

# Real Exchange Rate in China: A Long-run Perspective

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## Abstract

*This paper investigates the RMB exchange rate from a long-run viewpoint. Whether China's rapid economic growth brought about real exchange rate appreciation between 1975 and 2002 is empirically examined, based on a supply-side model, the Balassa–Samuelson Hypothesis (BSH). The same test is conducted on Japan, Hong Kong, Korea, Malaysia, Singapore, Thailand, the Philippines, Indonesia and India. Our result indicates that the BSH only exists where the industrial structure has been upgraded and the economy has been successfully transformed from an agricultural economy to a manufacturing economy. Interestingly, China, among those where the BSH does not present, appears to be upgrading its industrial and trade structure. We then try to answer the question of why past rapid growth has no significant relationship with the RMB real exchange rate and what factors are underlying the trend of the RMB real exchange rate. We expect an appreciating trend of RMB real exchange rate in the foreseeable future, presuming that China's industrial upgrading process continues and the factors pertaining to the BSH's prediction, such as rise of wage rates in both tradables and nontradables, become more significant.*

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**Key words:** RMB real exchange rate, economic growth, Balassa–Samuelson Hypothesis

**JEL codes:** F14, F31, F43

## I. Introduction

On 21 July 2005, the People's Bank of China announced the adoption of a new exchange rate regime characterized by reference to a basket of currencies and revalued the RMB

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exchange rate by 2 percent. This regime shift of the RMB's exchange rate was a small step in China's exchange rate reform, and many people see it as a result of China trying to walk a fine line between responding to external political pressures and protecting domestic economy. The long-run significance of the new exchange rate regime, however, is far greater than its short-run impacts. This is especially true when the dynamics of China's rapid growth and trade expansion are taken into account. This leads us to pay attention to the RMB exchange rate with emphasis on its long-run trend in real terms.

This paper is organized as follows. In Section II, the historical relationship between economic growth and real exchange rates in selected Asian economies, including China, during 1975–2002 is empirically examined. Explanations of the structural factors attributed to the failure of the Balassa–Samuelson Hypothesis (BSH) in the case of China are presented in Section III. In Section IV, the possible trend of the real exchange rate of RMB in the foreseeable future is examined, with an emphasis on its relationship with the change in China's industrial and trade structure. Section V concludes the paper.

## **II. A Historical Examination of China and Other Asian Economies**

### **1. A Supply-side Theory: The Balassa–Samuelson Hypothesis**

A leading explanation of the long-run relationship between economic growth and real exchange rate is the production-differential model known as the BSH. This hypothesis dates back to 1964 when Balassa (1964) and Samuelson (1964) put forward, independently, a model linking relative price differentials (tradables/nontradables, home and abroad) to the respective labor productivity differentials, and linking nontradable prices to real exchange rates. This reasoning leads to a famous prediction that price levels tend to rise with a country's per capita income. Therefore, the relatively faster growing countries are more likely to experience real exchange rate appreciation than slower growing countries. Because original formulation of the BSH depends on several assumptions, there are plenty of follow-up studies on theoretical augmentations that mainly aim to relax the rigid assumptions or to consider other factors, such as the demand-side factors. Numerous empirical studies have been carried out, providing compelling evidence both supportive and unresponsive of the BSH.

Regarding the evidence on Asian economies, some are positive and some are negative. Ito *et al.* (1997) test the relationship between rapid economic growth and real exchange rate appreciation using data (between 1973 and 1992) on China, Japan, Korea, Singapore and other Asia-Pacific Economic Cooperation economies. They find that Japan, Korea, Taiwan,

Hong Kong and Singapore confirm the BSH prediction, whereas China, Thailand and Malaysia do not.

Inspired by the study by Ito *et al.*, the subsequent period of impressive high growth in China, and recent intensive discussions on China's exchange rate reform, we carry out a test of the BSH on selected Asian economies, including China, Japan, Hong Kong, Korea, Malaysia, Singapore, Thailand, the Philippines, Indonesia and India, extending the sample period until 2002. Our theoretical model is based on a reduced form of the BSH introduced by Faria and Leon-Ledesma (2003). It is assumed that: (i) there are two countries that use labor ( $L$ ) to produce, under constant returns to scale technology, two types of goods, a tradable ( $T$ ) and nontradable ( $N$ ); (ii) the labor market is competitive and labor is perfectly mobile within each country so that the nominal wage is the same in both tradable and nontradable sectors for each country; and (iii) purchasing power parity holds only for tradables and the price of tradables is assumed to be equal to one; therefore, the nominal exchange rate is simplified to be one. The real exchange rate is defined as:

$$q = \frac{P^i}{P^{us}} = \frac{\{f'(L_T^i)/g'(L_N^i)\}^a}{\{F'(L_T^{us})/G'(L_N^{us})\}^b} \quad (1)$$

where  $P^i$  and  $P^{us}$  are general price level for country  $i$  and the US, respectively;  $f'(L_T^i)$  and  $g'(L_N^i)$  stand for the labor productivity of country  $i$  in the traded sectors and the nontraded sectors, respectively, and, correspondently, the foreign country's (USA) labor productivity is presented as  $F'(L_T^{us})$  and  $G'(L_N^{us})$ ;  $a$  and  $b$  represent the relative share of prices in nontraded sectors for country  $i$  and the USA, respectively.

