vs. ~20% in 2010.

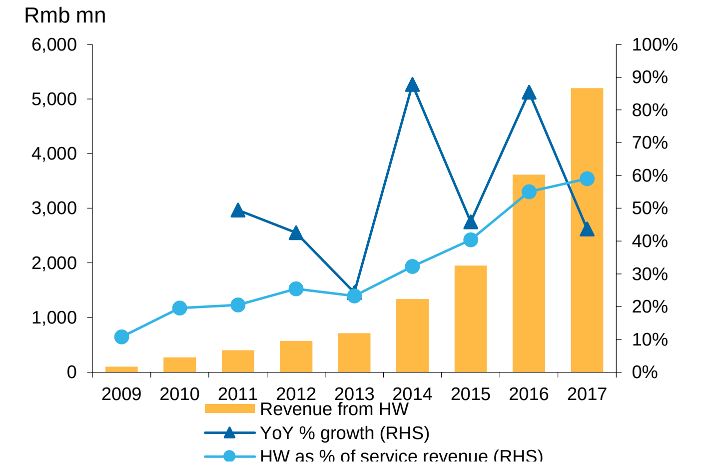
About Huawei:

Founded in 1987, Huawei (HW) is a leading global information and communications technology (ICT) solutions provider. HW has established a competitive ICT portfolio of end-to-end solutions in telecom and enterprise networks, devices, and cloud technology and services. Its ICT solutions, products, and services are used in more than 170 countries and regions, serving over one-third of the world's population. With 180,000 employees, Huawei is committed to building a better connected world via leveraging the technologies such as Cloud, Big Data and AI.

Huawei's growth profile and future strategy: 5G & IoT

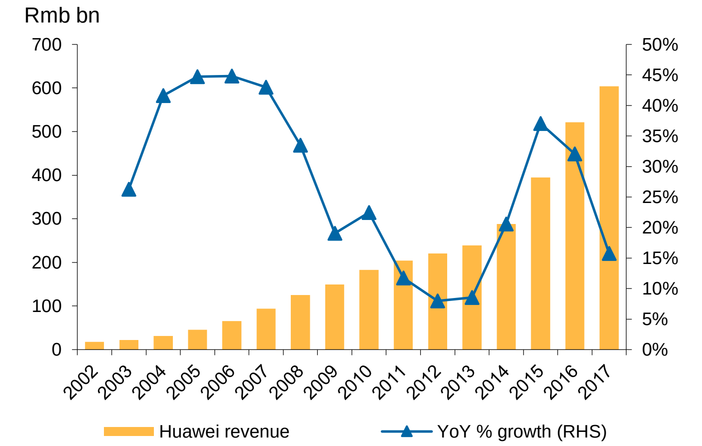
HW's total revenue reached Rmb604bn by 2017, which has been booming for a decade with a 20% CAGR. Meanwhile, the operating profit grew to Rmb56bn in 2017 from Rmb9bn in 2007, indicating a 20% CAGR (2007-2017). According to our tech analyst Allen's report 'Huawei Summit – 5G, Cloud, and non-stop migration', Huawei's near- to mid-term focus will be 5G, cloud, AI, IoT. For Cloud specifically, Huawei sees multiple new applications leading to a surge in data computing and driving backend hardware migration and strong cloud demand driven by growing new applications. For example, the media industry is changing to more video content, live streaming, and immediate release. Huawei's advanced codec algorithms with FPGA speed up video de/coding by 10x and shrink the news release time from 24 hours to 5 mins. The rising demand of self-built e-commerce, banking services, and block-chain also drive Huawei's cloud business.

Fig 15 Huawei contributes ~59% of CS service revenue (2017)



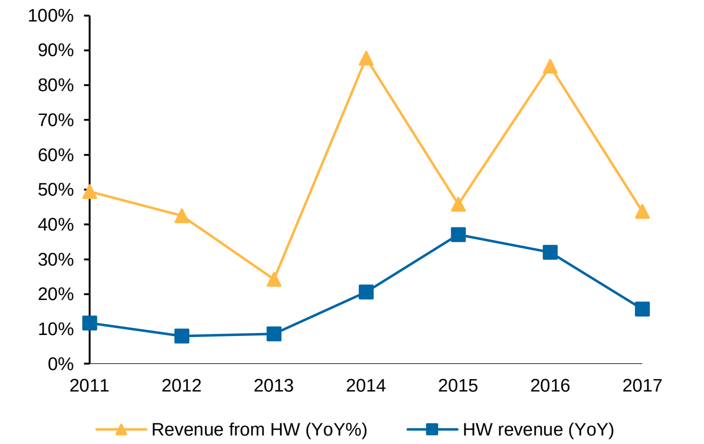
Source: Company data, Macquarie Research, April 2018

Fig 16 Huawei revenue grew at a 20% CAGR (2007-2017)



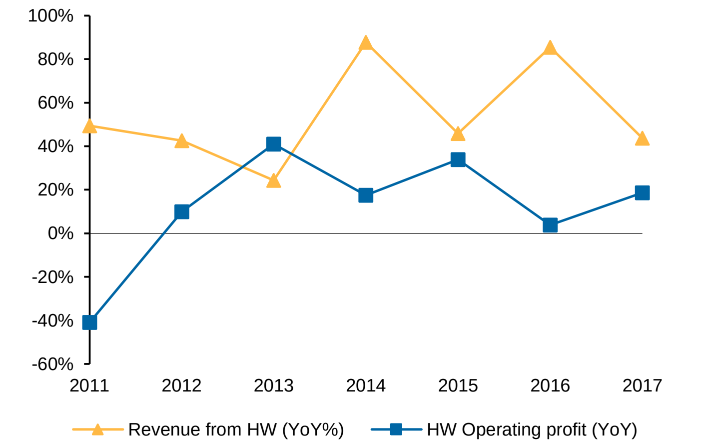
Source: Company data, Macquarie Research, April 2018

Fig 17 CS's revenue growth rate from HW highly related to HW's revenue growth



Source: Company data, Macquarie Research, April 2018

Fig 18 HW demands more IT outsourcing when margin pressured



Source: Company data, Macquarie Research, April 2018

Fig 19 Huawei is the dominate force in China's software industry and contributed close to 60% of CS's revenue in 2016 and 2017

Rank	Company	Software revenue (Rmb mn)	Mkt share by revenue (2017)	Mkt share by revenue (2016)	Chg %
1	**Huawei**	**217,772**	**32.9%**	**29.7%**	**3.2%**
2	Hier	43,210	6.5%	6.9%	-0.4%
3	Inspur	18,544	2.8%	2.7%	0.1%
4	Hikvision	15,179	2.3%	1.7%	0.6%
5	Hisense	11,861	1.8%	1.9%	-0.1%
6	Nanjin Nanrui	11,504	1.7%	1.8%	0.1%
7	Union Pay	11,209	1.7%	1.5%	0.2%
8	SGCC	10,555	1.6%	n.a	n.a
9	Dahua tech	10,471	1.6%	1.3%	0.3%
10	Aisino	9,458	1.4%	1.5%	-0.1%
11	Times electrics	8,086	1.2%	n.a	n.a
12	Huaxun	7,216	1.1%	0.8%	0.3%
13	Panda electronics	6,958	1.1%	1.1%	0.0%
14	Alibaba Cloud Computing	6,869	1.0%	0.4%	0.6%
15	**CS**	**6,829**	**1.0%**	**0.8%**	**0.2%**

Source: CN Ministry of Industry and IT, Macquarie Research, April 2018

Besides, CS is ambitious to step into the overseas market along with Huawei, mainly targeting those countries along the 'One Belt One Road' area. The combination of local enterprises' undeveloped IT systems and rapid business scale-up could boost fast-growing IT service demands. CS, partnered with Huawei, should be able to leverage domestic resources (experienced programmers & accumulated project experiences) to capture incremental growth.

Impact from a potential US ban

On 16 April, the US Department of Commerce banned US companies from selling components to ZTE (763 HK, one of China's biggest tech companies) for seven years as they made a false statement to the BIS (Bureau of Industry and Security) during the settlement negotiation. This action is viewed as part of a retaliation of the recent US-China Trade dispute and may trigger a further negative impact on China high-tech companies, which have US market exposure.

On 26 April, Huawei was reported (by WSJ) to be another target of the US Justice Department for violating Iran sanctions. We see less of an impact on Huawei vs. ZTE, and thus on CS finally, even if the U.S. ban comes through, considering:

(1) **The above news is not new and this is a continuous investigation by the US gov for the same case dated back to 2016**. On June 2016, the U.S. Commerce Department's Bureau of Industry and Security (BIS) triggered an information inquiry regarding Huawei's direct/indirect exports to countries on the US trade sanctions list (i.e. Cuba, Iran, North Korea and etc.). Several months later, the Treasury Department's Office of Foreign Assets Control (OFAC) also brought Huawei in for possibly violating sanctions by providing technology and services to those countries.

Fig 20 Several times Huawei has experienced US investigations for the same case

Time	US Government	Events	Result
2018 April	Department of Justice; Office of Foreign Assets Control (OFAC); Department of Commerce	The investigation aimed to determine whether Huawei violated US sanctions against Iran	Details of the investigation are unclear
2016 December	US Treasury Department's Office of Foreign Assets Control	Sent a subpoena called for HW to testify whether it has broken US oversees compliance with sanctions programs	Not a criminal investigation; no following legal action against HW
2016 June	Commerce Department's Bureau of Industry and Security (BIS)	Sent a subpoena called for HW to testify on export activities for the past 5 years and provide supportive information	Not a criminal investigation; no following legal action against HW

Source: WSJ, CNBC, Macquarie Research, April 2018

(2) **Less dependence on suppliers of key components.** Huawei is the most R&D-focused company in China, with ~80,000 related staff (or 45% of its total staff count) and ~Rmb90bn R&D spending (or 15% of total revenue) as of FY17. As such, Huawei has obtained over 74,000 patents in either China or world-wide and is able to manufacture all its key product components as back-up for procurement, according to the company filings. Huawei has been making an effort to diversify the supplier base and to make alternative designs/solutions as back-up for the key components needed.

