

## China banking sector

### An assessment of the investment and loan linkage mechanism

Company name	Stock code	Mkt cap HKDmn	Spot 07 Jul	Trade ccy	PT 16E	Upside %	PBR x		PER x		Div Yld %	
							15A	16E	15A	16E	15A	16E
Bk of China	3988 HK	1,053,357	3.06	HKD	NR	--	0.64	0.57	4.71	4.67	6.64	6.56
Bk of China	601988 CH	1,053,400	3.26	RMB	NR	--	0.80	0.71	5.82	5.70	5.37	5.31
SPD Bank	600000 CH	390,804	15.57	RMB	NR	--	1.02	0.98	6.43	6.39	3.15	3.66
Bk of Beijing	601169 CH	156,694	10.65	RMB	NR	--	1.21	1.05	8.01	7.66	2.35	2.07
Bk of Tianjin	1578 HK	43,708	7.20	HKD	NR	--	0.96	0.84	6.46	5.98	0.00	4.18

Source: Company data, CSC estimates

- **The pilot investment and loan linkage mechanism (ILLM) will enable Chinese banks to push forward mixed operations by tapping into non-banking businesses.**
- **The ILLM will allow banks to take equity interests in technology companies at their early business stages.**
- **With the ILLM likely to be officially launched within one year, we see brighter long-term profitability outlook for Chinese banks.**

**The pilot Investment and loan linkage mechanism (ILLM).** Under the ILLM, banks could provide financial services to technology and innovative companies at the earlier business stages by making both lending and equity investments. In our view, risks associated with lending and investing are fairly contained for that (1) Investment subsidiaries will be isolated from the parent banking group in funding and investment activities. (2) Provisions/NPL loss cost by projects under the ILLM would be offset by revenues from the investment subsidiaries.

**Progress of the pilot programme.** Although most Chinese banks are not qualified to carry out direct investments in non-financial corporates, Chinese banks have already took many proactive business models to share the potential high return from equity, for example, Bank of Beijing has already established an investment-loan-linked financing plan with its associates before this programme. For now, three banks in Shanghai have finished their business plans.

**Silicon Valley Bank as an example.** Silicon Valley Bank is a California state-chartered bank, which is known for its specialty in lending to technology companies. The bank employs strategies in providing financial services to clients at different development stages through different practices. For instance, the bank has realised significant return and growth, which makes business models alike much feasible.

**Potential impacts on Chinese banks.** We believe the ILLM along with other upcoming reforms would push forward China banks' business diversification into other non-banking financial services. While most Chinese banks' current valuations look attractive from a historical perspective, we continue to prefer commercial city banks with Bank of Beijing (601169 CH) as the incipient and foremost beneficiary of the pilot programme.

**Albert Xu**  
**(CE No.: AXG732)**  
 albertxu@csci.hk  
 +852 3465 5789

## Table of Contents

Investment and loan linkage mechanism .....	3
Progress of the pilot programme .....	6
Silicon Valley Bank as an example .....	7
Upward revaluation foreseeable.....	9

## Investment and loan linkage mechanism

### More liberties are granted to banks

Banks could provide financial services to SMEs of science and technologies at their earlier business development stages and share return from equity. In late Apr 2016, CBRC, China Ministry of Science and Technology and PBoC jointly announced the investment and loan linkage pilot programme for banking financial institutions. Banks in this pilot programme are allowed to establish subsidiary companies that carry out investment activities. These subsidiaries will perform equity-linked investments in addition to the ordinary lending service from the parent banking group. Moreover, banks in this pilot programme could also set up special purpose institutions/branches by newly establishment or reforming existed branches, to cooperate with the investment subsidiary providing composite financial services, which will include but not limited to lending, settlements, financial advisories and currency exchanges.