Equation 1 captures the essence of the BSH: if tradable labor productivity relative to nontradable productivity is growing faster at home than abroad, then the home country should experience an appreciation of the real exchange rate. In equation 1, relative average labor productivity between countries is proportional to relative real output per capita levels. That is, the greater the ratio between the relative average productivity, the greater the output per capita ratio between countries. Therefore, the reduced form of the model to be estimated is:

$$q = \frac{P^i}{P^{us}} = \frac{Y^{a^i}}{Y^{b^{us}}} \quad (2)$$

Applying equation 2, we can express the empirical models as:

$$PR(i,us)_t = a_1 + b_1 YR(i,us)_t + m_t \quad (3)$$

Equation 3 expresses the long-run relationship between the price ratio ( $PR$ ) of two countries  $i$  and the USA, and their corresponding per capita output ratio ( $YR$ ), expressed in logarithms.

We use the Bounds Testing Approach developed by Pesaran *et al.* (1999) to conduct the test. Using the asymptotic theory, this econometric method aims to address the pre-testing problem and provides a framework for testing the existence of a long-run level relationship between a dependent variable and a set of regressors, when it is not known for certain whether the underlying regressors are first-difference stationary. The econometric method of Pesaran *et al.* (1999) is based on the estimation of a dynamic error correction representation for the variables involved under the null hypothesis that the lagged levels of the variables are insignificant, irrespective of whether the regressors are  $I(0)$ ,  $I(1)$  or mutually cointegrated.

The conditional error correction model can be expressed as:

$$\Delta y_t = a_0 + a_1 t + b_1 y_{t-1} + b_2 x_{t-1} + \sum_{i=1}^{p-1} j_i \Delta y_{t-i} + \sum_{i=1}^{p-1} q_i \Delta x_{t-i} + w \Delta x_t + e_t \quad e_t \sim IID(0, S^2) \quad (4)$$

An  $F$ -statistic test of joint significance of the lagged levels of the variables is involved.<sup>1</sup>

## 2. A Test on China and Other Asian Economies during 1975–2002

We choose the following ten economies as samples: China (CH), Japan (JP), Hong Kong (HK), Korea (KR), Malaysia (MA), Singapore (SI), Thailand (TH), the Philippines (PH), Indonesia (IN) and India (INDIA), based on the observation that these economies have been following the same pattern of industrial development with time lags since the 1970s. The data is annual starting from 1975 to 2002, obtained from the International Financial Statistics (IFS) (2004) and World Development Indicators (WDI) (2005). Ten pairs of real exchange rates (USA as the base country) are dependent variables in the test, which is measured by the ratio of GDP deflators. The output is calculated by per capita GDP at constant prices of domestic currency. All the variables considered have been transformed into logarithms.

<sup>1</sup> Ideally, two tests should be taken at the same time: an  $F$ -statistic test of joint significance of the lagged levels of the variables and a  $t$ -ratio test for the significance of the lagged level of the dependent variable. Pesaran *et al.* (1999) provide two sets of asymptotic critical values for the two extreme cases: one that assumes that all the regressors are  $I(1)$ , and the other assuming that they are  $I(0)$ . These two sets of critical values provide critical value bounds covering all classifications of the regressors into  $I(1)$  and/or  $I(0)$ .

**Table 1. Result of Test on Long-run Relationship between Economic Growth and Real Exchange Rate (1975–2002)**

$PR(i, us)$	urRSS	rRSS	$F$ -value
Japan	0.001481	0.002421	6.023858*
China	0.228963	0.23962	0.442156
Hong Kong	0.015358	0.02587	6.502663*
Korea	0.010268	0.016521	6.393812*
Malaysia	0.03185	0.034483	0.785234
Singapore	0.002818	0.005505	9.056187***
Thailand	0.007819	0.009557	2.112563
Philippines	0.020016	0.037666	8.377346***
Indonesia	0.088218	0.114057	2.782662
India	0.030223	0.043144	4.061612

**Source:** The critical  $F$ -statistics are provided by Pesaran *et al.* (1999).

**Notes:** The  $F$ -value is computed using the following formula:  $F = \frac{(rRSS - urRSS)/m}{urRSS/(n-k)}$ , rRSS represents the RSS obtained from the above regression with the restrictions of  $b_1 = 0, b_2 = 0$ . \* represents significance at 10 percent; \*\*\* represents significance at 2.5 percent.

