

## Inclusion of H-shares in the HSI and Possible Impact on the Market

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### Summary

1. *HSI Services Limited has just released the results of its August 2006 quarterly review for the HSI. Due to the possible increases in trading activities and volatilities, it is necessary for investors to be particularly alert to what is happening in the market when making investment decisions around the time of the rebalancing exercises.*
2. *The August review marked the first time inclusion of one H-share company in the HSI. Among other changes, the methodology for compiling the HSI will be changed from a full market capitalisation weighted formula to a freefloat adjusted market capitalisation weighted formula, with a 15% cap on individual stock weightings. The objective of this paper is to consider the possible impact of such adjustments.*
3. *Since the weightings of large cap stocks will be capped under the new methodology, the portfolios of funds associated with the HSI may need to be rebalanced by selling some large cap stocks and buying other constituent stocks. As a result, certain stocks may experience heavy trading and price volatilities in the days immediately preceding (and following) the rebalancing exercises. To minimize the potential impact, HSI Services Limited has decided to implement the adjustments in three phases over a period of 12 months.*
4. *Nevertheless, as many unknown variables remain, it is difficult to predict the precise impact of any index adjustment on the market. The potential impact will also depend on the then market situation and investor sentiment. It will be necessary therefore for investors to be aware of possible rebalancing activities and their effects, and to take such information into account when making their investment decisions.*

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<sup>1</sup> The paper is for research purposes. The views expressed in this research paper do not necessarily reflect those of the SFC.

## Objective and Scope of the Study

5. HSI Services Limited has just announced the adjustments to the HSI as a result of its August 2006 review. Changes to the constituent stocks will take effect on 11 September 2006, which will include the addition of one H-share company into the HSI for the first time. Earlier, HSI Services Limited also unveiled a new method for calculating the weighting of HSI constituents. This paper explores the possible impact of such adjustments and highlights matters that investors may need to be particularly alert to when making investment decisions around the time of the rebalancing exercises.

## Background

6. On 10 February 2006, HSI Services Limited announced that H-shares would become eligible for inclusion in the HSI by August 2006 if they meet any one of the following criteria:
  - the H-share company has 100% of its ordinary share capital in the form of H-shares which are listed on the SEHK;
  - the H-share company has completed the process of share reform, with the result that there is no unlisted share capital in the company; or
  - for new H-share IPOs, the company has no unlisted share capital.
7. On 30 June 2006, after consultation with market participants and market regulators, HSI Services Limited announced that the methodology for compiling the HSI will be changed from a full market capitalisation weighted formula to a freefloat adjusted market capitalisation weighted formula, with a 15% cap on individual stock weightings. In other words, the weighting of a stock within the HSI will be computed based on the freefloat adjusted market value, instead of the market value of all issued shares. Specifically:
  - a Freefloat Adjusted Factor (FAF)<sup>2</sup> will be assigned to each HSI constituent to reflect the proportion of its freefloat shares; and
  - a 15% cap on individual stock weightings will be applied to avoid heavy concentration of a large cap stock within the index.
8. The new methodology will be implemented in three phases over a period of 12 months from September 2006 to September 2007 as follows:

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<sup>2</sup> According to HSI Services Limited, the freefloat definition has been revised to exclude shareholdings with a lock-up arrangement starting from the August 2006 review.

<b>Three-phase Implementation Over 12 Months</b>			
	<b>Phase One (after Market Close on 8 Sep 2006)</b>	<b>Phase Two (after Market Close on 9 Mar 2007)</b>	<b>Phase Three (after Market Close on 7 Sep 2007)</b>
<b>Existing Constituents' Freefloat</b>	No adjustment	$100\% - 2/3 \times (100\% - \text{FAF}_i)$	$\text{FAF}_i$
<b>Capping at</b>	25%	20%	15%
<b>New Constituents' Freefloat (if any)</b>	Freefloat adjusted	Freefloat adjusted	Freefloat adjusted
Remarks: $\text{FAF}_i$ is the freefloat adjusted factor for stock $i$ . The freefloat applied in Phase Two is the result from the formula, rounded up to the nearest 5%.			
Source: HSI Services Limited			

9. HSI Services Limited has also announced that the number of constituents in the HSI will be increased gradually. Initially, any H-share company joining the HSI will simply result in a net increase in the number of HSI constituents. A final plan regarding the number of constituents for the HSI will be announced when the total number of HSI constituents reaches 38.

