



Does the Shanghai-Hong Kong stock connect policy reduce China's A-H share price premium?

Wei Zhang, Haifeng Li & Shuang Cao

To cite this article: Wei Zhang, Haifeng Li & Shuang Cao (2022) Does the Shanghai-Hong Kong stock connect policy reduce China's A-H share price premium?, Applied Economics Letters, 29:15, 1428-1433, DOI: [10.1080/13504851.2021.1937489](https://doi.org/10.1080/13504851.2021.1937489)

To link to this article: <https://doi.org/10.1080/13504851.2021.1937489>



Published online: 09 Jun 2021.



Submit your article to this journal [↗](#)



Article views: 131



View related articles [↗](#)



View Crossmark data [↗](#)

ARTICLE



Does the Shanghai-Hong Kong stock connect policy reduce China's A-H share price premium?

Wei Zhang^a, Haifeng Li^b and Shuang Cao^c

^aSchool of Economics, Beijing Technology and Business University, Beijing, China; ^bEconomic Faculty and Graduate School of East Asian Studies, Yamaguchi University, Yamaguchi City, Japan; ^cBeijing Branch, China Pacific Property Insurance Co., Ltd, Beijing, China

ABSTRACT

The Shanghai-Hong Kong Stock Connect programme provides a perfect experimental setting to test cross-listing theories. Using daily panel data of 54 firms dually listed on the Shanghai A-share and Hong Kong H-share markets from 4 January 2011 to 29 November 2019, this paper investigates the effect of the programme on A-H premium. The results demonstrate that the programme did not narrow the A-H valuation gaps, but rather significantly promoted the premium. The results also confirm the conventional arguments of information asymmetry, demand differential, and investors' risk preference differential, which are proposed to explain price disparities between dual-listed stocks, but challenge liquidity differential and market risk differential hypotheses.

KEYWORDS

Shanghai-Hong Kong stock connect; dual-listed stocks; A-H premium

JEL CLASSIFICATION

G12; G14; G18

1. Introduction

This paper studies the effect of the cross-boundary investment channel, 'Shanghai and Hong Kong Stock Connect' (SHSC), on the price discrepancy of dual-listed stocks traded on the Shanghai A-share and Hong Kong H-share markets. Researchers have rationalized the price deviations in segmented cross-listing markets by hypothesizing differences in demand, information availability, liquidity, market risk, and investor's risk preference (Karolyi, Li, and Liao 2009; Zheng, Osmer, and Zheng 2018). Typically, relative to foreign-only shares, local-only shares are traded at discounted prices, which is regarded as a form of compensation for cross-boundary investment risks; however, China's A-share prices are persistently higher than those of their H-share counterparts (Zheng, Osmer, and Zheng 2018).

To address this, financial integration is expected to mitigate market segmentation, improve price discovery efficiency, and lead to price equality. In 17 November 2014, China launched the SHSC programme to relax the restrictions that historically split China's stock market between A-shares and H-shares and allow mutual investments within quotas between Shanghai and Hong Kong. The effectiveness of SHSC in adjusting A- and H-share

valuations has attracted much attention given its implications for the reform and opening-up of China's capital market. Using data from January 2014 to July 2014, and adopting VEC model and DID model with two-step estimator Chan and Kwok (2016, 2018) found that the announcement of SHSC, which was made on 10 April 2014, considerably reinforced A-H price co-integration during the post-announcement period. Chan and Kwok (2017) argued that investors' expectation of SHSC's effect of risk-sharing through the reduction of system risk induced the price revaluation of investible stocks. Employing panel data, Fang and Wang (2017) found that SHSC significantly reduced A-H premium over January 2013 to December 2015 period. However, their findings are inconsistent with the general increasing trend of A-H premium displayed by the Hang Seng A-H Premium Index after the launch of SHSC, raising concerns about the statistical power of their relatively short sample period. In view of this, we investigated 54 dual-listed firms between January 2011 and November 2019 using panel data. The findings reveal that the implementation of SHSC policy promoted A-H premium significantly. We also found that the results confirm conventional information asymmetry, demand differential, and

investors' risk preference differential arguments, which have been suggested to account for the price disparities between dual-listed stocks. Nonetheless, the results contest liquidity differential and market risk differential hypotheses. Inspired by Chan and Kwok (2016, 2018), we further used sample between January 2014 and November 2014 to examine the impacts of the announcement of SHSC, and we found that the announcement significantly raised A-H premium.