The results of the test shown in Table 1 indicate that: (i) in Japan, Hong Kong, Korea, Singapore and the Philippines, a long-run significant relationship between economic growth and their real exchange rate exists during 1975–2002; and (ii) the results of China, Malaysia, Thailand, Indonesia and India reject the existence of a long-run stationary relationship between economic growth and real exchange rate.

Our results are similar to that of Ito *et al.* (1997), which support the following: the validity of the BSH appears to be associated with industrial and export structures. The BSH only exists where the industrial structure has been successfully upgraded and the economy has been successfully transformed from an agricultural economy to a manufacturing economy, such as Japan, Korea, Singapore or Hong Kong. This finding, to a large degree, fits for the Asian “flying geese pattern” of economic development, as at a particular point of time during the 1980s and the 1990s, Japan is a leader on the ladder of industrial structural upgrading, followed by Hong Kong and Singapore, which are followed by Korea, and then by Thailand and Indonesia (Ito *et al.*, 1997). This can be seen from the variation of the export structure in these economies in 1998 shown in Table 2. Japan, the most developed economy in the region, had the highest percentage of technology-intensive and human capital-intensive products of all the selected economies, followed by Singapore, Korea and the Philippines. Indonesia, Thailand and Malaysia heavily relied on primary goods exports, whereas China and Hong Kong concentrated most on labor-intensive products.

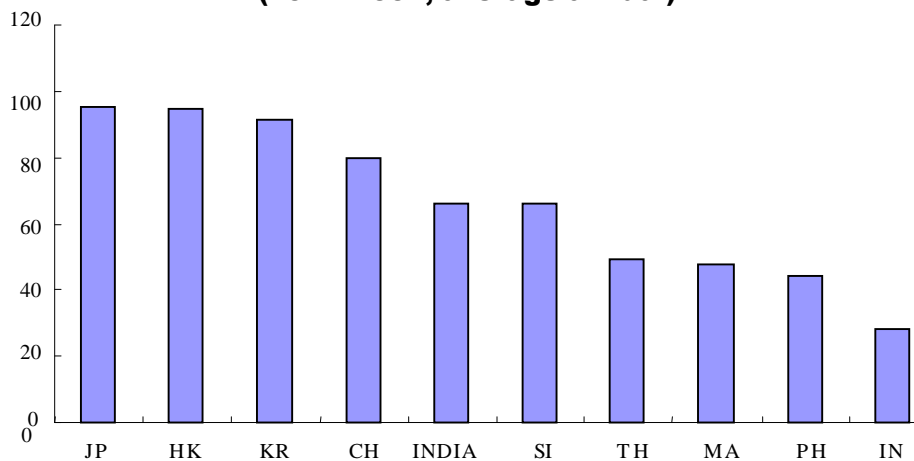
**Table 2. Variation of Export Structure in Selected Asian Economies ( percent, 1998)**

	Primary products	Resource -intensive products	Labor -intensive products	Technology -intensive products	Human capital -intensive products	Technology and human capital -intensive products
Japan	1	2	6	55	32	87
Singapore	5	3	4	70	10	80
Hong Kong	3	2	48	32	14	46
Korea	3	8	21	40	24	64
Malaysia	19	4	8	55	13	68
Thailand	22	3	17	42	13	55
Philippines	11	2	14	67	4	71
Indonesia	37	8	15	10	12	22
China	11	4	43	27	15	42

Source: Liu (2002).

Furthermore, a longer time horizon presents the similar picture. For instance, during 1975–2002, the annual average ratio of manufacturing products to overall exports in Japan, Hong Kong and Korea is over 80 percent (Figure 1). As the growth of manufacturing exports is generally regarded as a leading force to the productivity growth of the export sector, which in turn fuels the high growth rate of the economy, it is not surprising to see that those economies experienced real exchange rate appreciation during the period of high growth and trade expansion. We have a similar result for variation in the agricultural sector. For instance, Malaysia exhibits no evidence of a strong link between economic growth and