**Figure 1: Investment and loan linkage pilot programme (1st batch, 21Apr16)**

Order	Bank Name		Bank Type
1	国家开发银行	China Development Bank	State Owned Policy Bank
2	中国银行	Bank of China	State Controlled Joint Stock National Large Commercial Bank
3	恒丰银行	Hengfeng Bank	Joint Stock National Commercial Bank
4	北京银行	Bank of Beijing	Joint Stock City Commercial Bank
5	天津银行	Bank of Tianjin	Joint Stock City Commercial Bank
6	上海银行	Bank of Shanghai	Joint Stock City Commercial Bank
7	汉口银行	Hankou Bank	Joint Stock City Commercial Bank
8	西安银行	Bank of Xi'an	Joint Stock City Commercial Bank
9	上海华瑞银行	Shanghai Huarui Bank	Privately Owned Joint Stock Commercial Bank in Shanghai Free Trade Zone
10	浦发硅谷银行	SPD Silicon Valley Bank	Chinese-Foreign Joint Stock Commercial Bank

Source: CBRC, CSCI Research

As a matter of fact, investment-and-loan-linked financing and tech financing have been discussed and been taken in alternative ways for years in China's banking industry. We regard this pilot programme as a milestone for Chinese banks to formally sidestep the restrictions on integrated financial services and expand business lines in their investment regions. In light that the majority of the first batch of this pilot programme is city banks, we believe the liberties granted by this pilot programme on establishment of investment subsidiaries and new branches would much likely boost the business strength, profitability and scale of the involved, in the way of offsetting their weakness in market coverage and business variety.

### Financing objects are loosely confined to tech-featured firms

SMEs in the fields of science and technologies are the service targets in this pilot programme. The financial objectives should fulfil one of three criteria.

**Figure 2: Applicable financing objects should fulfil one of three conditions**

A	The company is qualified for high or new technology measures, and have received the Certificate of National High-tech Enterprises.
B	The company is recognized by the local government of pilot area, and is included in the risk compensation pool.
C	The company is recognized by the bank after careful screening.

Source: CBRC, CSCI Research

In our view, the primary goal of the pilot programme is to support high-tech companies and enable banks to share the potential high profits of these companies. And we think the constraints on business features of the financial objectives are relatively loose.

With respect to condition 3, banks have a substantial leeway to make the final decision though risk compensation from the local and central governments may not apply in some cases.

In real practices, we expect this pilot programme to provide ample room for banks to take higher risk in return for higher returns. And the potential lending market would be enlarged for banks as the expected return from the investment leg could compensate the risk from the loan leg.

**Risks are fairly contained**

The regulatory guidance listed 13 management guidelines to contain the risks associated with the investment and loan linkage pilot programme, ranging from firewall separating, credit management to bad assets recovery. In our view, two arrangements are most crucial. (1) Investment subsidiaries will be isolated from the parent banking group in funding and investment activities. (2) NPL Loss associated in this pilot programme would be offset by the profits from the investment subsidiaries.