### **Inclusion of H-shares**

10. According to HSI Services Limited, the inclusion of H-shares in the HSI and the new compilation method reflect the increasing importance of H-shares:
- the total market capitalisation of H-share companies stood at HK\$1,931 bn as at the end of July 2006, accounting for about 19% of the Main Board total;
  - the average daily turnover of H-shares was HK\$8.7 bn during January-July 2006, accounting for about 28% of the total turnover on the Main Board; and
  - the total funds raised by the IPOs of H-share companies amounted to HK\$137 bn in 2005, or 83% of the market total.
11. Thus, the HSI will be more representative of the market if it includes H-shares. According to HSI Services Limited, 21 H-shares met the requirements for inclusion in the HSI as of end July 2006<sup>3</sup>. Of these, China Construction Bank (CCB) has just been selected as a new HSI constituent with effect from 11 September 2006. CCB is currently the third largest listed company in Hong Kong. The market capitalisation of CCB stood at HK\$764 bn as of end July 2006, accounting for 7.5% of market total.

<sup>3</sup> The Appendix shows the 21 H-shares and the related major statistics.

### **New HSI Compilation Methodology**

12. Market participants are familiar with the current method for compiling the HSI, i.e. the full market value method with no cap on weighting. However, this method results in the HSI being dominated by a few companies. At present, HSBC and China Mobile have a combined weight of some 48% in the HSI.
13. Freefloat is a common methodology used to compile stock indices. In some markets, a cap is added to certain large-sized stocks to avoid these stocks dominating the index. Adopting this method therefore has the advantage of bringing Hong Kong in line with international practices. It will also allow the HSI to better reflect the freefloat adjusted market value, and effectively reduce the concentration of large cap stocks. However, the new compilation method will also lower the weightings of some large-sized stocks. This may lead to heavy trading and greater volatility of relevant stocks during the rebalancing exercises.

### **Rebalancing Activities and Their Implications**

14. Since the weightings of large cap stocks will be capped under the new methodology, portfolios associated with the HSI may need to be adjusted or rebalanced as a result of the revised weightings of the HSI constituents. For example, institutional investors who benchmark their portfolios to the HSI may need to sell some large cap stocks and buy other constituent stocks to rebalance their portfolios. Similarly, fund managers who adopt a passive management strategy may need to adjust their portfolios to replicate the performance of the HSI.
15. The announcement by HSI Services Limited on 30 June stated that the changes in the HSI compilation methodology would be implemented in three phases over a 12-month period from September 2006 to September 2007. This will help reduce the possible impact on the market and facilitate an orderly evolution of the index. In addition, HSI Services Limited announced that the number of constituents in the HSI would be increased gradually. Initially therefore, any H-share company joining the HSI will represent a net increase in the number of HSI constituents. The number of non H-share constituents will be maintained at 33 for the time being, thus avoiding any reduction in the number of Hong Kong companies in the HSI.

16. Although HSI Services Limited is going to implement the changes in phases over a long period, there are still concerns that the market may see heavy trading and be volatile during the rebalancing exercises. The SFC will be monitoring the market closely as it normally does. It is important however for those making investment decisions at the time to be conscious of the rebalancing exercises and its impact, including the possibility of heavy trading activities and volatility occurring around such time.

### Possible Impact on the Market – An Illustration

17. It is not possible to predict the precise impact of the HSI adjustments at this stage because many variables remain unknown. Also, the impact will depend very much on the then market situation and investor sentiment. For illustration purpose, we assume the market capitalisation of major HSI constituent stocks remain relatively stable, and there would be no major changes to the HSI constituent stocks in the coming reviews before September 2007. Based on the new compilation methodology and three-phased implementation announced by HSI Services Limited, the potential changes in the weightings of HSI constituents after the inclusion of CCB are illustrated in the following table:

Changes in Weighting of the Top 10 HSI Constituent Stocks in Three Phases								
Stock Code	Stock Name	Market Cap (HK\$ bn, Jul 06)	Average Daily Turnover (HK\$ bn, Jan-Jul 06)	Freefloat Adjusted Factor	Current Weighting	Estimated New Weighting		
						Phase One (Sep 06)	Phase Two (Mar 07)	Phase Three (Sep 07)
5	HSBC Hldgs	1,608.5	2.43	100%	29.4%	25.0%	20.0%	15.0%
941	China Mobile	995.2	1.04	25%	18.2%	18.5%	15.1%	11.3%
<b>939</b>	<b>CCB</b>	<b>763.9</b>	<b>1.36</b>	<b>15%</b>	-	<b>2.1%</b>	<b>3.5%</b>	<b>5.2%</b>
13	Hutchison	302.3	0.79	50%	5.5%	5.6%	6.4%	6.9%
883	CNOOC	286.4	0.71	30%	5.2%	5.3%	4.8%	3.9%
16	SHK Prop	203.5	0.59	55%	3.7%	3.8%	4.3%	5.1%
1	Cheung Kong	195.0	0.55	65%	3.6%	3.6%	4.7%	5.8%
11	Hang Seng Bank	189.8	0.19	40%	3.5%	3.5%	3.5%	3.5%
2388	BOC Hong Kong	167.0	0.47	35%	3.0%	3.1%	3.0%	2.7%
2	CLP Hldgs	111.0	0.14	75%	2.0%	2.1%	2.9%	3.8%

