CONVERGENCE TO THE LAW OF ONE PRICE:

EVIDENCE FROM CROSS-LISTED CHINESE STOCKS

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Abstract

This paper explores the convergence of the prices of cross-listed stocks on Shanghai Exchange (SHSE) and Hong Kong Exchange (SEHK) to the law of one price. Relative and absolute convergence is examined using panel unit root tests. After finding evidence supporting divergence from both versions of the law, we find that both hold during two sub-sample periods of investigation which take into account the break points of both economies' recovery from the Asian crisis. Since these break points characterise changes in the degree of capital controls between the two markets, the results show the degree to which Chinese financial markets are moving towards full integration.

1. Introduction

Arbitrage, defined as the simultaneous buying and selling of the same security at two different prices, is perhaps the most crucial concept of modern finance. Expressed in terms of the law of one price, it implies that identical securities -- securities with the same state-specific payoffs -- should have identical prices although listed on different exchanges. In contrast to trade in goods and services where there may be significant transportation or transaction costs, one would expect the law of one price to hold in financial markets almost instantaneously.

However for segmented markets, it is rational for the same asset to have different prices in different markets, reflecting differences in supply and demand in each of those markets. In this paper we consider the case of cross-listed Chinese stocks, with two classes of ownership-restricted shares: 'A' shares which are listed on SHSE[3] and traded by PRC mainland citizens, and 'H' shares which are listed on SEHK and traded by foreigners[4]. It was generally believed that these two financial markets were segmented as a result of the capital controls enforced by the Chinese government, with the implication that the currency (for capital account transactions) is not officially convertible. Additionally the more stringent accounting and disclosure requirement on SEHK, and the higher risk perception of offshore investors may have contributed to the lower demand for H shares relative to their mainland counterpart. More recently vigorous disclosure reform in the Chinese stock market and the erosion of effective capital market controls which had limited renminbi convertibility with Hong Kong dollar[5] implies that market impediments, including information asymmetry and

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[3] China launched two stock exchanges –the Shanghai Stock Exchange in 1990 and the Shenzhen Stock Exchange in 1991.

[4] A small proportion of listed companies have issued offshore shares on overseas exchanges as a means of raising foreign capital. Apart from listing shares on Hong Kong Stock Exchange, offshore shares including listing shares on other foreign stock exchanges such as the New York and Singapore Stock Exchange.

[5] Renminbi (Chinese currency) and the Hong Kong dollar are virtually convertible in this region because the flow of both currencies well exceeds the flow permitted under current capital account restrictions. Due to ineffective capital controls and the popularity of usage of RMB and the Hong Kong dollar across the border, the partial convertibility of the RMB has been greatly enhanced despite the fact that the currency is not officially convertible for capital account transactions. The circulation of RMB has been very widely dispersed in Hong Kong for trade in goods and services since 1993. Starting from 2004, Hong Kong banks can conduct personal RMB business on a trial basis. At the same time, a rough estimate shows that about 20 to 25% of the Hong Kong dollar bank note issue was circulating in

liquidity differentials are thought to have been gradually reduced.

For the stocks we consider, H shares are sold at a discount compared with A shares despite the fact that both shares have identical claims on a company's cash flows. This may reflect the particular features of market segmentation just described, and it contrasts with the typically observed phenomenon that foreigners pay a premium above the price faced by local investors, when countries impose restrictions on foreign investment. However, the more recent elimination of market impediments should realign stock prices according the law of one price. This leads to the following research question – do A and H shares show price convergence, or do they offer investors the opportunity to diversity portfolio risk? Has the degree of convergence changed over time? This question is interesting and deserves attention given the many intriguing characteristics of China's emerging financial markets.

In order to answer this question, the following study extends the traditional convergence literature by investigating price convergence and divergence of cross-listed stocks on the SHSE and SEHK, rather than relying on stock-price indexes. As far as we are aware this is the first study to exploit cross-listing data between the two Chinese stock exchanges in this way[6].

Our empirical analysis shows there is evidence to support divergence from the relative law of one price for cross-listed stocks. However it emerges that this divergence can be explained by capital controls which prevented domestically-listed stocks from full exposure to major events like the Asian crisis and the September 11 attack. In contrast, both the relative and absolute law of one price hold well during two sub-sample periods of investigation after taking into account the break points explained by recovery from the Asian crisis. Therefore the Chinese cross-listing stock market is characterized as integrated. For two sub-samples, our estimated speed of convergence for the relative law of one price implies a half-life of a shock of between 3.5 and 5.9 months. These

mainland China in 1997 (see Joseph Yam, 1994).