**Figure 3: Guidance on operations management**

	<b>Guidelines</b>
(1) Firewall separation	When establishing the linkage between investment and loan, the investment subsidiary should use its own capital for equity investment in tech companies, and shall not use debt financing, third-party funds, entrusted funds or any other forms of external capital. The subsidiary's investment proportion in a single company shall not exceed 10% of the subsidiary's own capital. The equity investment in tech companies should be separated from other investment business. The subsidiary and the parent company should enter a segregation mechanism of operations and capital. When the bank lending to the target tech company, the funding should be from the balance book, rather other off-balance-sheet sources, e.g., WMPs, entrusted loans or third-party funds.
(2) Project screening	The experimental investment subsidiary should establish a system for project screening. Through independent evaluation of its own market position, industry enterprise and risk preference, the subsidiary can choose suitable and risk-tolerant scientific innovation enterprises with great market prospects as its target clients.
(3) Positioning of the investment subsidiary	The investment subsidiary should act as a financial investor and it can choose to purchase stock from unlisted scientific innovation enterprises at growth stage. It can also share the investment return and risk with these growing firms. It should follow the agreement to engage in the management of start-ups and withdraw from investment and management when appropriate.
(4) Loan inspections	The bank should have multiple checks on loan for tech companies; screen the subsidiary's investment projects repeatedly to ensure that the investment project is well-linked with the credit.
	For the inspection before borrowing, factors such as the product patents, research expertise, the team management structure, the management skill, business models and market prospects can be improved.
	For the inspection during the borrowing, independent standard and process for approval should be set up with the professional management team.
	For the inspection after borrowing, besides from examination of scientific innovation enterprises, the information could be obtained from the investment subsidiary which incorporates the company's growth pattern and subsequent financing capacity as key to evaluation.
(5) Pricing of loans.	Banks should implement independent pricing mechanism for scientific innovation enterprises and propose the loan rate based on the enterprises' market prospects, equity investment, cost of business and the average market loan rate.
(6) Credit management	Bank should set up independent credit management regulations for scientific innovation enterprises. This displays the managerial innovation from traditional management. It lists the credit plan separately and assigns the financial resources independently. Innovations are encouraged in range of client evaluation, business models, risk elimination, terms determination and repayment methods. It guarantees innovation, expand the range of collateral, and initiate the intellectual property mortgage and stock pledge, which are suitable guarantee modes for scientific innovation enterprises.
(7) Multilateral cooperation	The experimental subsidiary can integrate resources from multiple sides and fully take advantage of favourable policies, enhance its co-operation with local government, bonding companies and insurance companies, and perfect the mechanism for information sharing, healthy risk sharing and compensation. Before providing linkage between investment and loan, the experimental institution should create a co-operation framework and sign an agreement with investment subsidiary, local government, bonding companies and insurance companies
(8) Risk tolerance and sharing	While establishing the linkage between investment and loan, the experimental institution should set an appropriate risk tolerance level for scientific innovation enterprises. It should also confirm the proportion and compensation system for the non-performing loan principal among bank and its investment subsidiary, government risk compensation fund, bonding companies and insurance companies to control the non-performing loan ratio to lie within the risk tolerance level. The government loan risk compensation fund should be counted as the capital for government fiscal budget. The loss resulted from non-performing loan borne by the investment subsidiary will be covered by the investment return from investment-loan linkage. The investment subsidiary set up by the experimental institution and the credit accounts created by investment subsidiary and bank will be managed by the bank corporation.

	While linking the investment with loan, parties involved should clarify and specialise their respective responsibilities of bearing the risk of non-performing loan.
(9) Bad loan recovery	Banks should continue to examine the non-performing loans, including the risk-sharing and non-risk sharing ones. When recovering the risk-sharing non-performing loan, the terms of risk sharing and responsibility specialization should be obeyed.
(10) Incentive mechanism	The Experimental institution should set up the mechanism for reward and regulation, establish the performance assessment and reward and punishment system, and create the credit culture which is best in line with the scientific innovation enterprises. The assessment period for credit staff should be extended, this illustrates the development characteristics of scientific innovation enterprises; risk tolerance policies should be set up for different parties, the risk tolerance level for non-performing loan should be raised appropriately, special calculation method for internal capital and cost should be devised, due diligence exemption for credit should be improved, staff who comply with the system and operation flow, but incur credit loss from unavoidable factors should be exempted from punishment.
(11) Talents gathering	The management staff of bank and investment subsidiary should be equipped with scientific background and finance knowledge. The process of professional recruitment should be accelerated. Bank and financial institutions should be encouraged to select a key scientific field to support and nurture the professional team
(12) Information management system	The institution under the pilot program should set up specific operation flow which matches with the scientific innovation enterprises and enhance the management of information system. Multiple methods should be adopted to collect information of scientific innovation enterprises, summarize the information and grasp the growth rule of enterprises. This helps store the information which provides the financial services to the scientific innovation enterprises
(13) Project closure	The institution under the pilot program should intensify the monitoring and evaluation of the risks of linkage between investment and loan, confirm the condition and mechanism for investment loan linkage and set up the exit system based on its risk preference.