This study contributes to the literature by employing a longer sample period and sufficient time-series observations, and by considering conventional explanatory hypotheses in the context of China's dual-listing markets, offering updated A-H premium trends with more robust assessment of the effect of SHSC.

The rest of this paper is organized as follows: Section 2 describes the data and empirical approach, section 3 discusses the results, section 4 investigates the announcement effects of SHSC, and finally, section 5 concludes.

II. Data and methodology

During the sample period, 91 firms issued A-shares in the Shanghai Stock Exchange (SSE) and H-shares in Hong Kong Stock Exchanges (HKEX). We select sample firms with complete daily closing price, trading volume, and shares outstanding data. We exclude holidays and consider mismatches in the trading days to collect data for overlapping trading periods. The final balanced panel dataset composed of 54 firms divided into two subsets: 11 firms from the financial sector and 43 from non-financial sectors. Data are obtained from China's Wind financial database, SSE Yearbooks, SSE and HKEX official websites, as well as the sample firms' annual reports.

The specification adopted is:

$$PS_{it} = \alpha + \beta_1 * Policy + \beta_2 * CONTROL_{it} + \varepsilon \quad (1)$$

$PS_{it} = PA_{it} - PH_{it} \times \rho_{it}$ represents price spread between dual-listing pairs, where i indexes firm, t is time, PA and PH denote daily closing prices of A- and corresponding H-shares, and ρ_{it} is the daily exchange rate converting H-share price to RMB.

Policy indicates the SHSC dummy variable. $Policy_t = 0$ for $t < T_0$, and $Policy_t = 1$ for $t \geq T_0$, where T_0 indicates 17 November 2014. *CONTROL* represents an array of controlled variables including *MVR*, *CSR*, *TOR*, *RISK*, and *PBR*. $MVR_{it} = PA_{it}CSA_{it}/(PH_{it} \times \rho_{it}CSH_{it})$ denotes the relative market value of A- and H-shares, where *CSA* and *CSH* represent outstanding A- and H-shares, respectively. Since, relative to small firms, large firms have more and high-quality information disclosure and attract more attention from markets, *MVR* measures information asymmetry between markets (Karolyi, Li, and Liao 2009). $CSR_{it} = CSA_{it}/CSH_{it}$ is a reverse proxy for demand differential since outstanding shares are primarily determined by supply by firms rather than demand by investors (Karolyi, Li, and Liao 2009). The relative A- and H-share turnover ratio $TOR_{it} = TORA_{it}/TORH_{it}$ proxies the liquidity differential (Eun and Sabherwal 2003). The relative A- and H-share return volatility, $RISK_{it} = \sigma A_{i10}/\sigma H_{i10}$, measures the market risk differential, where σ_{10} is the standard deviation of average 10-day returns (Levy 1978). The relative A- and H-share Price-to-Book Ratio, $PBR_{it} = PBRA_{it}/PBRH_{it}$, is the proxy for investors' risk preference differential (Cronqvist, Siegel, and Yu 2015). β is the parameter vector, and ε_i , the stochastic perturbation term. We employ random effects panel data models in the whole sample and non-financial sub-sample and fixed effects panel data model in the financial sub-sample. We repeat the tests for the whole sample period and two sub-periods – before and after the launch of SHSC.

III. Results and discussion

Tables 1–3 report the summary statistics. Table 1 presents positive A-H premium means for the whole sample period for all sample categories. Tables 1 and 3 show that before SHSC, the A-H premium means in both whole and non-financial groups are numerically smaller than those after SHSC, whereas the sign of the A-H price spread in the financial sub-sample turns from negative to positive after SHSC.

The IPS and Fisher-ADF panel unit root tests (Table 4) indicate that all variables are stationary at

Table 1. Summary statistics in the whole sample period.