**Figure 1. Proportion of Manufacturing Products to Exports (1972–2002, average annual)**



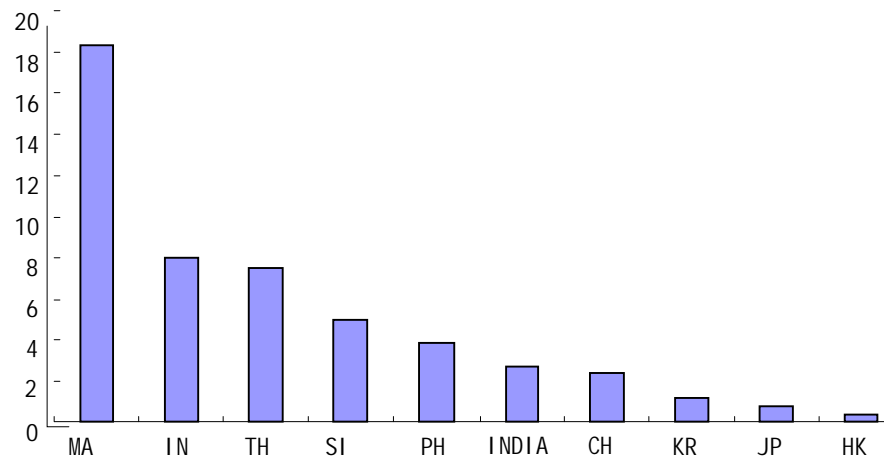
Source: The World Bank (2005).

Notes: China (CH), Japan (JP), Hong Kong (HK), Korea (KR), Malaysia (MA), Singapore (SI), Thailand (TH), the Philippines (PH), Indonesia (IN) and India (INDIA).

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**Figure 2. Proportion of Agricultural and Raw Material Products to Goods Exports (1975–2002, average annual)**



Source: The World Bank (2005).

Notes: China (CH), Japan (JP), Hong Kong (HK), Korea (KR), Malaysia (MA), Singapore (SI), Thailand (TH), the Philippines (PH), Indonesia (IN) and India (INDIA).

the real exchange rate. Agricultural products comprised as high as 18 percent of its overall exports during 1975–2002, which is followed by Indonesia and Thailand (Figure 2). In contrast, the proportion of exporting agricultural products in Hong Kong, Japan and Korea is less than 2 percent. These findings lead us to conclude that the BSH is unlikely to present in the economies that are still in the lower stage of catching-up and industrial structural upgrading process.

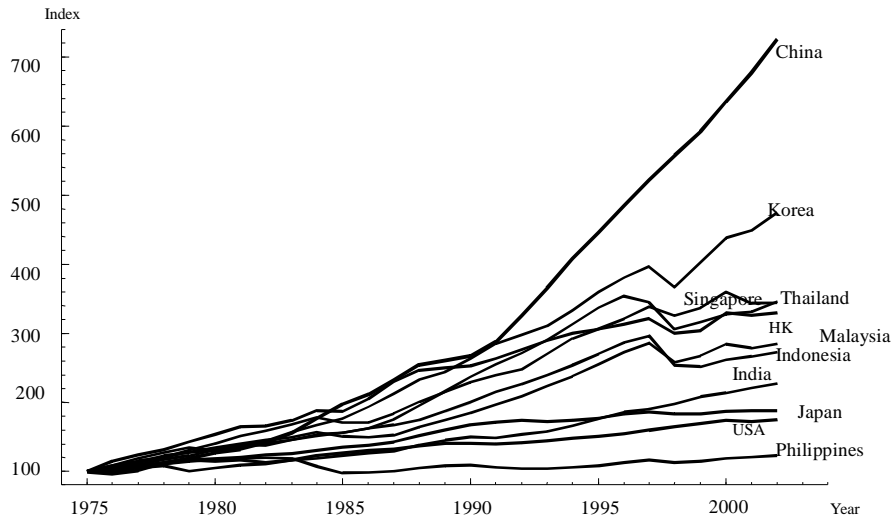
### III. What Happened to China?

Of the selected economies, China has experienced the highest economic growth since the 1970s (Figure 3). However, empirically speaking, China's high growth hasn't resulted in an appreciation of the RMB real exchange rate during the past 25 years. What happened to China?

#### 1. Catching-up Stage?

Apparently, on average, during the entire period between 1975 and 2002, China's proportion of manufacturing goods was increasing. However, it is still lower than that of the leading economies such as Japan and Singapore. China was catching up during the time, but with a time lag compared to the economies that have successfully upgraded their trade and