[6] There are a few studies which analyse the information transmission in the pricing process from China-backed stocks cross-listed in Hong Kong and New York using a GARCH model They include the studies done by Xu and Fung (2002) and Mak and Ngai (2005).

adjustment speeds are much faster than the results from the price-convergence literature for goods and services markets[7]. This might be expected because there are fewer impediments facing rational arbitragers in financial markets. Our third result is that there is quicker progress towards integration in recent years. A statistically insignificant systemic segmentation level in the recent sub-sample suggests fading cross-price differences as a consequence of recent integration efforts and the encouragement of cross-country arbitrage. Overall, our results indicate the existence of substantial price convergence for A shares and H shares. This provides empirical support for the view that the Chinese share markets have performed efficiently by reducing obstacles to arbitrage. This finding is also useful for foreign investors operating in China in helping them understand the maturity and transparency of the Chinese stock markets.

The remainder of this paper is set out in the following way: section 2 provides a brief review of the existing literature on the law of one price while section 3 provides background information on the ownership structure in Chinese share markets. Data descriptions of cross-listed stocks are presented in section 4 and the methodology employed is discussed in section 5. Section 6 discusses the main empirical findings while section 7 summarises the results. .

2. Literature review

Froot and Rogoff (1995) review the large and growing literature on the law of one price as this applies to goods and services and conclude that it has become the focus of substantial controversy and the subject of a growing body of literature. Their finding of commodity-specific variations in departures from the law of one price suggests that differences in local distribution costs, local taxes, and tariffs do not explain the price pattern, leaving strategic pricing or other factors resulting in varying markups as alternative explanations for observed divergences. Fan and Wei (2003) and Young (2000) enrich the literature on price convergence across Chinese domestic markets by adding a new piece of evidence from this large transitional economy.

So far, most empirical work has focused on goods and services. In terms of financial markets,

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[7] Rogoff (1996) notes a consensus concerning the estimated half lives of adjustment: they mostly tend to fall into the range of three to five years.

modern financial theory including various option pricing formula and arbitrage pricing have been built upon the law of one price. This assumption has been somewhat controversial. Over the past decade or so, numerous violations have been observed when it is applied to closed-fund country funds (Klibanoff, Lamont and Wizman, 1998) and twin shares (Froot and Dabora, 1999). Another situation involving international equity markets is the pricing of American Depositary Receipts (ADRs)[8]. In the context of Chinese market, Xu and Fung (2002) examine patterns of information flows for China-backed stocks that are cross-listed on exchanges in Hong Kong[9] and New York (in ADR form) in terms of pricing and volatility.

Much of the empirical research on the Chinese stock market has focused on the correlation structure of the A shares versus the B shares[10], and the puzzle that the A shares are traded at a high premium versus the B shares. As mentioned earlier, this feature of Chinese markets differs from experience in other countries, where unrestricted foreign shares are normally traded at a premium. Bailey (1994) was the first to study the Chinese stock price and documented the B shares were selling at a discount from A shares. Since then, a growing number of studies explain the discount on foreign B shares from different perspectives. Sun and Tong (2000) offer an explanation in terms of a differential demand elasticity. Bailey, Chung and Kang (1999) apply a global asset pricing model to a number of heavily traded Chinese A and B shares together with cross-listed stocks in another 10 countries whose stock markets feature foreign ownership restrictions. They found little evidence that price premia for unrestricted shares are explained by lower foreign required returns. Other hypotheses potentially explaining this phenomenon include information asymmetry (Karolyi and Li, 2003); a liquidity differential (Chen, Lee and Rui, 2001) and a risk differential (Su,1999).

So far, however, studies of cross-listed prices on A and H share market are relatively rare. Two

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[8] ADRs are shares of specific foreign securities held in trust by U.S. financial institutions.

[9] There are two types of China-backed stocks listed in Hong Kong: H shares refer to shares of mainland-incorporated companies that are listed on SEHK where red chips refer to shares of Hong Kong – incorporated Chinese companies with major business operations in mainland China that listed in Hong Kong.

[10] B shares are shares issued on Chinese domestic exchanges but denominated in foreign currencies to attract foreign capital domestically. We do not study pricing of B shares in this paper due to thin trading volume.

points should be noted. First, the information channels are different in the case of A and B shares, and A and H shares, even though some scholars argue that the H shares are substitutes for B shares. Second, while institutional characteristics of the individual dual-listed companies have the potential to identify the sources of market segmentation at the micro level, data limitations restrict this line of research.