	Whole sample					Financial sub-sample					Non-financial sub-sample				
	Obs.	Mean	S.D.	Min	Max	Obs.	Mean	S.D.	Min	Max	Obs.	Mean	S.D.	Min	Max
<i>PS</i>	113,670	2.66	3.94	-21.05	48.68	23,155	0.60	3.42	-21.05	16.89	90,515	3.18	3.89	-11.57	48.68
<i>MVR</i>	113,670	5.23	3.78	0.00	38.19	23,155	3.43	2.68	0.03	14.00	90,515	5.69	3.88	0.00	38.19
<i>CSR</i>	113,670	2.92	1.86	0.00	15.57	23,155	2.84	2.17	0.04	9.57	90,515	2.94	1.77	0.00	15.57
<i>TOR</i>	113,670	6.21	19.72	0.00	2625.29	23,155	3.41	4.95	0.00	122.88	90,515	6.93	21.89	0.00	2625.29
<i>RISK</i>	113,670	8.64	67.61	0.00	10,585.09	23,155	2.18	6.32	0.00	411.12	90,515	10.29	75.61	0.00	10,585.09
<i>PBR</i>	113,670	3.51	44.27	-233.19	3599.74	23,155	1.70	0.58	0.91	4.68	90,515	3.98	49.59	-233.19	3599.74

Table 2. Summary statistics before SHSC.

	Whole sample					Financial sub-sample					Non-financial sub-sample				
	Obs.	Mean	S.D.	Min	Max	Obs.	Mean	S.D.	Min	Max	Obs.	Mean	S.D.	Min	Max
<i>PS</i>	49,140	1.43	3.55	-21.05	23.36	10,010	-1.30	3.34	-21.05	3.24	39,130	2.13	3.26	-11.57	23.36
<i>MVR</i>	49,140	4.35	2.65	0.03	20.93	10,010	2.99	2.24	0.03	11.19	39,130	4.70	2.63	0.45	20.93
<i>CSR</i>	49,140	2.66	1.57	0.04	9.24	10,010	2.54	1.81	0.04	9.24	39,130	2.69	1.50	0.14	7.67
<i>TOR</i>	49,140	4.56	21.71	0.00	2625.29	10,010	2.25	2.55	0.00	62.77	39,130	5.15	24.26	0.00	2625.29
<i>RISK</i>	49,140	5.54	29.39	0.00	2080.89	10,010	1.31	7.03	0.00	411.12	39,130	6.62	32.66	0.00	2080.89
<i>PBR</i>	49,140	3.57	7.58	0.57	161.70	10,010	2.07	0.67	0.94	4.68	39,130	3.96	8.45	0.57	161.70

Table 3. Summary statistics after SHSC.

	Whole sample					Financial sub-sample					Non-financial sub-sample				
	Obs.	Mean	S.D.	Min	Max	Obs.	Mean	S.D.	Min	Max	Obs.	Mean	S.D.	Min	Max
<i>PS</i>	64,530	3.59	3.96	-7.94	48.68	13,145	2.05	2.69	-7.94	16.89	51,385	3.99	4.13	-5.52	48.68
<i>MVR</i>	64,530	5.89	4.33	0.00	38.19	13,145	3.76	2.93	0.04	14.00	51,385	6.43	4.47	0.00	38.19
<i>CSR</i>	64,530	3.12	2.03	0.00	15.57	13,145	3.06	2.39	0.04	9.57	51,385	3.13	1.93	0.00	15.57
<i>TOR</i>	64,530	7.47	17.94	0.00	1690.56	13,145	4.29	6.04	0.00	122.88	51,385	8.29	19.79	0.00	1690.56
<i>RISK</i>	64,530	11.00	85.91	0.00	10,585.09	13,145	2.84	5.63	0.01	193.71	51,385	13.09	96.12	0.00	10,585.09
<i>PBR</i>	64,530	3.47	58.38	-233.19	3599.74	13,145	1.42	0.25	0.91	2.98	51,385	3.99	65.41	-233.19	3599.74

Table 4. Results for Panel Unit-root Tests.