(3) **Little revenue contribution from the US.** The US represents only 7% of Huawei's total revenue as of FY17. We estimate its revenue contribution from the US and Europe combined to be ~20-30%.

In order to evaluate the potential impacts, we conduct a scenario analysis based on the assumption that US government further extends its bans to other top Chinese tech companies, including Huawei, and freezes components exports. We also assume in this case that Huawei loses all its market share in America due to the trade dispute.

From cost perspective:

- **Scenario 1:** 30% of Huawei's products relying on component imports from the US (can't be replaced); CS's outsourcing volume demand would move in lockstep with Huawei's revenue.
- **Scenario 2:** 50% of Huawei's products relying on component imports from the US (can't be replaced); CS's outsourcing volume demand would move in lockstep with Huawei's revenue.
- **Scenario 3:** 60% of Huawei's products relying on component imports from the US (can't be replaced); CS's outsourcing volume demand would move in lockstep with Huawei's revenue.

Based on our analysis, we found that in the worst-case situation (scenario 3), CS could lose 21% of revenue due to a US ban on component exports to Huawei, whereas in the best-case situation (scenario 1), the impact would be much smaller, at 10%.

From revenue perspective:

- **Scenario 1:** 20% of Huawei's revenue exposure to the US and EU market (7% from American plus 13% out of the 27% from EU, Middle East and Africa), which could be materially impacted due to US penalty.
- **Scenario 2:** 25% of Huawei's revenue exposure to the US and EU market (7% from American plus 18% out of the 27% from EU, Middle East and Africa), which could be materially impacted due to US penalty.
- **Scenario 3:** 30% of Huawei's revenue exposure to the US and EU market (7% from American plus 23% out of the 27% from EU, Middle East and Africa), which could be materially impacted due to US penalty.

Based on our analysis, we found that in the worst-case situation (scenario 3), CS could lose 18% of revenue due to a US ban on components export to Huawei, whereas in the best-case situation (scenario 1), the impact would be much smaller, at 12%.

Fig 21 Scenario analysis: impacts due to potential US ban on Huawei

	Scenario 1	Scenario 2	Scenario 2
From cost perspective			
% of products relying on component import from US which cannot be replaced	30%	40%	60%
% of HW business impacted*	58%	58%	58%
Impact			
- % of HW's revenue	17%	23%	35%
- % of HW's IT outsourcing volume	17%	23%	35%
- % of CS's revenue	10%	14%	21%
From revenue perspective			
Huawei's revenue contribution from US and Europe	20%	25%	30%
Impact			
- % of HW's revenue	20%	25%	30%
- % of HW's IT outsourcing volume	20%	25%	30%
- % of CS's revenue	12%	15%	18%

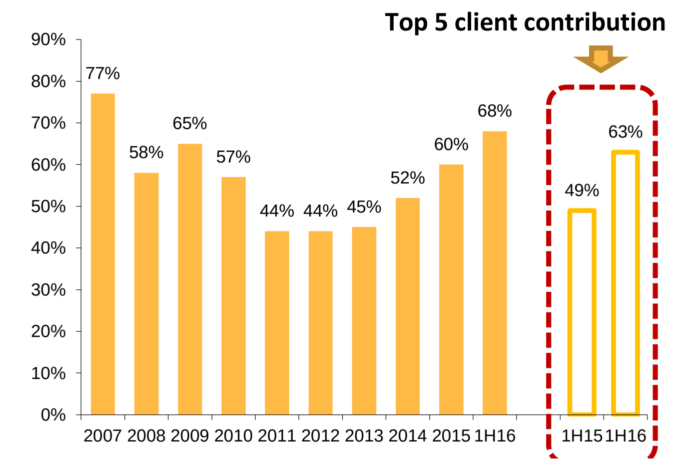
Source: Company data, Macquarie Research, April 2018; Note*: business impacted refer to Huawei's carrier + enterprise business, which accounts for 58% of HW's total revenue (by 2017)

Based on the above scenario analysis, there is a ~10-20% potential impact on CS's topline if a US ban on Huawei takes effect. That said, the impact could be lower, considering that (1) Huawei is not likely to shut down its major product lines given its strong domestic and overseas (excluding the US and Europe) business; and (2) less revenue means potential for more cost savings and thus higher demand for IT outsourcing.

CS has built a tight partnership with both Huawei and other major clients

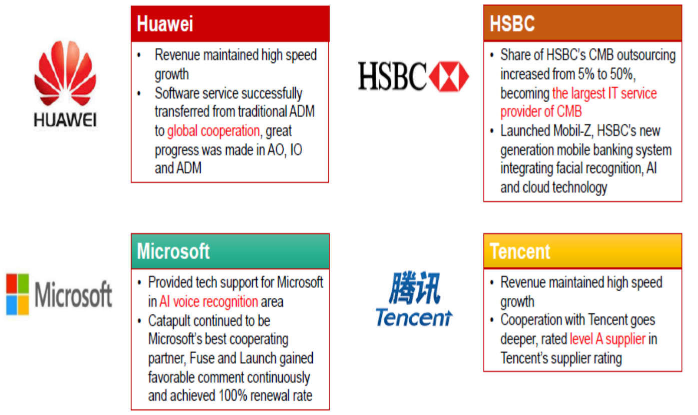
Top ten clients, including Huawei, Microsoft, HSBC, Tencent etc., represented c70% of the firm's revenue in 2017 and they are all from TPG sector. Among those, Huawei alone contributed c59%, for which CS has arranged over 20k programmers or c40% out of the total. To strengthen strategic partnerships with major clients, CS also has opened its capital to major clients (i.e. Huawei 4.05%, MS 3.54%). On April 2017, CS issued convertible bonds to Chen Yidan, one of the Tencent founders, with approximately 6.97% of the issued shares capital after dilution.

Fig 22 CS Top 10 client contributions



Source: Disclosed up to 1H16 results; Source: Company data, Macquarie Research, May 2018

Fig 23 CS deepened partnerships with major clients



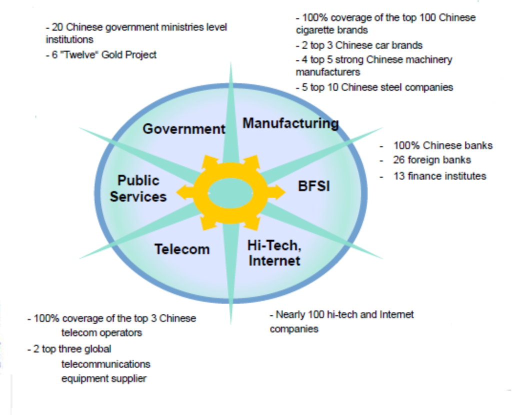
Source: Company data, Macquarie Research, May 2018

Labour cost: not an issue so far

A potential concern is that the programmer salary hike could squeeze the profit margin of CS since ITO business growth is mainly driven by head count expansion. As CS's top clients are less price sensitive compared to the smaller scale ones and also the switching cost of changing IT outsourcing vendors who have long-term relationships and are deeply embedded in clients' operation systems is extremely high, which gives CS some bargaining power to pass the salary hike to end clients. This is also evidenced by its stable operating profit margin level, despite a gross margin decline (due mainly to an increasing revenue contribution from Huawei with slightly lower profitability vs the group average).

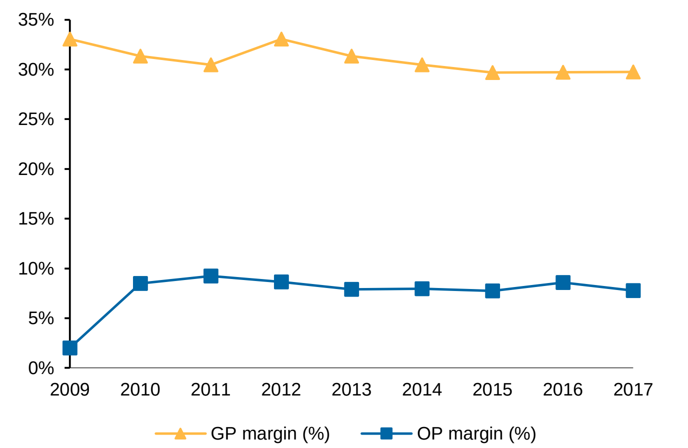
We observe an ~8-10% CAGR in CS's unit labour cost in recent years, which is largely in line with the overall IT industry and national income average. This also indicates that CS has enough programmer inventory, not to mention that most of its key clients order one year in advance, which leaves the company plenty time for staff preparation. According to management, it has not had any labour issues historically.