**Figure 3. Growth of GDP Per Capita (1975–2002, 1975 = 100)**



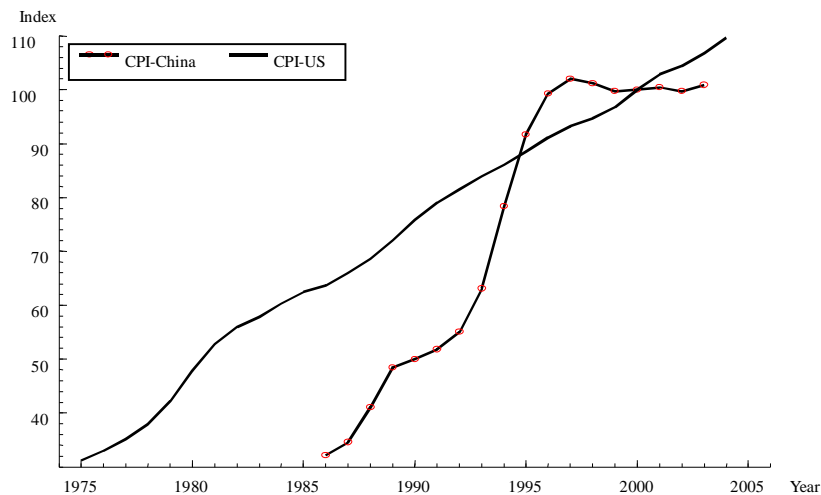
Source: The World Bank (2005).

industrial structure. According to the variation of export structure, normally an upgrading process can be divided into three stages; namely, the stage of exporting primary products, the stage of exporting labor-intensive products and the stage of exporting capital-intensive and technology-intensive manufactured goods. Even at different stages, the comparative advantages of exporting industries still develop in a sequence of resource-intensive, labor-intensive and technology-intensive industries. From this point of view, China is currently in transition from the second to the third stage (Lai, 2005).

## 2. Institutional Barriers?

China has been undergoing a transitional stage from a central planned system to a market-oriented economy since its economic reform and opening up in the 1970s. This transitional stage has been characterized by correcting distortions of the former planned economy through the process of marketization and urbanization. For instance, price rigidity began to be relaxed in the early 1980s, followed by a series of reforms aimed at decontrolling pricing power in the subsequent decade. Another example is the reform of the labor market. Labor migration from rural to urban areas started in the mid-1980s. However, China formally began loosening its control over labor mobility in the early 1990s. These types of transitional reforms diminishing many kinds of economic institutional barriers and releasing tremendous resources are completely excluded from the assumptions of the BSH. As a result, the relative productivity in tradables to nontradables and the wage rates in both tradables and



**Figure 4. CPI. China versus the USA (2000 = 100)**

Source: The World Bank (2005).

nontradables were kept low until early the 1990s, and the growth of productivity has not been successfully transmitted into a positive differential of a general price index (such as the CPI) between China and the USA, except for a temporary increase of China's CPI due to the sharp nominal devaluation of the RMB in 1994 (Figure 4).

### 3. Failure of the Supply-side Model?

Most economists believe that real exchange rates are influenced not only by long-run factors, such as productivity, but also by short-run factors, such as monetary policy, financial liberalization and nominal exchange rates (Frankel, 2005; Wang, 2004). Obviously the BSH only captures long-run supply-side factors. The key issue is: how do we define the "long-run"? According to Frankel (2005), it is reasonable to assume that if a country lies off the BSH regression line, it can be expected to return part way to the regression line over the subsequent decade. In other words, although the short-run factors can pull the real exchange rate away from the BSH, in 10 years time, the BSH can ultimately work perfectly. This is encouraging because it gives us a certain predictive power from the BSH.

A study by Wang (2004) on China between 1980 and 2002 is also based on the claim that the trend of the real exchange rate is subject to determinants from both the supply-side and the demand-side. By decomposing the sources of China's real exchange rate fluctuations, Wang (2004) finds that the main forces underlying the real exchange rate fluctuation were both the relative real demand shock (fiscal impulse) and supply shocks (productivity shock and structural reforms) between 1980 and 2002. That means, apart from

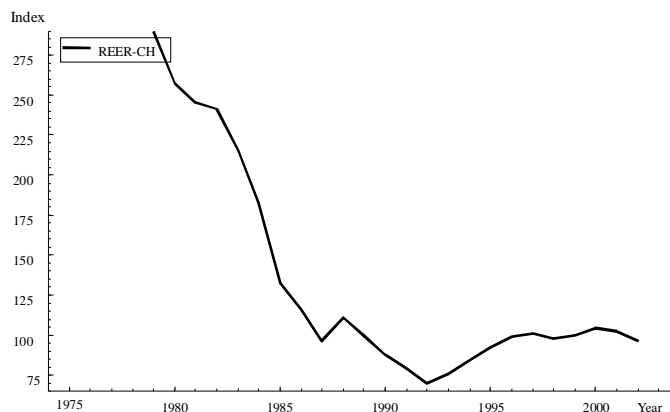
demand shocks, supply-side factors did have an impact on the historical real exchange rate movement of the RMB, and, more interestingly, they actually drove the real exchange rate of the RMB into a direction that is different from that of the BSH prediction. We can see the past trend of the real exchange rate of the RMB between 1980 and 2002 from Figure 5. The real exchange rate of the RMB, measured by the trade-weighted real effective exchange rate, has shown a downward trend from 1980 to 1992. From 1992 onwards, the curve of the real exchange rate of the RMB went flat, with short-run fluctuations.