Variable	IPS panel unit root tests		Fisher-ADF panel unit root tests	
	Statistic (Z-t-tilde-bar)	p-value	Statistic (P)	p-value
<i>PS</i>	-15.8480	0.0000	426.1362	0.0000
<i>MVR</i>	-10.2195	0.0000	342.4568	0.0000
<i>CSR</i>	-8.2136	0.0000	415.7466	0.0000
<i>TOR</i>	-2.0e+0.2	0.0000	3892.7146	0.0000
<i>RISK</i>	-1.0 e + 0.2	0.0000	3884.2574	0.0000
<i>PBR</i>	-47.5510	0.0000	396.3855	0.0000

level and integrated of order zero, which means that the panel data can be used to perform authentic regressions, and there is no need for testing cointegration. Table 5 reports the estimation results.

Policy presents a significant and positive sign in all sample categories in the whole sample period, indicating that SHSC contributes to A-H premium. We provide three possible explanations:

First, the A-share market is largely dominated by retail investors focusing on policy direction and market sentiment, which fuel price rise, unlike their institutional-based H-share market

counterparts, who show stronger preference for long-run valuation and profit.

Second, the large pool of overseas liquidity to A-share market through SHSC – especially after China A was included in MSCI, FTSE Russell, and S & P Dow Jones – is a catalyst for A-share prices.

Thirdly, the capital account control in the onshore market and the quota restrictions in SHSC leave little scope for arbitraging away price deviations.

The results support conventional arguments of information asymmetry, demand differential, and investor's risk preference differential. Relative A-H turnover ratio attracts a negative and significant sign. This challenges the liquidity differential hypothesis, but is consistent with the findings of Campbell, Grossman, and Wang (1993). The high turnover ratio suggests that A-share investors frequently adjust investment portfolios. When the selling pressure from these 'liquidity' traders are accommodated by risk-averse utility maximizers, the latter will demand rewards in the form of lower prices (Campbell, Grossman, and Wang

Table 5. Empirical results.

	Whole sample period			Before SHSC (Policy = 0)			After SHSC (Policy = 1)		
	Whole sample	Financial sub-sample	Non-financial sub-sample	Whole sample	Financial sub-sample	Non-financial sub-sample	Whole sample	Financial sub-sample	Non-financial sub-sample
<i>Policy</i>	1.9909*** (0.0152)	3.0199*** (0.0528)	1.6292** (0.0166)						
<i>MVR</i>	0.2717*** (0.0037)	1.0344*** (0.0337)	0.2957*** (0.0038)	0.3828*** (0.0066)	1.6314*** (0.0427)	0.3446*** (0.0067)	0.4579*** (0.0047)	1.7647*** (0.0352)	0.4417*** (0.0049)
<i>CSR</i>	-0.5360*** (0.0077)	-0.5067*** (0.0151)	-0.6456*** (0.0090)	-0.2024*** (0.0099)	-0.0319** (0.0124)	-0.4535*** (0.0150)	-0.5754*** (0.0109)	-2.9236*** (0.2780)	-0.5600*** (0.0114)
<i>TOR</i>	-0.0019*** (0.0004)	-0.0431*** (0.0037)	-0.0015*** (0.0004)	-0.0007** (0.0004)	-0.0274*** (0.0072)	-0.0006 (0.0004)	-0.0006 (0.0005)	-0.0128*** (0.0028)	-0.0005 (0.0005)
<i>RISK</i>	0.0015*** (0.0001)	0.0158*** (0.0026)	0.0015*** (0.0001)	0.0008*** (0.0003)	0.0061*** (0.0022)	-0.0008*** (0.0003)	0.0008*** (0.0001)	0.0178*** (0.0025)	0.0008*** (0.0001)
<i>PBR</i>	0.0029*** (0.0002)	0.2083*** (0.0406)	0.0028*** (0.0002)	0.0295*** (0.0023)	-0.2308** (0.0367)	0.0257*** (0.0023)	0.0020*** (0.0001)	0.8395*** (0.0678)	0.0020*** (0.0001)
<i>_cons</i>	1.6613*** (0.3380)	-3.4618*** (0.1026)	2.4594*** (0.3909)	0.2025*** (0.3788)	-5.5664*** (0.1259)	1.6329*** (0.3830)	2.6794*** (0.3768)	3.1769*** (0.8456)	2.8864*** (0.4463)

***p < 0.01, **p < 0.05 and *p < 0.1.

Note. Numbers in parenthesis are standard errors.