Fig 24 CS has a broad blue-chip client base



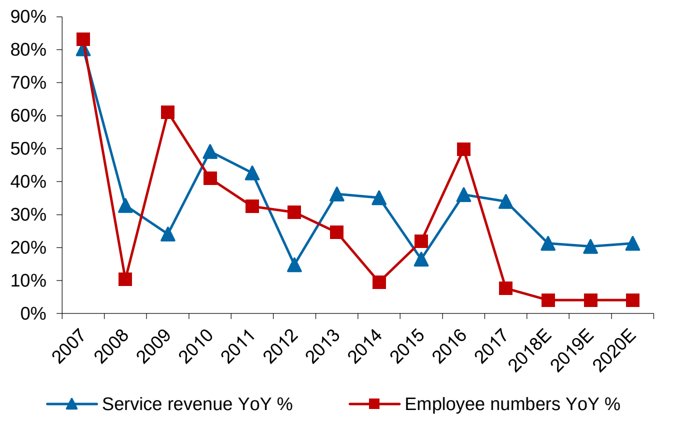
Source: Company data, Macquarie Research, May 2018

Fig 25 GP and OP margins of CS are stable



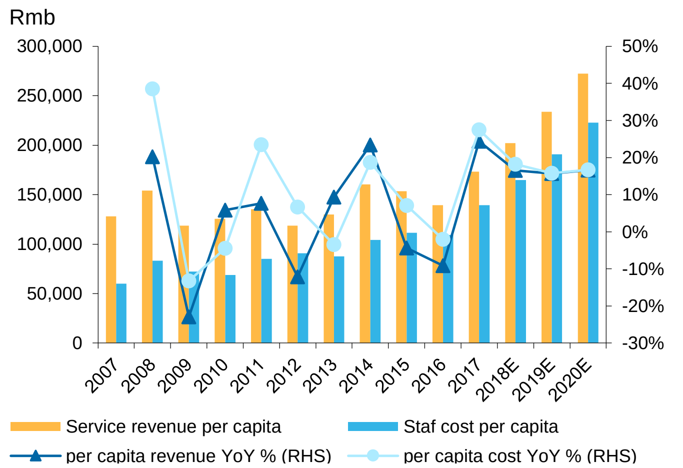
Source: Company data, Macquarie Research, May 2018

Fig 26 ITO service is a headcount-driven business



Source: Company data, Macquarie Research, May 2018

Fig 27 Per capita productivity hikes slowly



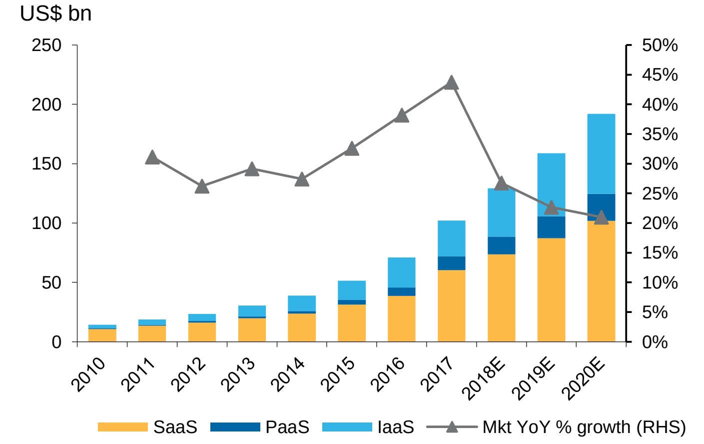
Source: Company data, Macquarie Research, May 2018

New business: transforming into new

Cloud computing, a new IT paradigm, enables IT users to access shared system resources and higher level services, which can be rapidly implemented via the internet. It enables enterprises to focus on the core business and do some hard-load work such as procurement, maintenance and capacity planning in a more convenient way.

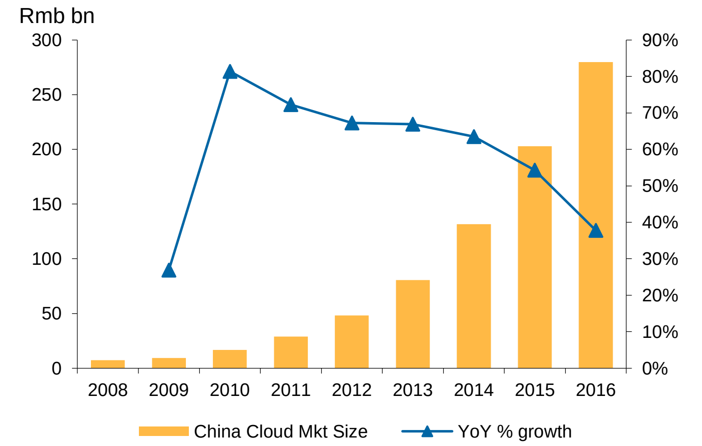
There are three cloud computing models: **Infrastructure as a Service (IaaS); Platform as a Service (PaaS); Software as a Service (SaaS)**. Other types of businesses, i.e Business Process as a Service (BPaaS) and Cloud Management and Security Services, are delivered based on these three cloud service models. The world public cloud market has experienced a boom period during the past decade. Its market size based on the three models (Sass, Pass and IaaS) grew at a 31% CAGR from 2010-2016. The China Cloud market size also has surged during the same period to ~Rmb280 by 2016, or at a 60% CAGR from 2010-2016.

Fig 28 World Public Cloud market to be over US$192bn by 2020E, a 23% CAGR



Source: Gartner, Web news, Macquarie Research, May 2018

Fig 29 China Cloud market size over Rmb280bn by 2016, a 60% CAGR



Source: CN IT Statistics Yearbook, Wind, Macquarie Research, May 2018

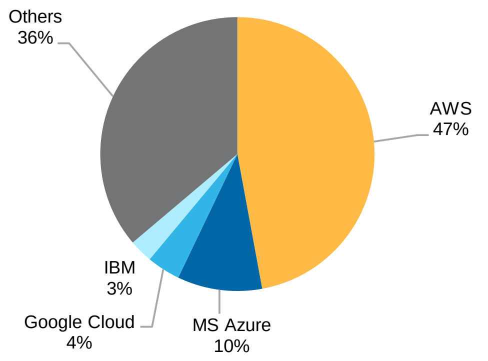
Fig 30 Cloud Computing has been one of the key segments highly promoted by the Government

Time	Policy	Description
Apr-17	MIIT*:Cloud Computing Development Three-year Action Plan (2017-2019)	Set the goal of having a Rmb430bn Cloud computing industry size by 2019
Dec-16	State Council: 13th FYP on National Informatization	Define 6 major directions and 25 priority actions are specified; set the goal of having a Rmb26.2trn IT Industry size by 2020
Dec-16	State Council: 13th FYP on development of Strategic Emerging Industries'	Target to increase the proportion of strategic emerging industry as % of GDP from 8ppt (2015) to 15ppt (2020); five new pillar industries each with output of Rmb10trn, including new generation of IT, high-end manufacturing, bio-tech, green & low carbon industry and Digital Innovation
May-15	State Council: Made in China 2025	A strategic plan of China to move the country's manufacturing up the value chain; including promote widely adopted industry cloud application
Jan-15	State Council: Opinions on Promoting the Innovative Development of Cloud Computing and Cultivating New Business in IT industry	Target to basically complete the industrial chain in cloud computing; the cloud computing service capability to reach the international advanced level by 2020

Source: State Council, MIIT, Macquarie Research, May 2018; Note*: Ministry of Industry and Information Technology (MIIT)

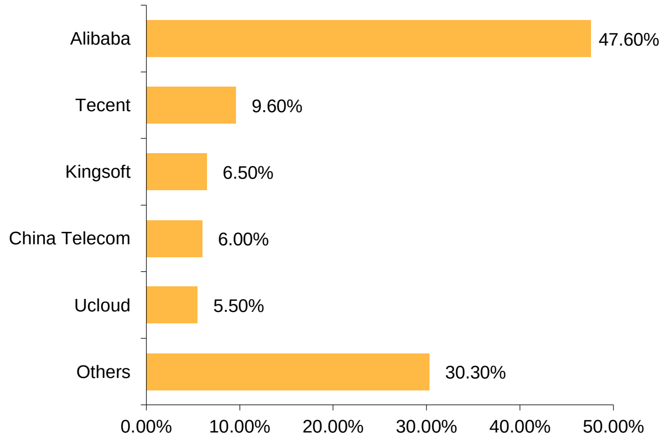
Amazon, Microsoft, Google, IBM and Ali are top players in the Cloud industry, especially in IaaS. According to IDC report, Ali realized US$500m in revenue from IaaS in 1H17, or 48% market share in China, more than the sum of the other top 5. Huawei, a notable laggard in IaaS, ambitiously launched its own CloudBU brand in March 2017, containing 14 service categories and over 50 solutions. CS is one of the four 'sails the same boat' partners with Huawei Cloud out of thousands of co-operators and the only one who is allowed to embed a service manual into Huawei Cloud's sales manual for clients, thus utilizing Huawei's distribution channel to promote CS's cloud service.

Fig 31 Amazon Web Service (AWS) had 47% global public cloud service revenue (2017)



Source: Gartner, Macquarie Research, May 2018

Fig 32 Ali dominates the China public cloud market (1H17)



Source: IDC, Macquarie Research, May 2018; Note: Mkt share calculated based on IaaS revenue

CS has entered into strategic agreements with top cloud giants like Ali, Tencent and Huawei to provide customized cloud-based services. CS's branded Cloud Service is composed of Cloud migration, Cloud solution and Cloud management, which cover the whole integrated cloud application for an enterprise. Also CS has its own PaaS platform – Radar Cloud PaaS, which enables cloud development, integration, management and service as a portal. On the SaaS side, CS bought Catapult in 2013, according to them the best partner of Microsoft with 16 Gold and 2 Silver MS Certified capabilities, leveraging its experience and close relationship with MS to enhance CS's serving capabilities.

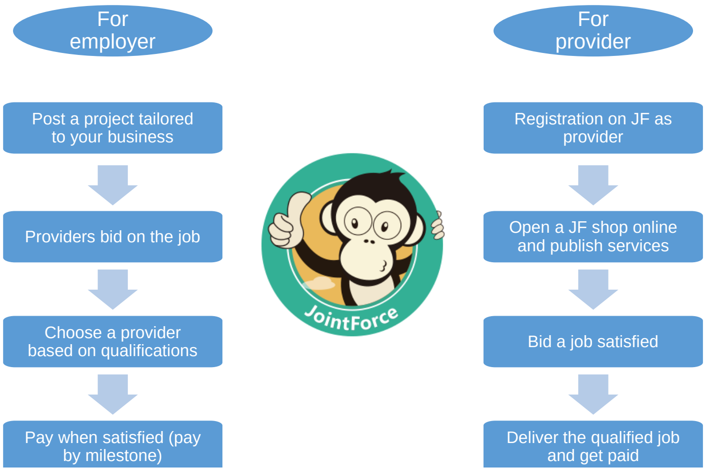
Besides, we see high synergy potential between CS's ITG business and its cloud and Big Data venture. Through industry benchmark clients (ICBC & HSBC in Banks, PingAn & CPIC in insurance, State LiuGong and Petro China in manufacture, for example), CS will be able to fully promote the industry-specific cloud-based solutions & Big Data analytic services. Additionally, CS has implemented the 'smart manufacturing' solution with Huawei in Jiangsu, Guangdong and other manufacturing centric provinces for industrial big data collection, analysis and application, aiming to catch China's manufacturing upgrading opportunities promoted by the 'National Manufacturing 2025' plan.