Source: CBRC, CSCI Research

## Progress of the pilot programme

### Alternative bank-involved investments long exist

Although most Chinese banks are not qualified to carry out direct investments in non-financial corporations, Chinese banks have made adaptive attempts to share the potential high return from equity investments. Many business models have been employed to reach this purpose.

- (1) Banks, that having investment banking subsidiaries overseas, establish on-shore investment bodies China under these overseas subsidiaries.
- (2) Banks with subsidiaries in non-banking industries enter beneficiary trusts or funds that are operated by its subsidiaries and ultimately invest in equities.
- (3) Banks cooperate with third-party financial institutions to establish investment bodies or issue investment products for equity-related investments.
- (4) Banks cooperate with parent company or substantial shareholders, where the shareholders of the bank invest in equities while the bank provides lending.

### Proactive attempts by Bank of Beijing

Before chosen into this pilot programme, Bank of Beijing has already been operating an investment-loan-linked financing plan. The bank is cooperating with "Bank of Beijing Scotiabank Asset Management" (中加基金, Bank of Beijing holds 62% shares) and other corporations to carry out lending-investing-linked projects for SMEs.

### Three banks in Shanghai finished their business plans

According to the Shanghai Office of CBRC, all of the three Shanghai-based banks in the pilot programme have finished their draft plans.

**Figure 4: Draft plans for the pilot programme**

Bank in Pilot Program	Draft Plan
Bank of Shanghai	Establish "Bank of Shanghai Investment Company" (上银投资公司) to carry out equity investment to tech companies. Pudong Tech Subbranch and other technology specialized subbranches will provide lending service accordingly. The investment subsidiary will primarily hold share options as investments. The individual investment will be contained to 1 - 3% of total equity of the financing companies. NPL tolerance measures for tech loans will be different from ordinary loans. Extraordinary profits from the investment subsidiary will be allocate to risk absorbing pool.
SPD SV Bank	Investment subsidiary company will be established. Share options will be the primary risk-control tools. Return from share options will reach mid-level in 3 to 4 years and will larged improve after 1 to 2 years since the first stage. The investment subsidiary will purchase the NPL from corresponding loans when NPL ratio reached the presetted red line.
Shanghai Huarui Bank	Investment subsidiary company will be established. The investment subsidiary will purchase the NPL from corresponding loans when NPL ratio reached the presetted red line. Moreover, the banking group will account special provisions for the investment related loans. Special provisions will be offset by returns from investment subsidiary.

Source: Companies, China Xinhua Agency, Reuters, CSCI Research

### This pilot programme is expected to be launched very soon

We expect (1) most of the banks in the pilot programme would choose to set up a new investment subsidiary, though some of the banks (i.e., China Development Bank) will use an established investment arm to perform loan-linked investment. (2) Banks in the pilot programme to enjoy a larger feasible loan market immediately, since potential high return could compensate credit risks associated with ordinary loans. (3) In the long-term, i.e. 3 to 5 years, facility of investment and loan linkage will boost the profitability of involved banks. (4) Implementation of this investment and loan linkage programme will be launched within one year. (5) As the debt-to-equity swap programme is fading away, this investment and loan linkage program will work as a better substitute.

## Silicon Valley Bank as an example

### Specialised services to technology and healthcare companies

Silicon Valley Bank (SVB) is a California state-chartered bank founded in 1983, it is known for its specialty in lending to technology companies. Besides, the bank also provides services to venture capital and private equity firms that invest in technology and biotechnology. Unlike the ordinary clients, many technology companies are in the earlier stages of their business development with a lack of revenue, contrary to the conventional and mature manufacturing and service industries. Hence, SVB provides financial services to these clients through three different practices.