1993). Relative A-H return volatilities are positively related to A-H premium, i.e. negatively linked with A-H returns. This finding contradicts the risk differential hypothesis, but can be explained by the leverage effect (Black 1976), which suggests that market value (returns) interacts negatively with financial leverage ratio, indicating positive correlation with return volatility, as well as the volatility feedback effect that suggests that increase in the market's systematic risk results in higher future volatility expectation, which can reduce the present stock value (return) (Campbell and Hentschel 1992).

The results for sub-periods are basically consistent with those for whole sample period. We notice that after SHSC, the significantly positive

effect of asymmetric information becomes larger, the negative effect of liquidity differential decreases in whole sample and non-financial sub-sample, and the significantly negative effect of market risk differential in non-financial sub-sample as well as that of investor's risk preference differential in financial sub-sample turn significantly positive. Overall, these results indicate that SHSC plays an important role in affecting A-H premium.

IV. Further analysis

The following model with sample period from 2 January 2014 to 16 November 2014 is used to investigate the announcement effects of SHSC:

Table 6. Empirical results for announcement effects of SHSC.

	Whole sample period			Before Announcement (Annc = 0)			After Announcement (Annc = 1)		
	Whole sample	Financial sub-sample	Non-financial sub-sample	Whole sample	Financial sub-sample	Non-financial sub-sample	Whole sample	Financial sub-sample	Non-financial sub-sample
<i>Annc</i>	0.1626*** (0.1419)	0.6891*** (0.0362)	0.0680*** (0.0149)						
<i>MVR</i>	0.4370*** (0.0110)	1.6926*** (0.1201)	0.3800*** (0.0105)	0.7237*** (0.0275)	-0.4591** (0.1790)	0.6695*** (0.0286)	0.4797*** (0.0140)	1.7152*** (0.0948)	0.4455*** (0.1415)
<i>CSR</i>	-0.4742*** (0.5890)	-0.8378*** (0.3816)	-0.4677*** (0.0564)	-1.1797*** (0.0842)	-24.8651** (4.1558)	-1.1316*** (0.0863)	-0.1136 (0.0706)	-1.8012*** (0.2813)	-0.0024 (0.0741)
<i>TOR</i>	0.0005 (0.0012)	0.0010 (0.0050)	0.0010 (0.0012)	-0.0020 (0.0015)	-0.0183* (0.0099)	-0.0020 (0.0016)	0.0058*** (0.0013)	0.0110*** (0.0038)	0.0042*** (0.0014)
<i>RISK</i>	-0.0002 (0.0006)	-0.0013 (0.0011)	0.0008 (0.0008)	0.0029*** (0.0007)	-0.0198** (0.0083)	0.0027*** (0.0007)	0.0010 (0.0007)	-0.0005 (0.0008)	0.0060*** (0.0013)
<i>PBR</i>	-0.0124*** (0.0015)	1.3693*** (0.1823)	-0.0127*** (0.0014)	0.0036* (0.0020)	4.1898** (0.3523)	0.0034* (0.0021)	-0.0097*** (0.0198)	-0.1144 (0.1592)	-0.0093*** (0.0020)
<i>_cons</i>	-0.0122 (0.3647)	-6.4096*** (1.1656)	0.6395* (0.3643)	0.7573* (0.4315)	66.7908*** (12.3694)	1.1619*** (0.4136)	-1.1002*** (0.3840)	-0.7186 (0.9164)	-0.9539** (0.3989)

***p < 0.01, **p < 0.05 and *p < 0.1.

Note. Numbers in parenthesis are standard errors.

$$PS_{it} = \alpha + \beta_1 * Annc + \beta_2 * CONTROL_{it} + \varepsilon \quad (2)$$

Annc is the dummy variable for the official announcement of SHSC. $Annc_t = 0$ for $t < T_0$, and $Annc_t = 1$ for $t \geq T_0$, where T_0 denotes 10 April 2014.

The results in Table 6 indicate that the policy announcement enlarged price gaps between dual-listed stocks, which further confirms the positive effect of SHSC on A-H premium.