#### 4. A Breakdown of Two Phases

It is noticeable that in the early 1990s there was a historical demarcation of the dynamics of the RMB real exchange rate (Figure 5). Throughout the 1980s and early 1990s, the real exchange rate of the RMB depreciated drastically. Forces behind the curve dragged it all the way down (except a small scale of upturn) to the bottom and off the track of the BSH's prediction. One of the leading forces underlying the depreciation was China's economic structural reforms, such as loosening price control, freeing up labor flows and opening trade transactions. In considering that these structure reforms were undertaken during that period of time, it is reasonable to say that China did not fully satisfy the basic theoretical assumptions of the BSH. Another factor resulting in the sharp depreciation was from the demand side; that is, the nominal exchange rate prevailing in the black market or swap market kept depreciating although the official nominal rate was fixed.

Beginning in the early 1990s, however, the real exchange rate of the RMB changed its course. The real exchange rate of the RMB started showing a tendency of upward trend

**Figure 5. Real Effective Exchange Rate of RMB Based on CPI  
(1987 = 100)**



Source: International Monetary Fund (2004).

since 1992, with small turbulences. One factor underlying this change was the once-for-all devaluation of the RMB in 1994 and the stability of nominal exchange rate of the RMB afterwards. Another factor was the ongoing market-oriented and opening-up reforms, such as state-owned enterprise restructuring started in 1997, productivity gains related to WTO accession and resulting lowering of trade barriers. These supply factors mainly shaped the curve of the real exchange rate of the RMB during the mid and late 1990s (Wang, 2004).

#### **IV. What Will Happen to China?**

There are several positive signals indicating the likely trend of the RMB real exchange rate in the coming years.

##### **1. Further Trade and Industrial Structure Upgrading**

The most important message from our empirical study is that the BSH is applicable to the economies that obtain high growth through changing industrial and export structures. For an economy that heavily relies on primary good exports or experience economic transitions, their high growth can hardly result in real appreciation of the currency's value. That is to say, trade and industrial structure upgrading process can, to a large extent, lead the way of a currency's real appreciation in the long run. We can expect an appreciating trend in the RMB real exchange in the foreseeable future, presuming that China continues its trade and industrial upgrading process in the course of industrialization.

Recent statistical data shows a steady increase in manufactured goods as a share of total exports in China. In 2004, the proportion of manufactured goods in the exported products increased to a dominant ratio of 93.4 percent. Primary products accounted for less than 10 percent. Furthermore, the structure of exported manufactured goods has been tending towards upgrading since the mid-1990s. The export proportion of capital and technology intensive products with relatively higher added value, such as machinery, transportation equipment and chemical and hi-tech products, increased from 15 percent in 1990 to 49.4 percent in 2004. In 2004, the export proportion of capital and technology intensive products began to exceed that of the traditional labor-intensive products, such as textiles and light industrial products. This indicates that China has begun to transform the structure of exporting labor or resource intensive products with low added value into that of capital or technology intensive products with relatively higher added value. The continuous trade structure upgrading will be a strong positive factor influencing the long-run appreciation of the RMB exchange rate.

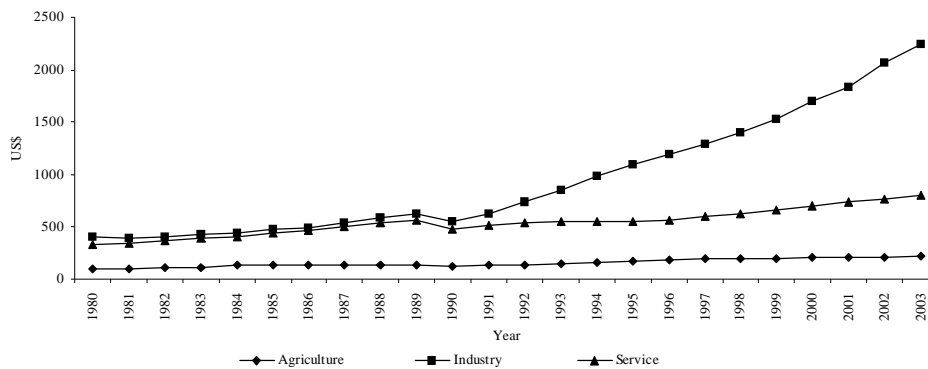
## 2. Factors Underlying the Balassa–Samuelson Hypothesis

Theoretically, whether the real exchange rate appreciates or not depends on several factors in the channel from economic growth to real exchange rate. They are: (i) that productivity in tradables is increasing faster than that in nontradables and, hence, positively influence economic growth; (ii) that wage rates in the tradable sector will rise, therefore wage rates in nontradables will rise as well under perfect labor mobility; and (iii) that the general price index will correspondingly rise and, hence, real exchange rate appreciates. Obviously these factors were not significant enough to result in an overall appreciation of the RMB real exchange rate in the past 25 years. However, this does not mean that factors will not be significant in the future.