**Figure 5: Three practices for different clients**

Practice	Details
SVB Accelerator	SVB Accelerator practice focuses on serving our “ emerging ” or “ early stage ” clients. These clients are generally in the start-up or early stages of their life cycles. They are typically privately-held and funded by friends and family, “ seed ” or “ angel ” investors, or have gone through an initial round of venture capital financing. They are typically engaged in research and development, have little or no revenue and may have only brought a few products or services to market. SVB Accelerator clients tend to have annual revenues below \$5 million, with many being pre-revenue companies.
SVB Growth	SVB Growth practice serves our “ mid-stage ” and “ late-stage ” clients. These clients are in the intermediate or later stages of their life cycles and are generally privately-held, and many are dependent on venture capital for funding. Some of these clients are in the more advanced stages of their lifecycles and may be publicly held or poised to become publicly held. Our SVB Growth clients generally have a solid or more established product or service offering in the market, with more meaningful or considerable revenue. They also may be expanding globally. SVB Growth clients tend to have annual revenues between \$5 million and \$75 million.
SVB Corporate Finance	SVB Corporate Finance practice serves primarily our large corporate clients, which are more mature and established companies. These clients are generally publicly-held or large privately-held companies, have a more sophisticated product or service offering in the market, with significant revenue. They also may be expanding globally. SVB Corporate Finance clients tend to have annual revenues over \$75 million.

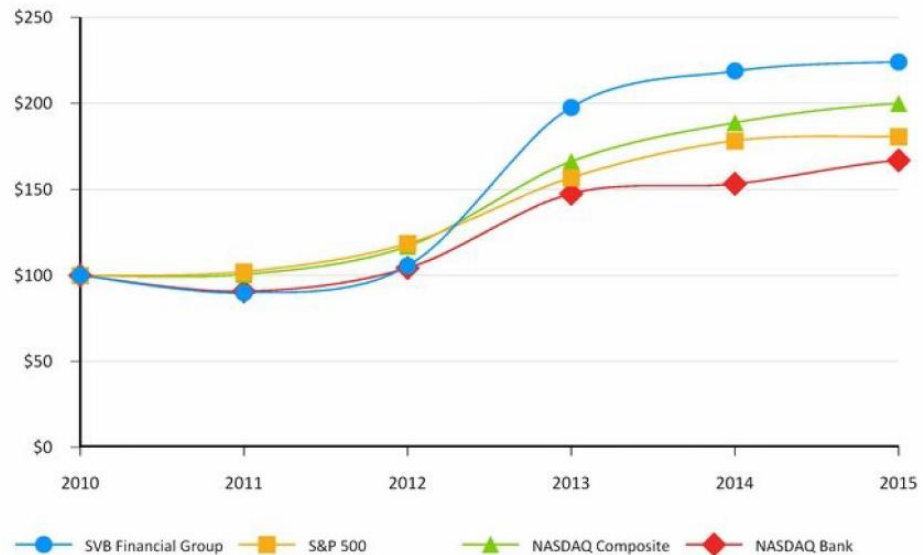
Source: Company, CSCI Research

The key component of SVB's strategy for technology and healthcare companies is to develop relationships with these clients at early stages and offer composite banking services that continually meet their financial needs as they mature and expand. Subsidiaries of the bank also play an important role by offering a variety of investment services and solutions to enable loaners to effectively manage their assets. Specifically, through its registered investment advisory subsidiary, SVB Asset Management, the bank offers discretionary investment advisory services based on its clients' investment policies, strategies and objectives. Through its broker-dealer subsidiary, SVB Securities, the bank offers clients access to investments in third party money market mutual funds and fixed-income securities. The bank also offers investment solutions through repurchase agreement program.

**Enjoying high growth of profits while asset quality remains solid**

The bank realised significant return and growth from its technology and healthcare focused and client specialised strategy. YoY growths of profit to common equity are 30.3%, 23% and 22.5% respectively for recent three years (2013 -2015). For the most recent year (2015), total assets of the bank reached USD44.7bn, up 13.6% as compared to last year, with investments amounting to USD25.2bn, up 20.1% and loans growing to 16.7%, up 16.4%.