Remark: Shaded areas refer to stocks where the cap is binding.  
Sources: HKEx, HSI Services Limited, SFC Research

18. As can be seen, the weightings of all major HSI constituents will be affected. HSBC, for instance, its weighting in the HSI may be reduced by 4.4 percentage points, whilst that of China Mobile increased by 0.3 percentage points during Phase One adjustment. The weighting of HSBC may fall by a total of 14.4 percentage points after completion of the three-phased implementation. As these may increase trading activities and volatilities of these stocks, investors should be alert to the possible impact of the rebalancing exercises.
19. It should be noted that our estimates and analysis are based on various assumptions and the latest available market cap statistics, and therefore inevitably preliminary. If more large cap H-shares are included in the HSI before September 2007, the weightings would be different. In addition, market cap may change over time, which will also affect the weighting of each stock and therefore the rebalancing activities.

### **Past Experience of Similar Changes in Compilation Method of MSCI Index**

20. It is worth noting that a change to the freefloat market capitalisation method in index compilation is not new to Hong Kong investors. In 2000, MSCI decided to replace the full market capitalisation method with the freefloat market capitalisation method in their index calculation.
21. On 10 December 2000, MSCI announced that it would re-weight its constituents to take into account the freefloat market capitalisation rather than full market capitalisation in two stages. As a result, the Hong Kong weighting in the MSCI Regional Index was reduced from 16.2% to 15.3%, and around 40 Hong Kong stocks were affected. In light of the possible heavy trading and volatility that might occur as a result of rebalancing activities (and according to the MSCI website, a total of US\$3 trillion funds are tracking the MSCI indices), the SFC had been monitoring the markets closely during that period. As it turned out however, the rebalancing did not have a significant impact on the Hong Kong stock market.

### **Conclusion**

22. Generally speaking, the market has responded positively to the decision of HSI Services Limited to include H-shares in the HSI and to change the HSI compilation methodology. By including H-shares, the HSI is expected to be more representative of the overall performance of the Hong Kong stock market. Also, the adoption of the freefloat method is in line with international practices.

23. The changes in HSI constituents and its compilation methodology may however affect the trading activities and volatilities of certain stocks. Funds may need to rebalance their portfolios during the rebalancing exercises. On the other hand, the market may generate sufficient liquidity to absorb the impact – as was the case when the compilation method of the MSCI Index was changed. HSI Services Limited has also taken certain steps to reduce such potential impact.
24. Ultimately, it is difficult to predict at this stage the precise impact of the rebalancing exercises, since the impact will depend on various factors including the then market situation and investor sentiment. In any case, however, it is necessary for investors to be aware of possible rebalancing activities and their effects, and to take such information into account when making investment decisions.

### Appendix – The 21 H-shares Eligible to be Included in the HSI (as of end July 2006)

<b>List of H-shares Eligible to be Included in the HSI</b>			
<b>Code</b>	<b>Company</b>	<b>Market Cap (end Jul 06, HK\$ bn)</b>	<b>Average Daily Turnover (Jan-Jul 06, HK\$ mn)</b>
939	China Construction Bank Corporation	763.94	1,357.99
3988	Bank of China Ltd.	260.75	1,865.67
902	Huaneng Power International	15.34	131.48
1171	Yanzhou Coal Mining	10.71	138.94
358	Jiangxi Copper	10.30	234.37
1138	China Shipping Development	8.35	64.33
914	Anhui Conch Cement	5.65	30.76
177	Jiangsu Expressway	5.50	36.12
347	Angang New Steel	5.45	82.46
323	Maanshan Iron & Steel	4.21	97.14
763	ZTE Corporation	3.65	42.79
548	Shenzhen Expressway	2.83	13.95
995	Anhui Expressway	2.82	11.48
1072	Dongfang Electrical Machinery	2.55	25.42
317	Guangzhou Shipyard International	1.10	10.56
874	Guangzhou Pharmaceutical	1.08	3.92
1065	Tianjin Capital Environmental Protection	0.61	5.44
42	Northeast Electric Development	0.20	1.61
1108	Luoyang Glass	0.19	0.78
719	Shangdong Xinhua Pharmaceutical	0.18	0.70
187	Beiren Printing Machinery Holdings	0.17	0.42

Sources: HSI Services Limited, Bloomberg