Our investigation of the law of one price is 'direct', in the sense that we are investigating the convergence of prices when both are expressed in the same currency. An implication of the law of one price, analysed by Cappiello and Santis (2005) is that, by analogy with uncovered interest parity, 'uncovered equity returns parity' applies. Cappiello and Santis (2005) propose an arbitrage relationship between expected exchange rate changes and differentials in expected equity returns of two economies – when expected returns on a certain equity market are lower than returns from another market, the currency associated with the market that offers lower returns is expected to appreciate. This is an 'indirect' approach to the law of one price since it also requires assumptions about the way in which returns and exchange-rate expectations are formed. Expectational assumptions are unnecessary if the focus is on price levels, as is the case in this study.

3. Chinese share ownership structure

The mixed findings of Chinese share market pricing behaviour indicate that China has a different economic, institutional and market microstructure in comparison with other markets. So it is helpful to review the institutional characteristics of the Chinese financial market and the impact of the Chinese legal regulatory environment, focusing on distinctive features of share ownership.

Chinese financial markets, in particular share markets, developed rapidly in the process of China's gradual transition from a centrally planned to a market economy. The majority of Chinese businesses were transformed into state owned enterprises, with the government owning part of companies' assets. Shares representing the part of the company owned by the state are called state shares. These are held by the state asset management bureau and are not tradable on stock exchanges. Apart from the shares owned by the state, there are two other types of domestic shares – legal entity shares and public shares. Legal entity shares represent the part of the company owned by other state

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entities and may be floated among qualified institutions on a special market in the Securities automatic quotation system. Public shares are those shares that are freely tradable on stock exchanges[11]. Reforms have taken place in 2005 to reconstruct the ownership structure through privatizing via an IPO.

In addition to listing shares for domestic investors, listed companies have issued offshore shares as a means of raising capital. Two approaches have been followed: listing B shares on domestic stock exchanges, or listing shares on foreign stock exchanges. The rapid development in the issue of offshore shares, especially on SEHK for foreign investors, is evidenced by a great increase in the trading volume and values of Chinese cross-listed stocks on the SEHK (H shares). Chinese companies have pursued the broadening of their shareholder base to raise capital, while international investors recognize the need for diversification on the Chinese mainland. Chinese companies listed on the SEHK can enhance the marketability of their securities and have better access to new funds. However, access to foreign markets is somewhat restricted for China's state owned enterprises because of their low standards of corporate governance. Although there are the same voting rights and provisions for A and H shares, dividends for A share are paid in Renminbi while H shares are paid in Hong Kong dollars. It is therefore necessary to take exchange rate variation into account in our analysis of the law of one price.

4   Data description

Our dataset comprises a two-dimensional panel containing information on 6 Chinese cross-listed stocks in two distinct exchanges, SHSE and SEHK. We study stocks listed on SHSE because 27 of 32 Chinese stocks listed on SEHK (at the end of Jun. 2006) are cross-listed on SEHK. They constitute the majority of Chinese cross listing stocks in terms of capitalization. Excluding those stocks which have only been listed in recent years, this study chooses 6 out of 27 stocks which are the earliest listed on SHSE, guaranteeing that there are ample time series observations for each stock

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[11] Public shares can include A shares, B shares and H shares. Both B and H shares are completely tradeable.

in the panel analysis[12]. Over the period Oct. 1994 to May 2006, both currencies were pegged to the US dollar. This enables us to express them in a common currency. Monthly data on the trading volumes and closing prices for the 6 stocks are presented in Chart 1 to 6.

It is noticeable from the Charts that all six cross-listed stocks trade at a premium on SHSE compared to the SEHK. Premiums are greater during the Asian crisis because the prices of the cross-listed stocks are more volatile on the SEHK than they are on the SHSE. The cross-listed stock price differentials on SHSE and SEHK are largest for the 3rd stock (Sinopec Shanghai Petrochemical Company Ltd.) and smallest for the 6th stock (Beiren Printing Machinery Holdings Ltd.). After 2001-02, the period of recovery from the Asian crisis, Hong Kong stock prices rose toward those of Shanghai stocks. Trading on SHSE is generally more active except for the 5th and the 6th stock where the trading volumes for both stocks are noticeably higher after 1997.