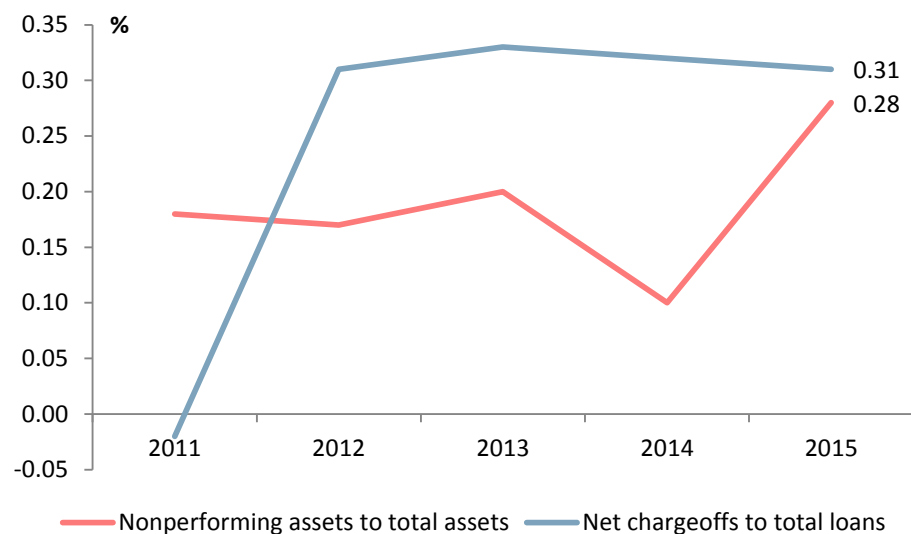
**Figure 6: Comparison of five year cumulative total return**



Source: Company, CSCI Research

In the meantime, the asset quality of the bank remains stable and significantly high. By end of 2015, the ratio of total nonperforming assets to total assets was just 0.28%. Moreover, the ratio of net charge-offs to total loans over the recent five years are kept at a low and consistent level of 0.31%.

**Figure 7: Asset quality remains stable and significantly high**



Source: Company, CSCI Research

In summary, the business model of technology industry focused financing model looks applaudable and feasible for practices, though high risk is always the first impression of tech companies for most investors.



## Upward revaluation foreseeable

---

### **Mixed operations of financial lines will boost profitability**

Chinese banks are now trading on multiples at the low-end of the historical range, and thus we see much room for upward revaluation.

Banks have always held the dominant position in China financial markets, as for (1) they hold the central clearance and booking position in the financial system and (2) the credit market holds the most premium clients and is the major financial driver to a developing country like China. We expect the ILLM along with other regulatory reforms to boost the profitability of banks while mixed operations of financial lines is carrying forward, which will largely ease the capital consumption for banks and generate multiple fee-based income drivers.