### *Productivity Growth in Tradables as a Leading Force of Economic Growth*

There are several studies, such as Lardy (1995), Demurger (1996) and Lie *et al.* (1997), showing the positive evidence of the relationship between tradable sectors and economic growth in the past 2 decades in China. More impressively, a simple chart of value-added per worker in China's three sectors clearly indicates that the leading sector in terms of growth of productivity is the industrial sector, of which manufacturing accounts for a dominant share (Figure 6). Throughout the 1980s, the differential of productivity growth between industrial and service sectors was extremely narrow. However, from the early 1990s, the leading role of productivity in the industrial sector became strong. What made this drastic

**Figure 6. Value Added Per Worker (Productivity) in Three Sectors (Constant 1995 US\$)**



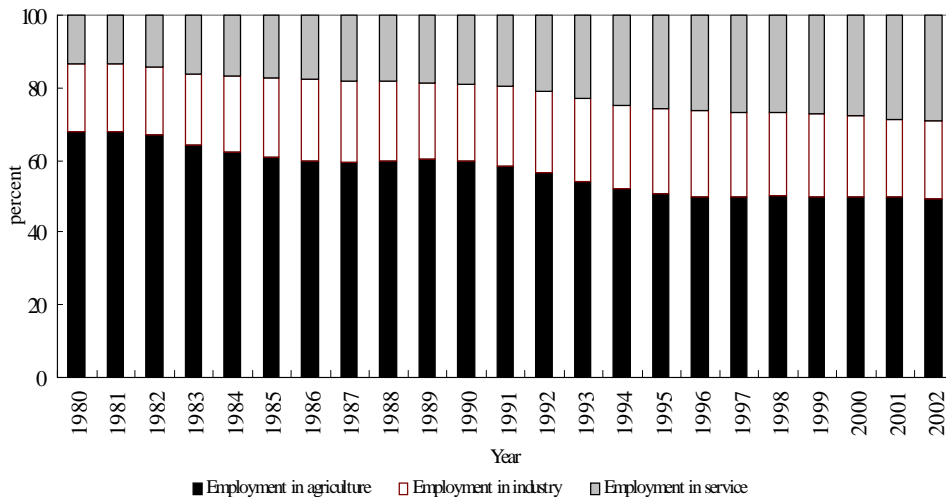
Source: The World Bank (2005).

change possible? Politically, it was Deng Xiaoping’s “Nan Xun Speech” delivered in 1992; economically, it was the subsequent series of radical reforms reinforced by the Government. We expect that the the rise of labor productivity in the industrial sector will eventually transmit to overall economic growth successfully.

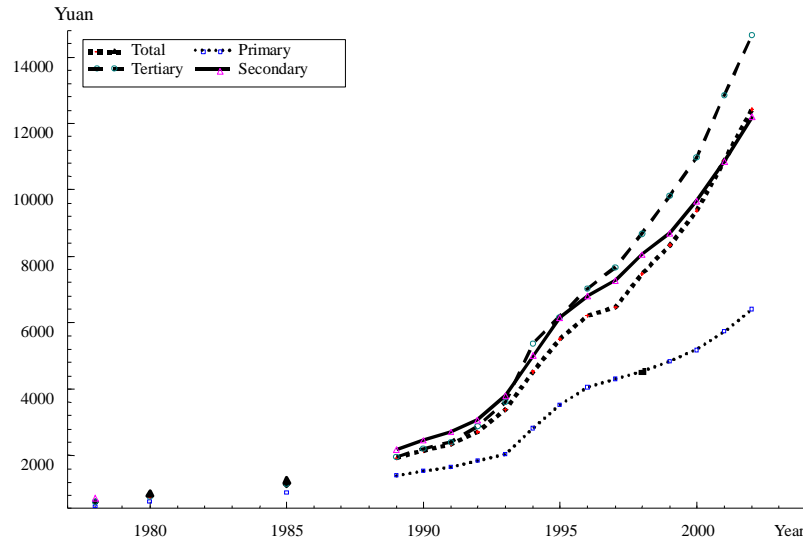
*Rise of Wage Rates in both Tradables and Nontradables*