There are two main advantages of using individual stock prices rather than composite stock indices. Were a study to be based on share market aggregates, the 'identical-goods' assumption needed for the absolute version of the law of one price would not hold. By ensuring that shares traded on different exchanges have the same dividends and voting rights, we are able to compare prices of homogeneous financial products across markets. Therefore we are able to test both the relative and the absolute version of the law of one price. A second advantage of a microanalysis is that the focus on particular stocks allows for a more in-depth analysis of institutional details and it is the institutional analysis that helps to identify the sources of market segmentation. However, this is beyond the scope of the current paper.
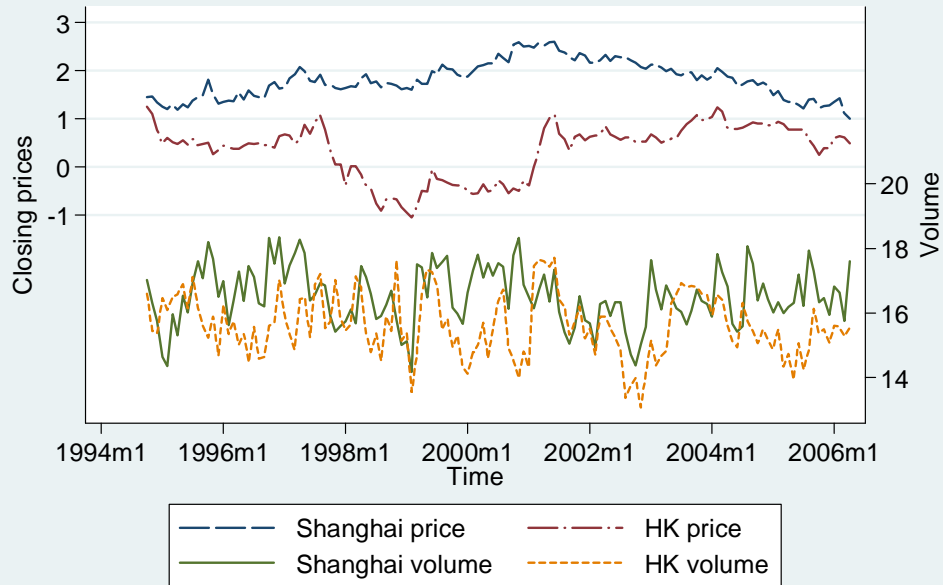
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[12] General information about these 6 selected stocks is listed in Appendix. Data used in this study are extracted from DataStream and available at [our web site Graeme wells'?].???0
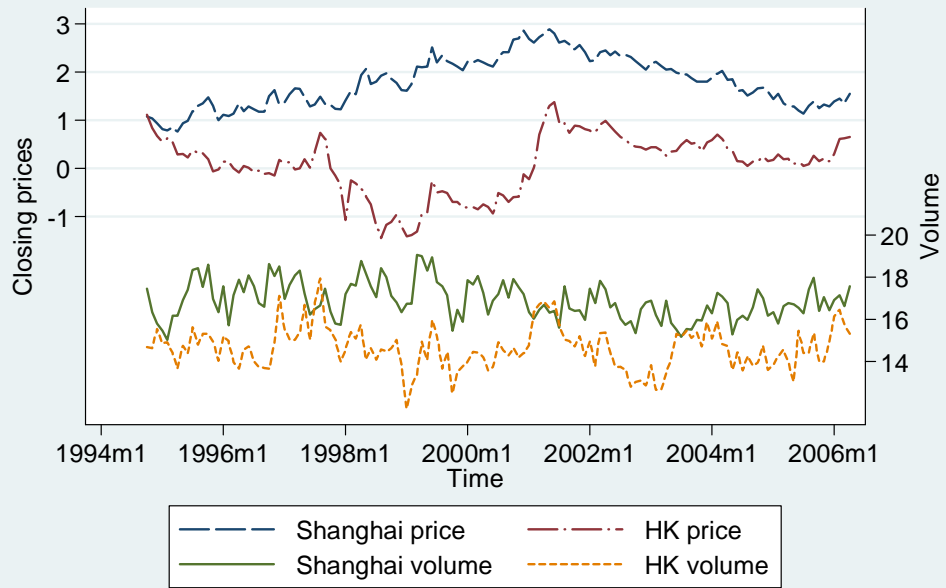
Chart 1 Cross-listed stock 1
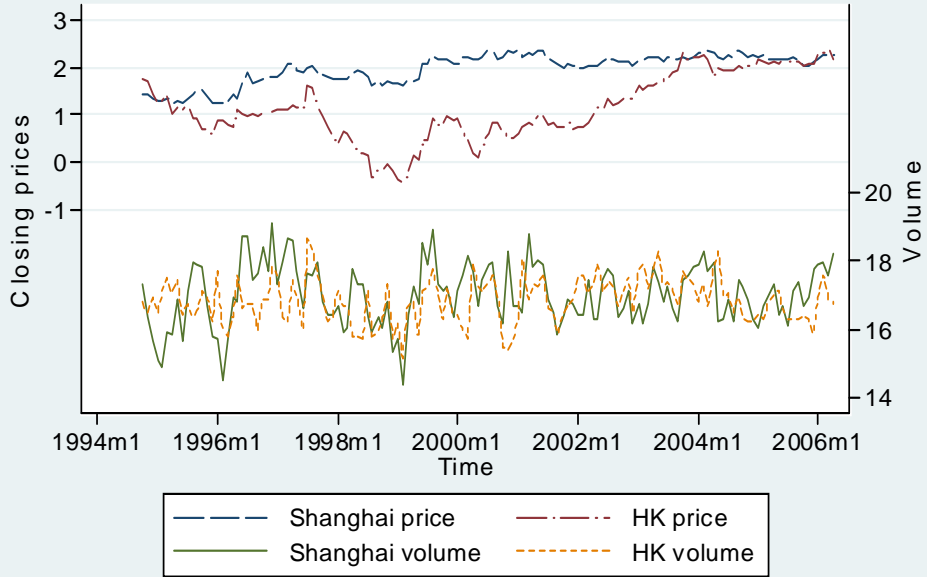
Source : DataStream