## Research

**LIU Taisheng, Steven**  
TMT  
(852) 3465 5652  
stevenliu@csci.hk

**SO Lai Shan, Jennifer**  
Consumer  
(852) 3465 5781  
jenniferso@csci.hk

**CHAN Ka Yeung, Duncan**  
Commodity  
(852) 3465 5654  
chankayeung@csci.hk

**TIAN Yang**  
Automotive  
(852) 3465 5775  
tianyang@csci.hk

**SUN Lingxiao, Roger**  
Industrials  
(852) 3465 5785  
rogersun@csci.hk

**XU Bo, Albert**  
Financials  
(852) 3465 5789  
albertxu@csci.hk

**ZHU Kexin**  
Renewable energy  
(852) 3465 5653  
zhukexin@csci.hk

## Institutional Sales & Trading

**XIANG Xinrong, Ron**  
(852) 3465 5633  
ronxiang@csci.hk

**CAO Xiaogang, Glen**  
(852) 3465 5658  
caoxiaogang@csci.hk

**ZHANG Meng, Maurice**  
(852) 3465 5656  
mauricezhang@csci.hk

**HO Wen Hao, Jack**  
(852) 3465 5685  
jackho@csci.hk

**HO Hung Wei**  
(852) 3465 5687  
hohungwei@csci.hk

**LEE Ying Ju, Rose**  
(852) 3465 5707  
roselee@csci.hk

**AO Yiyu, Diana**  
(852) 3465 5708  
dianaao@csci.hk

**WANG Fei, Sophie**  
(852) 3465 5709  
sophiewang@csci.hk

**XIA Tian**  
(852) 3465 5670  
xiatian@csci.hk

## Company Rating Definition

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

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

### Disclosure of Interests

As of the date of this report,

- The research analysts primarily responsible for the preparation of all or part of this report hereby certify that:
  - the views expressed in this research report accurately reflect the personal views of each such analyst about the subject securities and issuers; and
  - no part of the analyst's compensation was, is, or will be directly or indirectly, related to the specific recommendations or views expressed in this research report.
- The research analysts primarily responsible for the preparation of all or part of this report, or his/her associate(s), do not have any interest (including any direct or indirect ownership of securities, arrangement for financial accommodation or serving as an officer) in any company mentioned in this report,
- This report has been produced in its entirety by China Securities (International) Brokerage Company Limited ("China Securities (International)") (CE Number: BAU373, regulated by the Securities and Futures Commission in Hong Kong)
- China Securities (International) and each of its group companies that carry on a business in Hong Kong in investment banking, proprietary trading or agency broking in relation to securities have no financial interest, in aggregate, equal to or more than 1% of the market capitalization in the stocks reviewed in this report.
- China Securities (International) and each of its group companies that carry on a business in Hong Kong in investment banking, proprietary trading or agency broking in relation to securities may receive compensation from or mandates for investment banking services in the past 12 months from listed corporations whose stocks are being reviewed by China Securities (International) in this report.
- China Securities (International) and each of its group companies that carry on a business in Hong Kong in investment banking, proprietary trading or agency broking in relation to securities do not have any individual employed by or associated with them serving as an officer of a listed corporation whose stocks are being reviewed by China Securities (International) in this report.
- China Securities (International) and each of its group companies that carry on a business in Hong Kong in investment banking, proprietary trading or agency broking in relation to securities may act as the market makers in the stocks reviewed by China Securities (International) in this report.

### Disclaimer

This report is for information purposes only and should not be construed as an offer to sell or to solicitation of an offer to buy or sell any securities in any jurisdiction. The securities referred to in this research report may not be eligible for sale in some jurisdictions. This information contained in this report has been compiled by China Securities (International) from sources that it believes to be reliable and the opinions, analysis, forecasts, projections and expectations contained in this report are based on such information and are expressions of belief only and no representation, warranty or guarantee is made or given by China Securities (International) or any person for its accuracy or completeness. All opinions and estimates expressed in this report are (unless otherwise indicated) entirely those of China Securities (International) as of the date of this report only and are subject to change without notice. Such opinions and estimates may be different from or contrary to the opinions presented by the other business departments, units or affiliates of China Securities (International), as different assumptions and standards, different views and analytical methods may be adopted in the preparation of such other materials, and China Securities (International) is under no obligation to bring such other materials to the attention of any recipient of this report. Neither China Securities (International) nor its holding companies and affiliates accept any liability whatsoever for any direct or consequential loss arising from any use of material contained in this report or otherwise arising in connection therewith.

Any investment referred to herein may involve significant risk, may be illiquid and may not be suitable for all investors. The value of or income from any investment referred to herein may fluctuate and be affected by changes in exchange rates. Past performance is not indicative of future results. This report does not take into account the investment objectives, financial situation or particular needs of any particular person. Investors are expected to make their own investment decision without relying on this publication. Before entering into any transactions in any securities referred to in this research report investor should consider their own individual investment objectives and financial situation and seek professional financial, tax and legal advice, as necessary.

This report is strictly confidential to the recipient. It is being supplied to you solely for your information and may not be reproduced, redistributed or passed on, directly or indirectly, to any other person or published, in whole or in part, for any purpose. The distribution of this report in other jurisdictions may be restricted by law, and persons into whose possession this report comes should inform themselves about, and observe, any such restrictions. By accepting this report you agree to be bound by the foregoing instructions.

### China Securities (International) Research

18/F, Two Exchange Square, Central, Hong Kong

Tel: (852) 34655600 Fax: (852) 21809495