Some people believe that because China has abundant labor forces, wage rates do not fully reflect productivity growth. China has a huge labor supply, especially when the ongoing great migration from farmland to urban areas is taken into account. The great migration, in fact, dates back to as early as the mid-1980s. Since then, China’s labor force has kept moving out from agricultural sector to industrial and service sectors. Of all the migrants, 80 percent have gone to eastern coastal areas, where the manufacturing sector is located, 10 percent to construction, and the rest to service sectors (HSBC, 2005). Beginning in the mid 1990s, the service sector has had a tendency to absorb more and more migrants from the agricultural sector (Figure 7). Given such a huge migration, one can naturally presume a downward pressure on wage levels and conclude that huge labor pooling would retard the growth of wage rates. However, historical data shows a different picture, particularly when we refer to the normal levels of wages. Figure 8 shows that the overall nominal wage rates in three sectors have increased significantly since the mid-1990s. Despite the relative slow

**Figure 7. The Change of Composition of Employment in Three Sectors**



Source: The World Bank (2005)

**Figure 8. Average Annual Money Wages (RMB Yuan)**

Source: National Bureau of Statistics of China (2005).

growth in agriculture, wages in both industrial and service sectors have showed a strong upward trend. The suspicion that the increase of the demand for labor in manufacturing areas would hardly result in upward pressure on wage levels actually lacks support of evidence.

Indeed, there is a big gap between wage levels in China and in developed economies when we consider per-hour and in real term wage rates. The gap between the USA or the European countries and China in terms of the per-hour cost for a worker is as big as 20:1 (People's Daily Online, 2004). This is mainly determined by whether there is a worker's union in the firm and the degree of welfare it provides. Moreover, the wage rates in real terms in China were actually showing a flatter trend during the past 20 years. As the real wages are mainly relative to competitiveness of a country, low levels are probably subject to current China's situation where China is unfortunately locked on the low end of division of labor forces. However, this old way of production concentrating on labor-intensive goods will no longer prevail when China successfully changes its industrial structure.

Certainly, labor supply is one major factor in the Chinese wage dynamic. It is estimated that China's labor reserve pool in the form of migrants in informal sectors waiting for formal jobs is as big as 75 percent of total existing employment (200 million people) in cities (HSBC, 2005). Continuous urbanization will result in further labor migration from agricultural to non-agricultural sectors. This might cause a downward pressure on wages levels. However, according to the United Nations' data and projections, the growth of China's working-age

population (ages 15–59) will soon begin to level off, and by 2015 the working age population as a percentage of the total population will begin to shrink.

## **V. Concluding Remarks**

Our empirical study shows that the BSH is applicable to the economies that obtain high growth through changing industrial and export structures. In the case of China, historical data does not seem to lead us to conclude that China's past high growth brings RMB real exchange rate appreciation. This result does not surprise us because we find that the determining factors underlying the BSH during our sample period were not working as the BSH predicted. However, our forward-looking view about the real exchange rate of the RMB is no longer negative, because we see several positive signals indicating that the real exchange rate of the RMB will rise along with continuous industrial structure upgrading, steady growth of productivity and corresponding increase in wage levels.

Furthermore, real exchange rate appreciation is not only likely, but also desirable, because we see that the relationship between economic structure upgrading and real exchange rate appreciation is in fact a two-way link: industrial structure upgrading results in real rate appreciation, and real appreciation in turn can be a stimulator to further industrial upgrading. China is currently facing a challenge of changing its unbalanced structure of industry; that is, changing its manufacturing export structure from one that heavily relies on low value-added products into one of higher value-added products, to boost the service sector of which its share in GDP is disproportional low, and to shift its growth pattern towards a domestic demand-driven one. These policy shifts are already formally set out by the recently announced 11th five-year plan. All of these shifts aim to improve the well being of almost a quarter of the world's population. Real exchange rate appreciation can certainly guide the resources flowing into the most needed sectors and is a stimulator in optimizing income allocation across urban and rural areas and across tradable and domestic sectors. This is an important component of what Chinese people called "harmonious society".

However, in considering exchange rate policy, there is one question for which the answer is uncertain. Which is better in accordance with real exchange rate appreciation of the RMB: a fixed exchange rate regime or a flexible one? More specifically, in theory, to realize real exchange rate appreciation in the long run, we expect that China will experience an increase in wage levels in tradables and, hence, in nontradables, so that the BSH will be fully presented. In this context, which is preferable: a fixed regime or a flexible one? McKinnon (2005) believes that a fixed regime is the best choice for a country to adjust its wage rate in tradable sectors during times of high productivity growth. However, China's current policy

choice and perhaps the direction that China's exchange rate policy is heading for do not seem to strictly follow this idea. Other economists, including Frankel (2005), argue that a flexible exchange rate regime is preferable as it can prevent inflation. If we broadly regard real exchange rate appreciation as a natural result of economic growth, it would be even more difficult to obtain a unified answer, because there are even more divergent views on the relationship between exchange rate regimes and economic growth.

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