Chart 2 Cross-listed stock 2
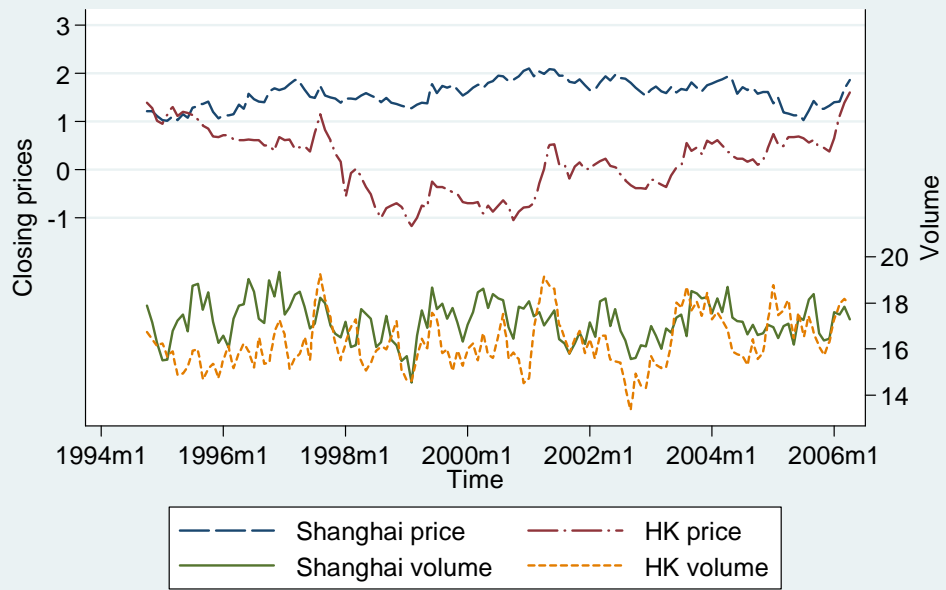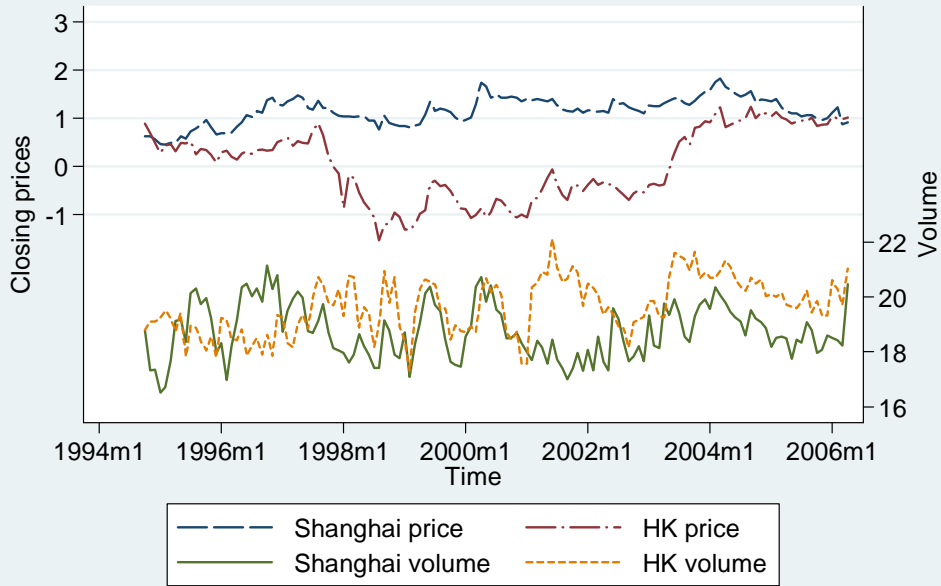
Source : DataStream