JointForce (JF): unique ecosystem consolidating resources and demands

JF, launched by CS in 2014, is a "Reliable Crowd Sourcing" platform focused on long-tail tailored IT service demands. Individual or team-up engineers can bid on various service contracts with a size ranging from thousands to over one million, which are too small and not commercially viable for CS. This allows project managers (either CS or clients) great flexibility in allocating engineering resources, streamlining operations and reducing cost.

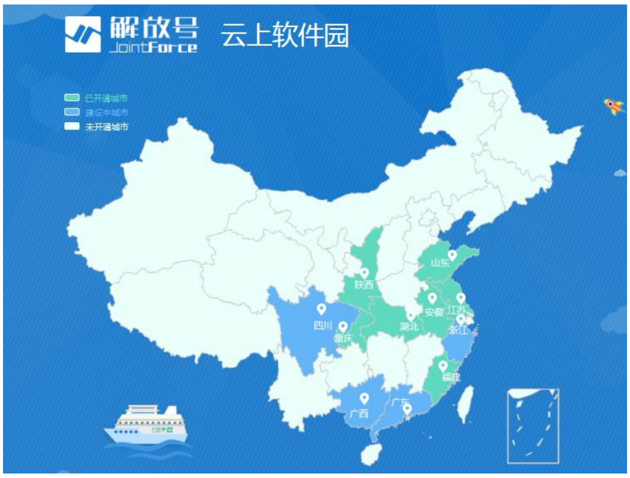
Since 2017, JF has been transforming from a pure 'Middleman' who charges a ~10% commission fee of the contract to a 'Commission free + Membership', according to our estimate. CS takes over tasks directly from clients then splits them into smaller packages for members or public engineers to bid on. JF's income comes from two parts: 1) subcontract; 2) membership fee (Ranging from ~HK$40K to HK$250K, depending on premium levels). A higher level membership enjoys the priority to choose the packages released. At the end of 2017, JF had 600+ memberships and accumulated 300K engineers, with annual outsourcing contracts over Rmb1.3bn, as we project. We expect its membership could reach 1,000+ by the end of 2018 and subcontract income to reach Rmb340mn vs. Rmb170mn in 2017.

Fig 33 How JF works



Source: Company data, Macquarie Research, May 2018

Fig 34 12 cities have launched Software Park on Cloud



Source: Company data, Macquarie Research, May 2018

Another promising business of JF is called ‘Cloud Software Park’, which provides local Software Park owners (usually local government) a tailored service including an exclusive sub-JF platform (offering localized IT demand-supply matching) and software park ecosystem built by leveraging its vast amounts of vendors. We estimate each software park client could contribute annual revenue of Rmb10-20mn. Currently, 15 software parks from 12 cities (i.e. Nanjing, Qingdao, Xuzhou and Xi’an, majority from East China) have launched their own cloud version on JF, still a small proportion out of nationwide hundreds (>300) of software parks, according to our estimates.

In our view, switching from a pure commission model to Membership model gives CS a competitive edge compared to other outsourcing platforms given: 1) recurring income from annual membership fee, 2) strengthened quality control capability over the bidding teams, 3) accumulation of first-hand cases across various industries that could be utilized creating innovative products or services and 4) a pick-up of talent to enhance human resource storage.

Fig 35 JF is focusing on the IT sector with a higher GMV per user

	JointForce	Zhubajie	Upwork
GMV	Rmb1.35bn (2017)	Rmb 20bn (2016)	US$1bn
Registered users	330k	>16 mn	17 mn
- Employers	30k	6 mn	5 mn
- Suppliers	10k groups (300k+ engineers)	10 mn	12 mn
Service Scope	IT service focused	Comprehensive	Comprehensive
Industry parks launched	15	16	n.a
Commission fee	free	20% (cancelled at 2016)	5-20% (depends on contract size)
Membership fee p.a	Rmb40k-250k	Rmb35k-72k	n.a
GMV per user	Rmb4,090	Rmb1,250	US$60 (Rmb380)

Source: Company data, Website news, Macquarie Research, May 2018

Compared with its major competitor – Zhubajie, the first crowd outsourcing platform in CN – JF differentiates itself by focusing on the IT sector instead of becoming a generalist like Zhubajie. This strategy, in our view, has created a competitive edge which includes but is not limited to: 1) more professional brand recognition for potential clients/members, 2) more profitable contracts from industry benchmark enterprises, 3) utilizing CS’s accumulated industry experience on new projects and 4) synergies between engineers from different technology backgrounds.

Fig 36 JointForce Website

Source: Company data, Macquarie Research, April 2018

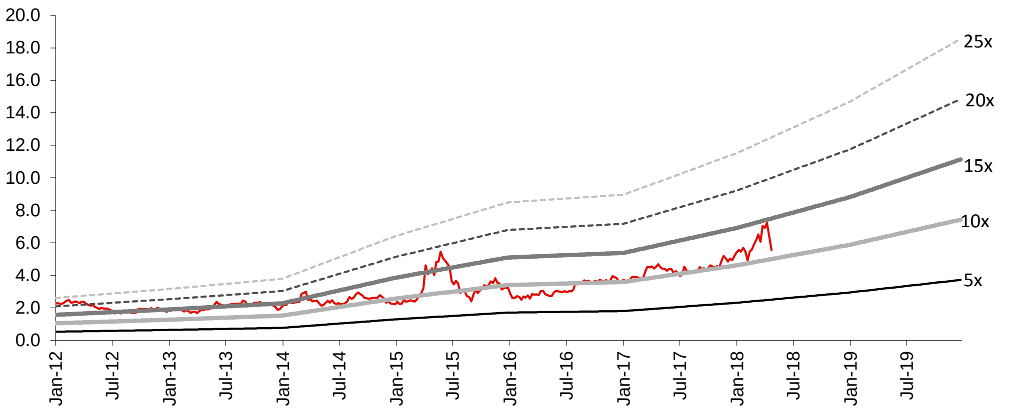
Fig 37 Zhubajie Website

Source: Company data, Macquarie Research, April 2018

Growth stock with attractive valuation

We initiate coverage of Chinasoft International (CS) with an Outperform rating and Street-high TP of HK$10 (65% potential upside). We expect its top line to grow by ~20% and NP to increase by a ~30% CAGR through 2022; thanks to 1) solid growth in its traditional IT outsourcing business, anchored by its largest client & strategic partner Huawei and 2) rapid expansion in the new cloud business with higher margins. We consider CS a growth story with an attractive valuation, a 21x FY19E PER implied by our TP vs an 18x PER of global peer on average with ~8% consensus earnings growth.

Fig 38 PER bands (historical avg: 10; +/- 1SD: 15/4)



Source: Bloomberg, Macquarie Research, April 2018

Fig 39 WACC, terminal growth and DCF

WACC		**DCF Valuation**	
Risk Free Rate	3.6%	Sum of PV of FCF	6,269
Market Risk Premium	1.0	PV of Terminal Value	13,517
Equity Beta	8.2%	Enterprise Value	19,797
Cost of Equity	11.8%	Less: Net Debt + Asso + Minority	-280
Cost of Debt (Pre-tax)	10.0%	**Equity Value (HK$m)**	20,067
Cost of Debt (After tax)	8.5%	# of shares outstanding (Diluted)	2,621
Target Debt weight	30.0%	**Value per share, HK$**	**$9.57**
Target Equity weight	70.0%		
WACC	**10.7%**		
Terminal growth	**2.0%**		