In whole sample period, the results for MVR and CSR are consistent with those in Table 5, which provides evidence supporting information asymmetry and demand differential hypotheses. However, the coefficients regarding TOR and RISK are insignificant and the results for PBR are mixed. A possible reason is that the 'long-run' time varying characteristics of firm performance cannot be incorporated because the sample period is relatively short (Chan and Kwok 2018). Nonetheless, the coefficient for PBR in financial sub-sample are significantly positive, which is in line with the previous analysis. In addition, estimation results for sub-periods suggest the importance of SHSC on the relative pricing of A- and H-shares.

V. Conclusions

This study examines the relationship between SHSC and A-H premium. The results indicate that SHSC contributes to A-H premium. In addition, information asymmetry, demand differential, and investors' risk preference differential have strong explanatory power for A-H premium. Nonetheless, the liquidity differential and market risk differential hypotheses are challenged, for which we offer alternative interpretations. This study focuses essentially on SHSC and firm-level characteristics. Thus further research may consider legal, regulatory, and market-specific factors to fully comprehend the effect of SHSC and the intrinsic mechanism of A-H premium.

Disclosure statement

The authors declare that they have no known competing financial interests or personal relationships that could influence the work reported in this paper.

References

- Black, F., 1976. "Studies of Stock Price Volatility Changes." *Proceedings of the 1976 Meetings of the American Statistical Association, Business and Economic Statistics Section*: 177–181. Prologue in *Volatility*, edited by Andersen, T. G. and T. Bollerslev, 2018: 3–8. Cheltenham: Eward Elgar Publishing.
- Campbell, J. Y., and L. Hentschel. 1992. "No News Is Good News: An Asymmetric Model of Changing Volatility in Stock Returns." *Journal of Financial Economics* 31 (3): 281–318. doi:10.1016/0304-405X(92)90037-X.
- Campbell, J. Y., S. Grossman, and J. Wang. 1993. "Trading Volume and Serial Correlation in Stock Returns." *The Quarterly Journal of Economics* 108 (4): 905–939. doi:10.2307/2118454.
- Chan, K. M., and S. S. Kwok. 2016. "Capital Account Liberalization and Dynamic Price Discovery: Evidence from Chinese Cross-listed Stocks." *Applied Economics* 48 (6): 517–535. doi:10.1080/00036846.2015.1083087.
- Chan, K. M., and S. S. Kwok. 2017. "Risk-sharing, Market Imperfections, Asset Prices: Evidence from China's Stock Market Liberalization." *Journal of Banking & Finance* 84 (11): 166–187. doi:10.1016/j.jbankfin.2017.06.003.
- Chan, K. M., and S. S. Kwok. 2018. "Connecting the Markets? Recent Evidence on China's Capital Account Liberalization." *Economic Modelling* 70 (C): 417–428. doi:10.1016/j.econmod.2017.08.016.
- Cronqvist, H., S. Siegel, and F. Yu. 2015. "Value versus Growth Investing: Why Do Different Investors Have Different Styles?" *Journal of Financial Economics* 117 (2): 333–349. doi:10.1016/j.jfineco.2015.04.006.
- Eun, E., and S. Sabherwal. 2003. "Cross-border Listings and Price Discovery: Evidence from U.S.-listed Canadian Stocks." *The Journal of Finance* 58 (2): 549–575. doi:10.1111/1540-6261.00537.
- Fang, Q., and T. Wang. 2017. "The Impact of Shanghai-Hong Kong Stock Connect Policy on A-H Share Price Premium." *Finance Research Letters* 21: 222–227. doi:10.1016/j.frl.2016.11.014.
- Karolyi, G. A., L. Li, and R. Liao. 2009. "A (Partial) Resolution of the Chinese Discount Puzzle: The 2001 Deregulation of the B-share Market." *Journal of Financial Economic Policy* 1 (1): 80–106. doi:10.1108/17576380910962394.
- Levy, H. 1978. "Equilibrium in an Imperfect Market: A Constraint on the Number of Securities in the Portfolio." *American Economic Review* 68 (4): 643–658.

Zheng, Y., E. Osmer, and L. Zheng. 2018. "The Relative Pricing of Cross-listed Securities: The Cases of Chinese A-

and H-share." *The Quarterly Review of Economics and Finance* 67: 297–310. doi:[10.1016/j.qref.2017.07.010](https://doi.org/10.1016/j.qref.2017.07.010).