Chart 3 Cross-listed stock 3

Source : DataStream

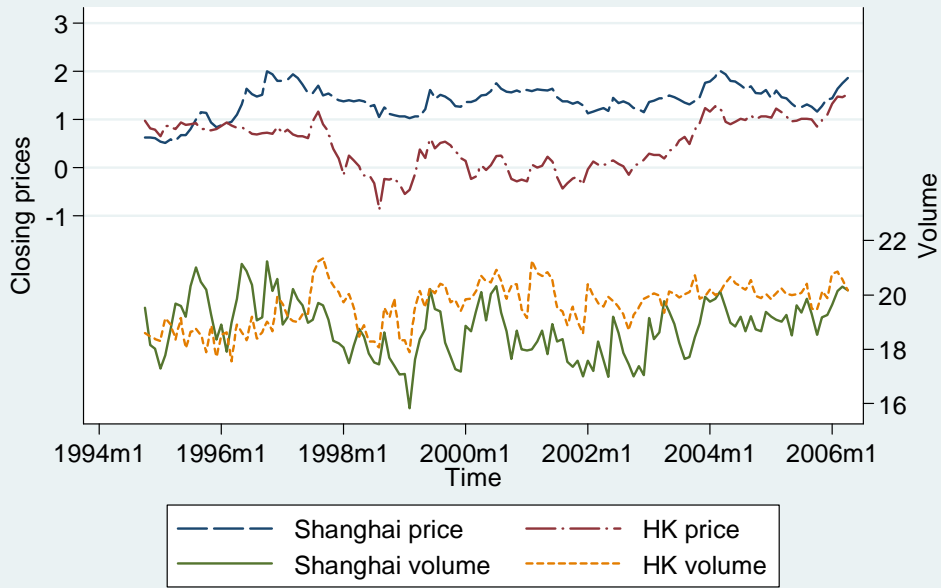**Chart 4 Cross-listed stock 4**

Source : DataStream

Chart 5 Cross-listed stock 5

Source : DataStream

Chart 6 Cross-listed stock 6

Source : DataStream

5   Methodology

We are interested in whether or not both forms of the law of one price, the relative and the absolute version, hold for the cross-listed stock prices. We start by examining the validity of the relative version of the law of one price. That is to say we ask whether the real stock returns between markets contain a stochastic trend or unit root. If so, they diverge from one another. Therefore, the alternative hypothesis in our statistical tests is that the levels of stock prices in various markets converge to a steady-state value in the long run. Traditional unit root tests pioneered by Dickey and Fuller have notoriously low power to reject the unit root null hypothesis. We solve this problem by employing a panel unit root test derived by Levin, Lin and Chu (1993) (LLC).

We examine the following characterization of the data:

$$\Delta p_{i,t} = a_{0i} + \beta_i p_{i,t-1} + \sum_{l=1}^{L} \gamma_l \Delta p_{i,t-l} + \varepsilon_{i,t} \tag{1}$$

The dependent variable is the first difference in the log price of stock i listed in SEHK relative to SHSE as noted above. In other words, $\Delta p_{i,t} = p_{i,t} - p_{i,t-1}$ with $p_{i,t} = q_{i,t,HangSeng} - q_{i,t,Shanghai}$. $q_{i,t,HangSeng}$ denotes the log-price of stock i listed in SEHK at time t . $q_{i,t,Shanghai}$ denotes the log-price of stock i listed in SHSE and $p_{i,t}$ denotes the log-price of this same stock listed in SEHK relative to the benchmark exchange, SHSE. Using the official exchange rate, all the stock prices are converted to one common currency[13], the US dollar, to accommodate a test for the law of one price.

In (1) we have allowed for stock-specific fixed effects a_{0i} to control for non-time-dependent heterogeneity across stocks. Our interest is in the parameters on the lagged log of the price level $p_{i,t}$. These are the β_i's. β_i measures the speed of convergence. The closer are these estimates to zero, the longer the estimated half-life[14] of a shock and the more likely it is that the price data are

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[13] The results provided later are not effected by the currency base used here (whether US dollar or Hong Kong dollar).

[14] The half-life of a shock to $p_{i,t}$ is computed as $\ln(0.5)/\ln(1+\beta)$ when the optimal lag is one.

nonstationary. The null hypotheses are formulated such that each series contains a unit root: $\beta_i = \beta = 0$ for all i. The alternative hypothesis is $\beta_i = \beta < 0$. A negative β implies convergence, which means price differentials across markets which become smaller over time.