Source: Macquarie Research, May 2018

Fig 40 Valuation comps table

Company	Ticker	Price	Mkt cap	ADV trade(3M)	PER		ROE	FCF Yield	Div Yield	GP margin	Sales growth rate			Net profit growth rate		
Asia		LC	US$bn	US$mn	FY18E	FY19E	FY18E	FY18E	FY18E	FY17	FY17	FY18E	FY19E	FY17	FY18E	FY19E
CHINASOFT INTL	**354 HK Equity**	**6.08**	**1.9**	**20**	**17x**	**13x**	**15%**	**3%**	**1%**	**30%**	***36%***	***22%***	***21%***	***28%***	***33%***	***31%***
CHANJET INFO-H	1588 HK Equity	12.50	0.3	0	29x	17x	5%	8%	1%	86%	*14%*	*18%*	*17%*	*n.a*	*11%*	*64%*
INSPUR INTERNATI	596 HK Equity	2.75	0.3	0	n.a	n.a	n.a	n.a	n.a	33%	*13%*	*n.a*	*n.a*	*88%*	*-2%*	*n.a*
DIGITAL CHINA	861 HK Equity	4.50	1.0	1	24x	18x	4%	-20%	0%	20%	*8%*	*17%*	*12%*	*n.a*	*-6%*	*33%*
KINGSOFT CORP	3888 HK Equity	23.60	4.3	36	21x	15x	10%	4%	1%	58%	*-37%*	*35%*	*30%*	*n.a*	*66%*	*50%*
KINGDEE INTL SFT	268 HK Equity	7.83	3.3	42	53x	39x	8%	n.a	0%	81%	*22%*	*31%*	*25%*	*6%*	*20%*	*36%*
TRAVELSKY TECH-H	696 HK Equity	23.10	8.3	10	28x	25x	15%	0%	1%	49%	*8%*	*14%*	*10%*	*-7%*	*9%*	*12%*
SINOSOFT TECHNOL	1297 HK Equity	3.31	0.5	3	11x	10x	20%	6%	1%	61%	*14%*	*28%*	*18%*	*18%*	*22%*	*19%*
NANTONG JINGHU-A	002349 CH Equity	7.51	1.0	5	n.a	n.a	n.a	-3%	n.a	49%	*24%*	*n.a*	*n.a*	*5%*	*n.a*	*n.a*
YGSOFT INC-A	002063 CH Equity	11.18	1.1	43	32x	24x	10%	n.a	n.a	n.a	*6%*	*35%*	*22%*	*29%*	*33%*	*31%*
NEUSOFT CORP-A	600718 CH Equity	15.39	3.0	54	33x	29x	6%	-1%	1%	31%	*-9%*	*28%*	*18%*	*-44%*	*-44%*	*21%*
CHINA NATIONAL-A	600536 CH Equity	26.16	2.0	64	93x	75x	6%	3%	n.a	38%	*7%*	*1%*	*16%*	*-28%*	*68%*	*45%*
SHENZHEN KINGD-A	600446 CH Equity	16.13	2.2	33	n.a	n.a	n.a	0%	n.a	26%	*14%*	*n.a*	*n.a*	*-45%*	*n.a*	*n.a*
NEUSOFT CORP-A	600718 CH Equity	15.39	3.0	54	33x	29x	6%	-1%	1%	31%	*-9%*	*28%*	*18%*	*-44%*	*-44%*	*21%*
INSIGMA TECH -A	600797 CH Equity	13.48	2.2	71	n.a	n.a	n.a	-1%	n.a	25%	*-22%*	*n.a*	*n.a*	*22%*	*n.a*	*n.a*
YONYOU NETWORK-A	600588 CH Equity	27.95	8.4	215	86x	66x	10%	2%	1%	71%	*22%*	*28%*	*21%*	*94%*	*69%*	*30%*
SHANGHAI 2345-A	002195 CH Equity	7.15	3.8	76	19x	14x	14%	-1%	1%	89%	*80%*	*20%*	*23%*	*47%*	*42%*	*35%*
QINGHAI HUZHU -A	002646 CH Equity	13.03	0.9	3	32x	26x	n.a	n.a	2%	n.a	*-11%*	*43%*	*19%*	*n.a*	*n.a*	*25%*
ZHEJIANG ZHONG-A	002779 CH Equity	19.27	0.4	2	n.a	n.a	n.a	-1%	n.a	n.a	*5%*	*n.a*	*n.a*	*-34%*	*n.a*	*n.a*
BEIJING ULTRA-A	300002 CH Equity	6.58	2.0	20	15x	10x	n.a	-4%	n.a	n.a	*-32%*	*n.a*	*n.a*	*-77%*	*n.a*	*n.a*
Average			**2.5**	**37**	**35x**	**27x**	**10%**	**0%**	**1%**	**49%**	***8%***	***25%***	***19%***	***4%***	***20%***	***32%***
India																
INFOSYS LTD	INFO IN Equity	1,199.40	38.7	88	17x	18x	24%	6%	3%	39%	*10%*	*3%*	*9%*	*7%*	*11%*	*-8%*
TATA CONSULTANCY	TCS IN Equity	3,531.40	100.0	133	26x	23x	30%	4%	1%	43%	*9%*	*4%*	*12%*	*8%*	*-2%*	*12%*
HCL TECH LTD	HCLT IN Equity	1,051.40	19.3	33	17x	15x	25%	2%	2%	34%	*14%*	*8%*	*13%*	*15%*	*2%*	*10%*
WIPRO LTD	WPRO IN Equity	278.75	18.4	16	17x	14x	16%	15%	5%	29%	*8%*	*-2%*	*18%*	*-5%*	*-6%*	*11%*
HEXAWARE TECHNOL	HEXW IN Equity	448.70	2.0	10	24x	21x	26%	4%	2%	35%	*12%*	*13%*	*15%*	*20%*	*12%*	*15%*
Average			**35.7**	**56**	**20x**	**18x**	**24%**	**6%**	**2%**	**36%**	***10%***	***5%***	***13%***	***9%***	***4%***	***8%***
US																
IBM	IBM US Equity	141.99	130.3	800	10x	10x	62%	11%	4%	47%	*-1%*	*2%*	*0%*	*-52%*	*120%*	*0%*
HELMERICH & PAYN	HP US Equity	69.55	7.5	105	n.a	n.a	11%	3%	4%	23%	*11%*	*21%*	*-17%*	*n.a*	*n.a*	*n.a*
ACCENTURE PLC-A	ACN US Equity	151.73	101.7	383	23x	21x	45%	5%	2%	30%	*6%*	*7%*	*7%*	*-16%*	*26%*	*9%*
CAPGEMINI - ADR	CGEMY US Equity	27.45	23.2	1	n.a	n.a	n.a	n.a	n.a	26%	*4%*	*n.a*	*n.a*	*-9%*	*n.a*	*n.a*
INFOSYS LTD-ADR	INFY US Equity	17.68	38.6	109	17x	17x	22%	n.a	3%	37%	*7%*	*7%*	*8%*	*4%*	*12%*	*-5%*
WIPRO LTD-ADR	WIT US Equity	4.68	21.2	7	18x	17x	17%	n.a	2%	29%	*5%*	*4%*	*2%*	*-7%*	*4%*	*-2%*
Average			**53.7**	**234**	**17x**	**16x**	**31%**	**6%**	**3%**	**32%**	***5%***	***8%***	***0%***	***-16%***	***40%***	***0%***

Source: Macquarie Research, May 2018; Chinasoft data based on Macquarie Estimates, others from Bloomberg, prices as of market close @ 3 May 2018

Financials – solid balance sheet to support growth

Strong working capital

We see improving working capital days, mainly thanks to more contribution from its new business with a diversified client base in smaller scale vs the traditional business, particularly helping reduce its receivable days. We expect inventory will remain healthy given its asset light model of the IT business.

Fig 41 Working capital analysis (Rmb m)

	FY15	FY16	FY17	FY18E	FY19E	FY20E
Accounts receivables	1,438	2,116	1,972	2,344	2,887	3,523
Receivable days	**98**	**96**	**81**	**70**	**70**	**70**
Inventory	30	21	26	64	78	94
Inventory days	**3**	**2**	**1**	**2**	**3**	**3**
Accounts payables	942	1,205	1,605	1,752	2,142	2,595
Payable days	**89**	**82**	**79**	**78**	**75**	**75**
Working Capital Days	**13**	**15**	**3**	**-6**	**-2**	**-2**

Source: Company data, Macquarie Research, May 2018

Healthy balance sheet to support project expansion

By end-2017, CS had a cash position of ~Rmb1.8bn and a net cash of Rmb146mn. We expect its gearing ratio to decrease to ~51% by 2020 from 56% in 2017 thanks to improving operating cash flow.

Fig 42 Cash & Debt Analysis (Rmb m)

	FY15	FY16	FY17	FY18E	FY19E	FY20E
Short-term debt	1,387	922	686	686	686	686
Long-term debt	263	439	954	784	834	812
Total debt	**1,650**	**1,361**	**1,639**	**1,470**	**1,520**	**1,498**
% short term	84%	68%	42%	47%	45%	46%
Gross D/E	**75%**	**49%**	**56%**	**50%**	**52%**	**51%**
Cash	1,266	1,299	1,785	2,000	2,000	2,000
Net debt (cash)	**384**	**62**	**-146**	**-530**	**-480**	**-502**
Net D/E Ratio	17%	2%	-5%	-18%	-16%	-17%

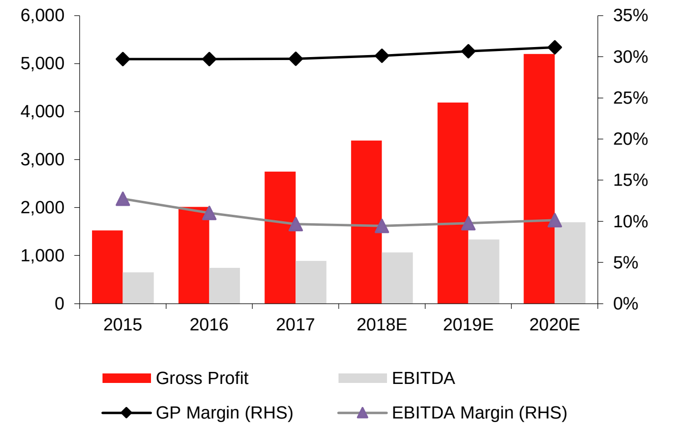
Source: Company data, Macquarie Research, May 2018

Fig 43 Dupont Analysis

	FY15	FY16	FY17E	FY18E	FY19E	FY20E
Pre-tax Profit Margin (EBIT/Revenue)	10.0%	8.9%	7.7%	8.1%	8.7%	9.2%
Asset Turnover (Y2Sales/Avg Assets)	88%	100%	116%	124%	134%	142%
ROA (EBIT /Assets)	8.0%	8.3%	8.2%	9.6%	10.8%	12.1%
Interest Burden (Pre-tax/EBIT)	82%	87%	88%	94%	95%	95%
Tax Burden (Net Profit/Pre-Tax)	79%	78%	89%	87%	87%	87%
Leverage (Assets/Equity)	182%	167%	167%	161%	160%	158%
ROE	8.9%	12.6%	12.8%	14.8%	16.6%	18.1%

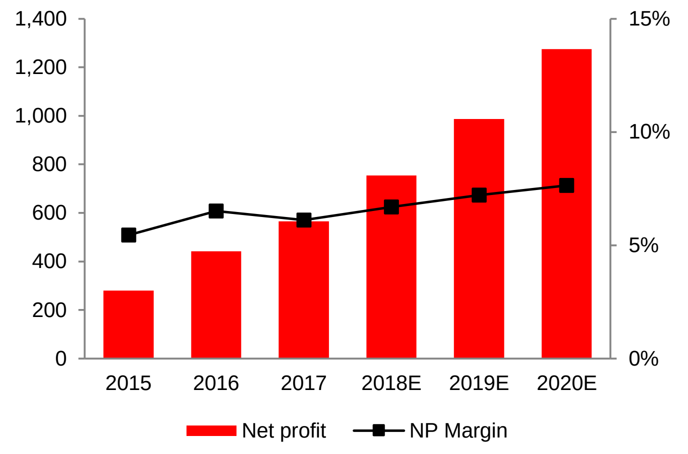
Source: Company data, Macquarie Research, May 2018