It is important to include the constant because the variation of the constant, a_{0i}, across stocks allows us to account for possible heterogeneity, such as stock-specific differences, different exchange risk exposures and so on. The existence of a_{0i} leads to permanent differences in relative prices across stocks and therefore indicates the extent of market segmentation. We can account for these fixed effects by subtracting the cross-sectional mean of the stock prices each period and basing our tests on the transformed data. The relative law of one price is applicable when the price differential of the stock across the exchanges is stationary about its mean rather than wandering apart indefinitely. That is to say, the level of price difference in the various exchanges converges in the long run to a steady state value. When this mean value equals zero, that is, the deviations from the long-term price differentials are eliminated to none, the stricter version of the law of one price, the absolute one, is valid. Estimating the following equation enables us to test the absolute version of the law of one price.

$$\Delta p_{i,t} = \beta_i p_{i,t-1} + \sum_{l=1}^{L} \gamma_l \Delta p_{i,t-l} + \varepsilon_{i,t} \qquad (2)$$

This is special case of equation (1) where there are no fixed effects across stocks and the variations of the price difference are diminished over time, where we say the absolute law of one price works when the sign of the speed of convergence is negative. Intuitively, the validity of the absolute law of one price implies the applicability of the relative one but not otherwise.

We are not only interested in the absolute values of the speed of convergence and fixed effects (the price differentials) – we are also interested in examining the ratio of these two variables,

$-\hat{a}_{0i}/\hat{\beta}$ which, from (1)[15], can be seen to be a measure of the steady-state price differential.

6 Results

The LLC test result with a constant included for the whole sample period is displayed in the first column of Table 1 and indicates that the unit-root null cannot be rejected at 5 percent level of significance. Therefore the relative law of one price is not valid during the whole period as there is very little evidence of a stochastic trend in the cross-listed stock prices.

Table 1 Levin-Lin-Chu test results

	1994-2000	1994-2000		2002-06	
	With a_{0i}	With a_{0i}	Without a_{0i}	With a_{0i}	Without a_{0i}
No.obs.	816	438	438	228	228
Lags	1	1	1	1	1
$\hat{\beta}$	-0.086* (0.074)	-0.111* (0.049)	-0.025 (0.027)	-0.181* (0.040)	-0.023* (0.038)
Half-life	7.663	5.901	27.433	3.478	29.581
$-\hat{a}_{0i}/\hat{\beta}$	-1.260* (0.149)	-2.189* (0.314)	n.a.	-0.395 (2.571)	n.a.

Note: The optimal lag order was chosen based on selection order criteria LR, AIC and SBIC. The *P* values of the estimators are indicated in the brackets. * represent the significance at 5% level.

After the null of convergence has been rejected, the second question in which we are interested is whether the speed of convergence has changed over time. To investigate the time effect of integration on price dispersion we start by splitting our sample into two sub periods: 1994-2000 and 2003-06. The reason for excluding 2001-02 is that it was a turning point for both economies inovercoming the potential effects of world events such as the Asian currency crisis and the September 11 attack. This coincides with the price rises detected visually from Graphs 1-6[16]. Columns 3 and 5 of Table 1 report the estimated price differentials with cross-sectional means of the stock prices included, in each of the two sub-samples. The results support the relative law of one price which enables us to proceed further to test the absolute

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[15] This steady-state price differential is econometrically justified in (1) by assuming $\lim \Delta p_{i,t} = 0$ that the instantaneous price differential is zero asymptotically, if the law of one price holds.

[16] We also experimented with a few other break points in the neighborhood of year 2001 and 2002 and did not find qualitatively different results.

version of the law of one price for these two sub-samples. Columns 4 and 6 show evidence that the absolute version of the law of one price holds. The speed of convergence is much lower when no fixed effects are allowed suggesting that prices are converging slower towards their long-term differentials. This is because the cross-sectional mean of the stock prices are not subtracted from the prices. Low speeds of convergence are also found when we run separate regressions for each individual stock. This is in line with the widely held view in the literature that it was the transition from time-series to panel data that allowed researchers to find support for the convergence hypothesis.

The half-life of divergences from the law of one price for cross-listed stocks in our sample is computed and the results are reported in the second last row of Table 1. Beginning with the full-sample estimates, the half-life to convergence is found to be 7.66 months. The estimated half-life declines as the sample moves closer to the present. It is estimated that the implied half-life of convergence for the recent period is 3.5 months which is smaller than the whole sample and the earlier period. The implied half-life of convergence for the LLC tests with constants included is about 2.5 years, which is similar to the estimated half-lives of most international PPP studies.