Fig 44 Gross Profit, EBITDA and margins (Rmb m)



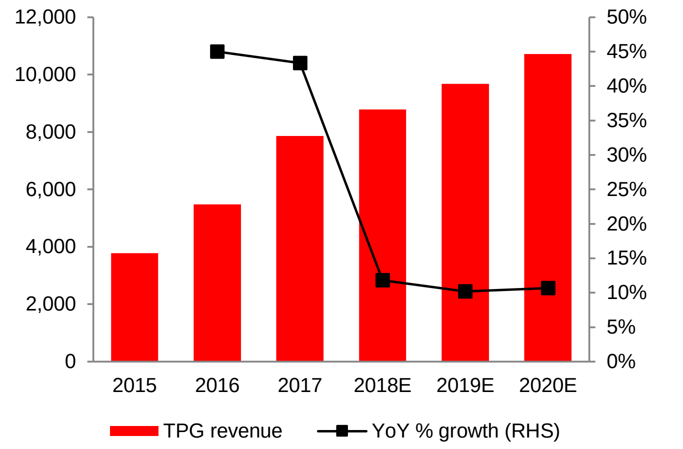
Source: Company data, Macquarie Research, May 2018

Fig 45 Net Profit and margin (Rmb m)



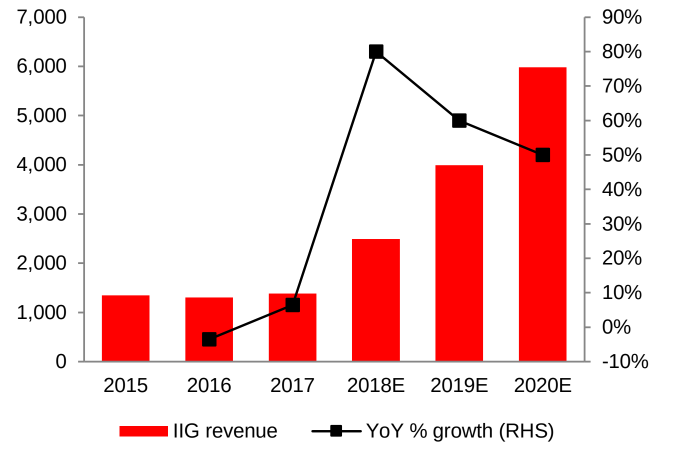
Source: Company data, Macquarie Research, May 2018

Fig 46 TPG revenue growth to remain solid (Rmb m)



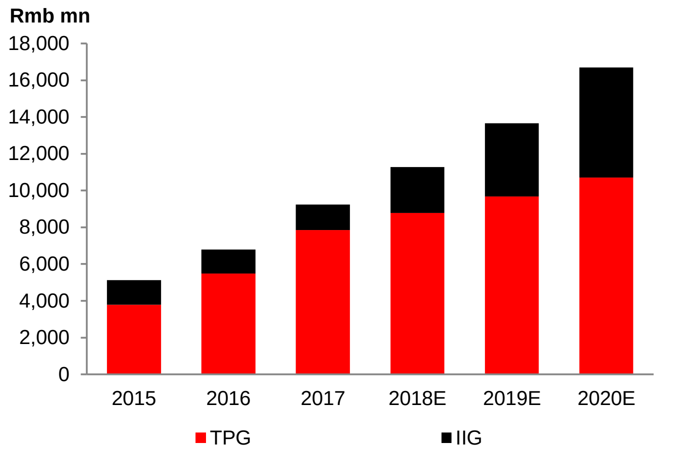
Source: Company data, Macquarie Research, May 2018

Fig 47 IIG will be the new revenue growth driver (Rmb m)



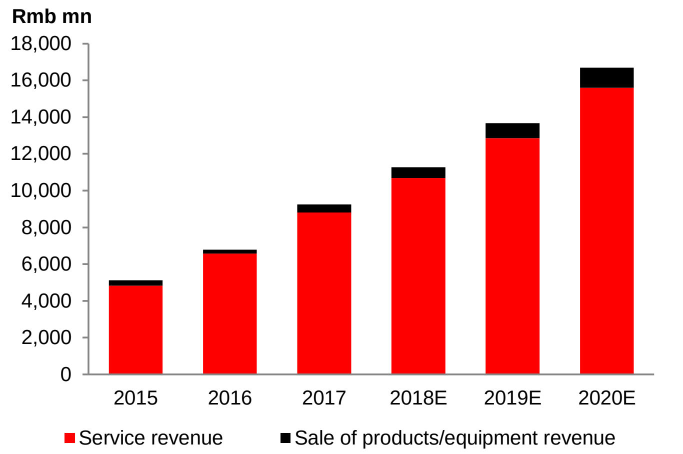
Source: Company data, Macquarie Research, May 2018

Fig 48 IIG to contribute >35% total revenue by 2020



Source: Company data, Macquarie Research, April 2018

Fig 49 Majority income still comes from service revenue



Source: Company data, Macquarie Research, April 2018

Macquarie Governance & Risk Score

CS falls in the third quartile in our proprietary Macquarie governance and risk score. CS's Chairman Dr. Yuhong (Henry) Chen has over twenty years' experience in the industry. Other members of the management team also has experience working with MNC or a background in MNC, and the company is actively seeking potential M&A opportunities. However, CS has relied on Huawei as a key customer, which may affect CS's decisions & long-term developments. Also, software companies are difficult to audit, especially for IT services.

Fig 50 Macquarie Governance and Risk Score

	Q1	Q2	Q3	Q4
Overall Score			•	
Corporate Governance			•	
History				•
Shareholding		•		
Access	•			
Board & Mgmt			•	
Compensation			•	
Balance Sheet Mgmt				•
Risk (Q1=Low risk, Q4=High risk)			•	
Accounting & Audit			•	
Visibility of Growth		•		
Earnings Quality and Risk			•	
True BS Strength				•
Misc Risks		•		

Source: Macquarie Research, May 2018

Management background

Dr. Chen Yuhong: Chairman/CEO. Mr. Chen is the Chair and CEO of the Company and is responsible for the overall business development. He has over 20 years of practising experience in the software industry. Prior to joining the Group, he worked at China National Computer Software & Technology Service Corporation ("CS&S") from 1996-2000. He was the deputy general manager of China Great Wall Computer Software Co. from 1991-1996. He holds a doctorate degree in optics from Beijing Institute of Technology in 1991.

Dr. Tang Zheming: Senior Vice President. Mr. Qian is responsible for overseeing the Group's training department. He joined the CS on 25 April 2000 and served as the deputy general manager of Beijing Institute of Technology industrial company from 1995-2000. Mr. Tang obtained a doctorate degree in moto electronic control from Beijing Institute of Technology in 1994.

Leong Leung Chai: Deputy Chief Financial Officer & company secretary. Joined CS in 2005 as the Financial Controller. She was appointed as the deputy chief financial officer in May 2017.

Simon Chung: Chief operating officer. Joined in 2006. Mr. Wang has more than 11 years of experience in project operation and management. Before joining the Company, Ms. Leong worked in an international audit firm for over 5 years where she was mainly responsible for financial auditing and internal control reporting. She has over 15 years' experience in financial auditing, listing compliance and corporate governance. Ms. Leong is a member of the Hong Kong Institute of Certified Public Accountants and holds a bachelor degree (Hons) in Accountancy.

Simon Zhang: Senior Vice President. He is responsible for the human resources management of the Company. Mr. Zhang worked at the Shaanxi Provincial Tourism Bureau after graduating from the Department of Economics of Northwest University in 1987. Prior to joining the Company, he was the General Manager of Chongqing Three Gorges Liner Corporation (under China International Travel Service in Xi'an) from 1997 to 1999. From 1994 to 1997, he was the Deputy General Manager and General Manager of the North-western branch in Weijiang Plastics Co. Ltd., which was a Sino-US joint venture. From 1992 to 1994, Mr. Zhang was employed as Chief

Business Representative in U.S. Phoenix Medical Equipment Company.

Major risks

Heavily relies on Huawei: CS has relied on Huawei as a key client with close to 60% of revenue contribution as of 2017, and the company is also a shareholder to the firm. Any relationship deterioration could materially weigh on CS's performance. Although Huawei does not have a board seat, the company may affect CS's long-term developments.

Intensified competition: price competition from other IT services vendors, as domestic players may compete away margins as they expand into different verticals.

Engineering capability: programmer wages are rising 8-10% per annum and CS may face challenges to pass through labour cost increases to clients.

Foreign policy risks: CS has exposure to the overseas market. Foreign policy risk on its overseas project (mainly from subsidiary in US), and changes in the regulatory environment for IT services may affect CS's ability to bid for projects as an overseas player.

Potential Sino-US trade war and ban on Huawei's business with U.S. companies: refer to pages 10-11 for our discussion.

Appendix

Reorganization of business segments

In response to increasing product complexity & upgrading client's demand, CS has been continuously developing its service capabilities, reorganizing business segments correspondingly to streamline cost and improve resource allocation efficiency. The current 'Two Wheel' (TPG and IIG) driven model was launched after first a reorganization was implemented in 2016. Compared with the former 4 segments' structure (Professional services, Outsourcing services, Emerging services and Training business), the TPG can focus more on large scale sectors with bundled clients (i.e. finance and telecom), while IIG can handle isolated sectors (i.e. tobacco), long-tail IT demands from smaller clients and emerging opportunities (i.e. JointForce and SaaS).

Fig 51 Different service offerings in the IT services sector by CS

Service Name	Description	Core offerings
ITO	Information Tech outsourcing	Outsourcing of IT-related work, including programming, data entry, client service centre and other ad-hoc labour-intensive software development projects
IT solutions	Integrated solution package with services	Integrated service package contains design, implementation and maintenance, especially for clients without IT backgrounds or IT framework design capabilities
IT training	Training of IT Personnel	Training IT personnel to meet client in-house demand
BPO	Business Process Optimization	Utilizing IT to help structure or improve business process, or to improve efficiency of the underlying business; IT services companies typically offer advisory as well as engineering resources to support project developments
IT consulting	Advising Corporate on IT Services	Advisory of use of information technology to achieve client business objectives. IT consultants estimate, manage, implement, deploy and administer IT systems on behalf of their clients.
SMAC	Social Media Analytics and Cloud	Advisory and implementation of a set of IT systems to help enterprises reach their clients; developments tend to reach across multiple platforms and interfaces, and need to have the ability to handle robust change in data. The project may also drive further business innovation to meet changing client needs.
SaaS	Software as a Service	SaaS model delivers software licensed on a subscription basis and software is centrally hosted; SaaS is typically accessed by users using a thin client via Web; it has been incorporated into the strategy of most leading software enterprise (i.e. MS)

Source: Macquarie Research, May 2018

The Novel business, which includes Cloud computing, Big Data and AI, is shifting the paradigm of enterprises. With vast opportunities emerging, we expect to see the 2nd segment reorganization in 2018-2019, which could isolate a fast-emerging business like SMAC, JointForce Platform and SaaS to create a new IIG (Figure 53). After reform, TPG & Others will focus on more 'Traditional' IT services such as IT outsourcing and IT system solution, while new IIG will become the main driving force of CS's long-term growth & margin expansion. Currently over 2,000 engineers with years of experience are allocated to support IT.

Fig 52 Key businesses of TPG and IIG Segments

Technical & Professional Services Group (TPG)

1. Software Platform Products
2. Strategy, Business, and IT consulting
3. Industry and General Application Software and Solution Development
4. System integration and services
5. Product Engineering
6. Application Development and Management Services
7. Enterprise Application Services
8. Business, Engineering and Knowledge Process Outsourcing
9. Mobile Internet Products and Services
10. Big Data Products and Services

Internet IT Services Group (IIG)

1. JointForce Platform
2. Cloud Migration and Operation Services
3. Cloud Consulting and SaaS Services
4. PaaS Products and Services
5. Training business

Source: Company data, Macquarie Research, May 2018

Fig 53 Potential result of 2nd business segments reorganization

Technical & Professional Services Group (TPG)

1. Software Platform Products
2. Strategy, Business, and IT consulting
3. Industry and General Application Software and Solution Development
4. System integration and services
5. Product Engineering
6. Application Development and Management Services
7. Enterprise Application Services
8. Business, Engineering and Knowledge Process Outsourcing

Internet IT Services Group ('New' IIG)

1. JointForce Platform
2. Cloud Migration and Operation Services
3. Cloud Consulting and SaaS Services
4. PaaS Products and Services
5. Big Data Products and Services
6. Mobile Internet Products and Services

Others

1. Long-tail one-off demands
2. Training business
3. Tobacoo & other specialized industry service

Source: Company data, Macquarie Research, May 2018

Fig 54 Covered companies mentioned

Stock	Ticker	Analyst	Rating	Current Price (lc)	Target Price (lc)	TSR %
Alphabet	GOOGL	Benjamin Schachter	Outperform	1,051.00	1,150.00	11%
Amazon.com	AMZN	Benjamin Schachter	Outperform	1,580.95	2,100.00	35%
China Telecom	728 HK	Allen Chang	Outperform	3.74	4.00	0%
HCL Technologies	HCLT	Abhishek Bhandari	Outperform	926.10	1,160.00	28%
Helmerich & Payne	HP	Walt Chancellor	Underperform	69.90	38.00	-43%
Hexaware Technologies	HEXW	Abhishek Bhandari	Outperform	451.25	476.00	9%
HSBC	5 HK	Robert Sage	Outperform	74.95	87.23	-85%
Infosys Technologies	INFO	Abhishek Bhandari	Outperform	1,181.85	1,250.00	11%
Kingsoft Corp	3888 HK	Wendy Huang	Outperform	24.15	30.00	5%
Microsoft	MSFT	Sarah Hindlian	Neutral	95.16	100.00	10%
Tata Consultancy Services	TCS	Abhishek Bhandari	Neutral	3,482.65	3,200.00	-4%
Tencent	700 HK	Wendy Huang	Outperform	382.80	555.00	21%
Travelsky Technology	696 HK	Eric Zong	Neutral	22.20	22.80	-17%
Wipro	WPRO	Abhishek Bhandari	Neutral	270.15	300.00	27%

Source: Macquarie Research, May 2018. Prices as of 4 May 2018.

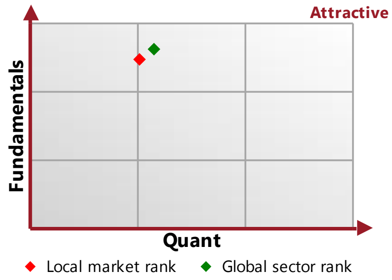
Macquarie Quant View

The quant model currently holds a marginally negative view on Chinasoft International. The strongest style exposure is Growth, indicating this stock has good historic and/or forecast growth. Growth metrics focus on both top and bottom line items. The weakest style exposure is Profitability, indicating this stock is not efficiently converting investments to earnings; proxied by ratios like ROE or R…

502/812

Global rank in Software & Services

% of BUY recommendations	93% (14/15)
Number of Price Target downgrades	0
Number of Price Target upgrades	0

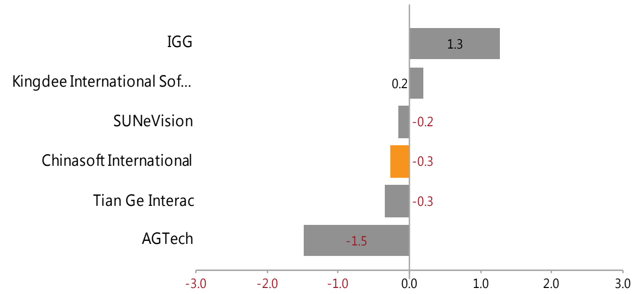


Displays where the company's ranked based on the fundamental consensus Price Target and Macquarie's Quantitative Alpha model.

Two rankings: Local market (Hong Kong) and Global sector (Software & Services)

Macquarie Alpha Model ranking

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

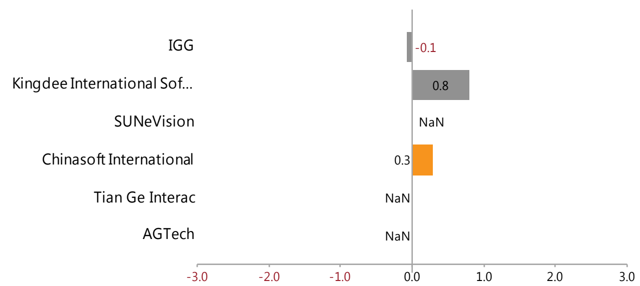


Factors driving the Alpha Model

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

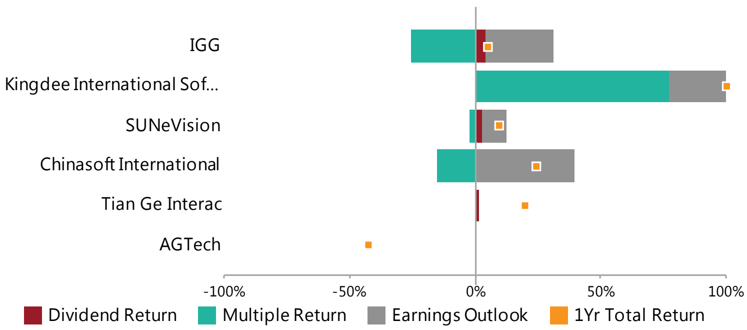
Macquarie Earnings Sentiment Indicator

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.



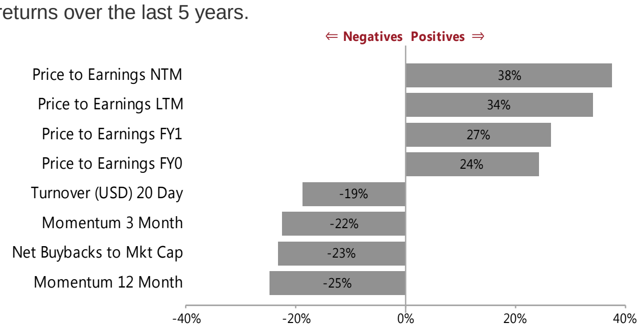
Drivers of Stock Return

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



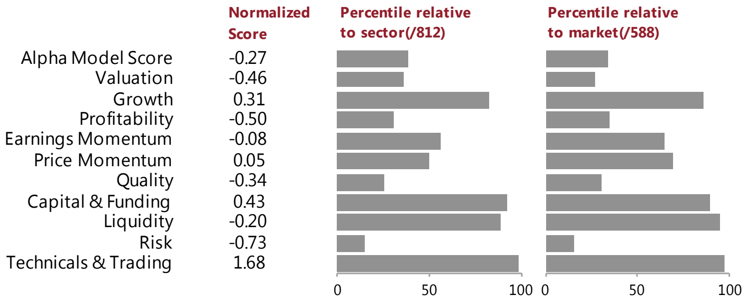
What drove this Company in the last 5 years

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 Research. 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)

Chinasoft International (354 HK)