Other things being equal, we would expect the progress of cross-listed stock price convergence to speed up if more arbitrage occurred as a result of more active integration efforts. But the increase in the speed of convergence may not happen if the price differentials have already declined as a result of integration. This is because for the same shocks, larger price differences tend to be diminished faster (in absolute terms) than the smaller differences. If integration reduces price differences across markets, price shocks may be eliminated more slowly, not because impediments to arbitrage have not diminished, but because the price differences to be eliminated are smaller compared to the pre-integration period. This is the reason we compute the long run, steady-state price differential, $-\hat{\bar{a}}_{0i} / \hat{\beta}$ with both factors, the price differentials and the speed of convergence, included. The results of this systematic segmentation level are reported in the last row of the table 1. Nonlinear regression is used to estimate the ratio of the two coefficients a_{0i} and β so that its asymptotic standard error is easily obtained. The results show that the steady-state price differential of the second sub-sample is not significant whereas that of the first sub-sample was highly significant,

indicating the degree of market segmentation level is reduced in the second sub-sample.

To summarize our results, the hypothesis that all cross-listed stocks in our whole sample are not convergent can not be rejected at 5 percent significance level[17]. While relative price levels are nonstationary, a half-life to convergence of approximately 7.7 months applied in Table 1. This result may be consistent with the findings of some studies in the literature which suggests that the operation of China's share market is not yet market oriented in spite of increasing transparency and the harmonisation of national regulations. The analysis reveals marginal evidence of price divergence, indicating that the Chinese share market has still not performed efficiently in its progress towards the market transparency. This is not very surprising given that impediments to arbitrage still exist. One of the impediments is information asymmetry. Higher corporate disclosure standards in HKSE make more information accessible to Hong Kong investors. This triggers different market sentiments among stocks listed on HKSE compared with their Chinese mainland counterparts which require less available information and transparency. Perhaps the most important economic factor is financial market segmentation created by government policies that gives rise to mis-pricing of cross-listed stocks.

Nevertheless, our estimates based on sub-samples suggest that, allowing for structural breaks, violations of the law of one price are rejected. The most dispersed prices for A shares and H shares were generated during the Asian crisis as a result of the Chinese government's restrictions on free capital flow in the capital account. Domestic listed companies were immunised from damaging effects from the Asian crisis, which is an unexpected benefit from the government intention to protect domestic companies from foreign controls. Unlike the earlier period, the steady-state price divergence from the law of one price in the second sub-sample is not significant. Therefore this paper argues that, while market segmentation may have insulated Chinese listed companies from the effects of the Asian crisis, segmentation has diminished over time.

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[17] These results are reinforced by the quite similar findings of applying a separate procedure derived by Im, Pesaran and Shin (1997) (IPS). The IPS tests differ from LLC by allowing heterogeneity across individual firms.

7   Conclusions

This paper provides evidence that, although domestic A shares are sold at a premium relative to foreign shares issued by the same companies, the Chinese share market is progressing towards market efficiency. Our results are based on applications of the law of one price to 6 stocks cross-listed on SHSE and SEHK,. This finding is useful for foreign investors operating in China by seeking investment opportunities in Chinese stocks since it indicates declining arbitrage opportunities for stocks on the SHSE and SEHK , allowing for ineffective capital controls across the border. The price discrepancy of cross-listed stocks is expected to further diminish over time in light of Chinese's efforts to reduce market segmentation and integrate with the international markets. These efforts include opening its capital account by freeing outward remittance of investment returns by foreign-invested funds, as well as distribution of such returns to overseas shareholders. Additionally, enforcement of security laws , the institution of accounting regulations and reforms of corporate governance and bank-based financial systems are also important parts of reconstructing Chinese share market. These forces will potentially mitigate segmentation between SHSE and SEHK. Further research is suggested by these results. This involves an examination of the convergence mechanisms governing the integration of cross-listed stock price.

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Appendix General Information about 6 Cross-listed Stocks Selected

Company Name	Industry	SHSE ID	SEHK ID	Total public shares (millions)		Total shares (millions)
				Domestic shares	Offshore shares	
TSINGTAO BREWERY COMPANY LIMITED	M'facturing	600	168	20000	65506.918	130821.918
GUANGZHOU SHIPYARD INTERNATIONAL COMPANY LIMITED	M'facturing	685	317	12647.95	15739.8	49467.758
SINOPEC SHANGHAI PETROCHEMICAL COMPANY LIMITED	M'facturing	688	338	72000	233000	720000
JIAODA KUNJI HIGH-TECH COMPANY LIMITED	M'facturing	806	300	6000	6500	24500.74
MAANSHAN IRON & STEEL COMPANY LIMITED	M'facturing	808	323	80400	173293	645530
BEIREN PRINTING MACHINERY HOLDINGS LIMITED	M'facturing	860	187	9936	10000	42200

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