Interim Results		2H/17A	1H/18E	2H/18E	1H/19E
Revenue	**m**	**5,099**	**5,419**	**5,860**	**6,452**
Gross Profit	**m**	**1,608**	**1,521**	**1,877**	**1,843**
Cost of Goods Sold	m	3,491	3,898	3,983	4,609
EBITDA	**m**	**480**	**407**	**658**	**503**
Depreciation	m	51	47	44	58
Amortisation of Goodwill	m	0	0	0	0
Other Amortisation	m	40	31	26	21
EBIT	**m**	**389**	**329**	**588**	**424**
Net Interest Income	m	-60	-62	-66	-55
Associates	m	35	35	35	35
Exceptionals	m	0	0	0	0
Forex Gains / Losses	m	0	0	0	0
Other Pre-Tax Income	m	0	0	0	0
Pre-Tax Profit	**m**	**365**	**302**	**557**	**404**
Tax Expense	m	-44	-39	-72	-53
Net Profit	**m**	**321**	**263**	**484**	**352**
Minority Interests	m	-1	3	5	4
Reported Earnings	**m**	**320**	**265**	**489**	**355**
Adjusted Earnings	**m**	**399**	**265**	**489**	**355**
EPS (rep)	fen	12.2	10.1	18.7	13.6
EPS (adj)	fen	15.2	10.1	18.7	13.6
EPS Growth yoy (adj)	%	73.7	-19.9	22.8	33.8
EBITDA Margin	%	9.4	7.5	11.2	7.8
EBIT Margin	%	7.6	6.1	10.0	6.6
Earnings Split	%	55.7	35.2	64.8	36.0
Revenue Growth	%	30.8	30.7	14.9	19.1
EBIT Growth	%	26.5	0.6	51.1	28.9

Profit and Loss Ratios		2017A	2018E	2019E	2020E
Revenue Growth	%	36.3	22.0	21.2	22.2
EBITDA Growth	%	19.5	19.3	25.4	26.9
EBIT Growth	%	18.8	28.1	29.1	29.2
Gross Profit Margin	%	29.8	30.1	30.7	31.2
EBITDA Margin	%	9.7	9.4	9.8	10.2
EBIT Margin	%	7.7	8.1	8.7	9.2
Net Profit Margin	%	7.7	6.7	7.2	7.6
Payout Ratio	%	6.5	8.2	8.7	9.3
EV/EBITDA	x	14.0	11.2	9.1	7.2
EV/EBIT	x	17.4	12.9	10.2	8.0
Balance Sheet Ratios					
ROE	%	15.2	13.7	15.6	17.3
ROA	%	9.0	10.0	11.6	13.0
ROIC	%	14.5	15.7	19.1	21.0
Net Debt/Equity	%	-2.8	-9.0	-7.0	-6.3
Interest Cover	x	7.0	7.1	9.0	10.3
Price/Book	x	2.5	2.2	1.9	1.6
Book Value per Share		2.0	2.2	2.6	3.0

Profit & Loss		2017A	2018E	2019E	2020E
Revenue	**m**	**9,244**	**11,279**	**13,669**	**16,698**
Gross Profit	**m**	**2,750**	**3,398**	**4,191**	**5,203**
Cost of Goods Sold	m	6,493	7,881	9,478	11,495
EBITDA	**m**	**893**	**1,065**	**1,336**	**1,695**
Depreciation	m	95	91	113	139
Amortisation of Goodwill	m	0	0	0	0
Other Amortisation	m	82	57	39	27
EBIT	**m**	**716**	**917**	**1,184**	**1,529**
Net Interest Income	m	-103	-128	-131	-149
Associates	m	20	71	71	71
Exceptionals	m	0	0	0	0
Forex Gains / Losses	m	0	0	0	0
Other Pre-Tax Income	m	0	0	0	0
Pre-Tax Profit	**m**	**633**	**859**	**1,123**	**1,451**
Tax Expense	m	-71	-112	-146	-189
Net Profit	**m**	**561**	**747**	**977**	**1,263**
Minority Interests	m	4	7	10	13
Reported Earnings	**m**	**566**	**755**	**987**	**1,275**
Adjusted Earnings	**m**	**716**	**755**	**987**	**1,275**
EPS (rep)	fen	22.1	28.8	37.7	48.7
EPS (adj)	fen	27.8	28.8	37.7	48.7
EPS Growth (adj)	%	35.0	3.4	30.8	29.2
PE (rep)	x	22.3	17.1	13.1	10.1
PE (adj)	x	17.7	17.1	13.1	10.1
Total DPS	fen	1.8	2.4	3.3	4.5
Total Div Yield	%	0.4	0.5	0.7	0.9
Basic Shares Outstanding	m	2,621	2,621	2,621	2,621
Diluted Shares Outstanding	m	2,564	2,621	2,621	2,621

Cashflow Analysis		2017A	2018E	2019E	2020E
EBITDA	**m**	**893**	**1,065**	**1,336**	**1,695**
Tax Paid	m	-71	-112	-146	-189
Chgs in Working Cap	m	182	-85	-683	-805
Net Interest Paid	m	-103	-128	-131	-149
Other	m	-959	-0	-0	0
Operating Cashflow	**m**	**-59**	**741**	**376**	**553**
Acquisitions	m	-89	0	0	0
Capex	m	-255	-293	-361	-440
Asset Sales	m	0	0	0	0
Other	m	-37	0	0	0
Investing Cashflow	**m**	**-381**	**-293**	**-361**	**-440**
Dividend (Ordinary)	m	0	-63	-65	-91
Equity Raised	m	0	0	0	0
Debt Movements	m	0	-170	50	-22
Other	m	496	0	0	0
Financing Cashflow	**m**	**496**	**-233**	**-15**	**-113**
Net Chg in Cash/Debt	**m**	**55**	**215**	**-0**	**0**
Free Cashflow	**m**	**-314**	**448**	**15**	**113**

Balance Sheet		2017A	2018E	2019E	2020E
Cash	m	1,785	2,000	2,000	2,000
Receivables	m	1,972	2,344	2,887	3,523
Inventories	m	26	64	78	94
Investments	m	65	65	65	65
Fixed Assets	m	853	1,054	1,302	1,604
Intangibles	m	1,176	1,119	1,080	1,053
Other Assets	m	2,874	2,857	3,525	4,296
Total Assets	**m**	**8,752**	**9,504**	**10,938**	**12,636**
Payables	m	1,605	1,752	2,142	2,595
Short Term Debt	m	686	686	686	686
Long Term Debt	m	0	484	534	512
Provisions	m	52	70	87	106
Other Liabilities	m	1,179	597	662	739
Total Liabilities	**m**	**3,522**	**3,589**	**4,111**	**4,638**
Shareholders' Funds	m	5,166	5,857	6,780	7,964
Minority Interests	m	64	57	47	34
Other	m	0	0	0	0
Total S/H Equity	**m**	**5,230**	**5,914**	**6,826**	**7,998**
Total Liab & S/H Funds	**m**	**8,752**	**9,504**	**10,938**	**12,636**

All figures in Rmb unless noted.
Source: Company data, Macquarie Research, May 2018

Important disclosures:

Recommendation definitions

Macquarie - Australia/New Zealand
Outperform – return >3% in excess of benchmark return
Neutral – return within 3% of benchmark return
Underperform – return >3% below benchmark return

Benchmark return is determined by long term nominal GDP growth plus 12 month forward market dividend yield

Macquarie – Asia/Europe
Outperform – expected return >+10%
Neutral – expected return from -10% to +10%
Underperform – expected return <-10%

Macquarie – South Africa
Outperform – expected return >+10%
Neutral – expected return from -10% to +10%
Underperform – expected return <-10%

Macquarie - Canada
Outperform – return >5% in excess of benchmark return
Neutral – return within 5% of benchmark return
Underperform – return >5% below benchmark return

Macquarie - USA
Outperform (Buy) – return >5% in excess of Russell 3000 index return
Neutral (Hold) – return within 5% of Russell 3000 index return
Underperform (Sell)– return >5% below Russell 3000 index return

Volatility index definition*

This is calculated from the volatility of historical price movements.

Very high–highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

High – 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.

Medium – stock should be expected to move up or down at least 30–40% in a year.

Low–medium – stock should be expected to move up or down at least 25–30% in a year.

Low – stock should be expected to move up or down at least 15–25% in a year.
* Applicable to Asia/Australian/NZ/Canada stocks only

Recommendations – 12 months
Note: Quant recommendations may differ from Fundamental Analyst recommendations

Financial definitions

All "Adjusted" data items have had the following adjustments made:
Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

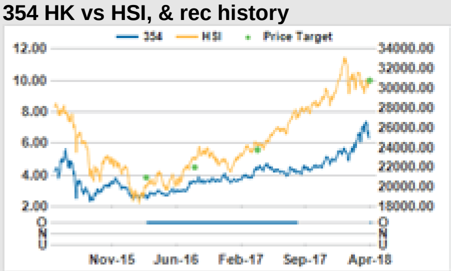
EPS = adjusted net profit / efpowa*
ROA = adjusted ebit / average total assets
ROA Banks/Insurance = adjusted net profit /average total assets
ROE = adjusted net profit / average shareholders funds
Gross cashflow = adjusted net profit + depreciation
*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 31 March 2018

	AU/NZ	Asia	RSA	USA	CA	EUR	
Outperform	54.38%	58.90%	48.35%	43.91%	69.03%	45.26%	(for global coverage by Macquarie, 3.69% of stocks followed are investment banking clients)
Neutral	32.48%	27.88%	34.07%	48.73%	21.29%	38.95%	(for global coverage by Macquarie, 3.07% of stocks followed are investment banking clients)
Underperform	13.14%	13.21%	17.58%	7.37%	9.68%	15.79%	(for global coverage by Macquarie, 0.39% of stocks followed are investment banking clients)

354 HK vs HSI, & 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, April 2018

12-month target price methodology

354 HK: HK$10.00 based on a PER methodology

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Date	Stock Code (BBG code)	Recommendation	Target Price
24-Apr-2018	354 HK	Outperform	HK$10.00
29-Mar-2017	354 HK	Outperform	HK$5.60
24-Aug-2016	354 HK	Outperform	HK$4.50
08-Mar-2016	354 HK	Outperform	HK$3.85

Target price risk disclosures:
354 HK: Any inability to compete successfully in their markets may harm the business. This could be a result of many factors which may include geographic mix and introduction of improved products or service offerings by competitors. The results of operations may be materially affected by global economic conditions generally, including conditions in financial markets. The company is exposed to market risks, such as changes in interest rates, foreign exchange rates and input prices. From time to time, the company will enter into transactions, including transactions in derivative instruments, to manage certain of these exposures.

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