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<td>Author(s)</td>
<td>Ng, Pik Ki Vicky (吳碧琪); Mak, Sai Wing Anson (麥世榮); Chau, Nga Yee Grace (周雅儀); Tong, Ching Yan Esther (湯靜欣); Bao, Lilian</td>
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EXCHANGE RATE REGIMES IN CHINA

Ng Pik Ki, Vicky
Mak Sai Wing, Anson
Chau Nga Yee, Grace
Tong Ching Yam, Esther
Lilian Bao
Summary

Since the opening of the Chinese economy in 1978, China has continually reformed its economic structure and exchange rate regime to liberate the centrally planned economy to a more market-oriented economy. Several different exchange rate regimes have been adopted from time to time to aid with the different stages of economic development where a hard peg regime has gradually been replaced by a more flexible managed float in the past 30 years.

Through the report, it can be concluded that a managed float is the most suitable regime for China. This regime can provide the flexibility and stability of the currency allowing a more sustainable economic development in the long run. Although according to the impossible trinity theory a country with fixed exchange rate and independent monetary policy cannot have free capital flow, many countries are able to achieve all three by adopting intermediate regimes. Therefore, as long as capital control does not completely ban all capital flows, a managed float regime will allow China to enjoy a certain level of market openness without losing currency stability.
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EXCHANGE RATE REGIMES

Introduction

The exchange rate is one of the tools used by governments to achieve its goals and objectives. Consequently, as an economy develops, the foreign exchange regime used by that economy must also evolve in order to achieve these goals and objectives. Regardless of the exchange rate system chosen by a country, each regime has its own advantages and disadvantages. Since no one regime is perfect for an economy or throughout all stages of its development, the government must balance out these pros and cons when selecting the most suitable exchange rate system. Whilst China transitions from a closed economy to a market economy, its foreign exchange system has also evolved to aid the process. Over the years, China has adopted different exchange rates which fall in line with the goals of the government and the different phases of its economy. However, during the selection process, many factors must be considered and there as a trade-off between what the government wants to achieve, as suggested by the Impossible Trinity Theory.

Types of Regimes

DOLLARIZATION
Dollarization refers to when a country, or an economy, officially abandons its own currency, and adopts a more stable currency of another country as its legal tender (Berg & Borensztein, 2000). A full dollarization is the transformation from informal, limited dollarization, to an official use of foreign currency in all transactions. This regime essentially pegs the domestic currency to a more stable and more reliable foreign currency. The major difference between this and a currency board is that reversibility is very limited, if not impossible. This type of radical regime is usually adopted by countries with low economic stability and high levels of inflation. Through this system, citizens are able to achieve the desired diversity and protection to their assets from devaluation of their own currency (Berg & Borensztein, 2000).

Advantages
There are several benefits that attract countries, especially those developing ones, to adopt it. Firstly, dollarization is essentially irreversible thus theoretically making it a credit economic policy and a solution to avoid currency and balance of payment crises (Quispe-Agnoli & Whisler, 2006). Also, it is expected to eliminate the risk of a sudden, sharp devaluation of a currency, to decrease inflation and inflationary expectations, and to contribute to the decline...
of a country’s risk premium and interest rates. Therefore, such a regime is expected to raise the confidence of foreign investors and encourage investment, stabilising capital flow, reducing fiscal cost and to reduce interest payments on international borrowings.

**Disadvantages**

However, there are also constraints to using such a regime with the most important being the decrease in a country’s ability to generate seigniorage to finance its fiscal deficit (Berg & Borensztein, 2000). The government would fail to obtain the revenue from issuing domestic money, and force them to look for alternative revenue sources. Giving up its money supply control also constrains the fiscal response to stabilize the local economy during financial crisis (Berg & Borensztein, 2000).

**CURRENCY UNION**

Currency union is an agreement that the member states of a league agree to share the same currency, monetary and foreign exchange policies (Rosa, May, 2004). There must be one or more economy(ies) belonging to the common currency area, and a Regional Central Bank with legal authority to issue currency is set up (IMF, 2007). In order to belong to the common currency area, the state must be one of the members of the Regional Central Bank (IMF, 2007).

Regional Central Bank plays a very important leading role in a currency union. It is an International Financial Institution that acts as a Common Central Bank for the group of countries/economies, with one headquarter and a number of national offices in every member state would be set up. Separate from the headquarters, National offices must be treated as an institution, and take up the role of Central Bank of the country. Assets and liabilities are allocated proportionally among national institutions by the Regional Central Bank.

Money issuing is usually a legal authority reserved for government, and is regarded as nation’s sovereignty, so currency union can only happen when multiple countries ceding their own control over supply of money to a common authority, and in this case, the Regional Central Bank. Essentially, fixed-exchange-rate regime is applied, however there are pros and cons of such union (Bergin, 2008)

**Advantages**

One of the major benefits of Monetary Union is that, trade and transactions will boost due to the single currency. This is due to the elimination of the risk from unexpected exchange rate
movements when doing business with member countries. Exchange rate variability discourages international trade and investment therefore, to an extent, currency union provides a rational to stabilise this and to help boost the volume of trade and investment. Furthermore, a united and single currency as well as the elimination of currency exchange and transaction costs decreases the cost of running a business, and ultimately encouraging trade (Bergin, 2008).

Disadvantages

On the other hand, monetary union also has its cost. For start, individual counties would lose the right to set their own national monetary policy. Adjustment of money supply is a usual way for national government to manage overall economic activities. For instance, during economy downfall, government increases money supply in circulation to lower the interest rate and stimulate overall consumption, and to counter the recession. However, under currency union, the government cannot adjust the money supply flexibly, and lost its influence in any level of the economy (Bergin, 2008). Also, difficulties arise when estimating a nation’s amount of currency in circulation. As the currency issued by the Regional Central Bank is used as the legal tender throughout the whole union, it is difficult to estimate the amount of currency in each member state.

CURRENCY BOARD

Currency board issues domestic currency that is fully backed by an equal amount of foreign currency. The domestic currency is changed into a specific foreign currency at a fixed rate and on demand. This is appropriate in countries where national currency has not performed as well in the long term as major internationally traded currencies. For instance, Hong Kong now operates a currency board (HK$7.80=US$1). Hong Kong Monetary Authority acts like a central bank instead. (Docshut, n.d)

Advantages

One of the advantages of currency board is that it is very simple and transparent. The government promises to exchange its domestic currency against a specific foreign currency. Therefore, it is very clear and credible. The domestic monetary authority only stalls foreign cash. (World Economy, 2011). A currency board can also increase confidence from public and financial markets. Firstly, it assures its convertibility. All domestic currencies have to be backed by an equivalent amount of foreign currency. In addition, it can fulfil all of the demand of reserve currency due to its reserve coverage. Both public and financial markets believe that
EXCHANGE RATE REGIMES

a currency board will not depreciate suddenly. Citizens are confident in its stability and investors are willing to invest more capital. (Atanasov & Valchanov, 2011)

Disadvantages
Firstly, there may be a seignorage problem at the beginning. Since the country cannot hold domestic reserves, it is difficult and costly to collect enormous reserves for the setting. With the currency board, there may also be an overvaluation of domestic currency. Since the implementation of a currency board will not stop when facing inflation, prices keep increasing for a certain period. (Atanasov & Valchanov, 2011) Also, there is the possibility of a banking crisis as there is no independent domestic currency. If local banks are facing payment problems, the central bank cannot help local banks therefore, there may be a chain effect if one bank declares bankruptcy.

CONVENTIONAL FIXED PEG
A conventional fixed peg is when a currency is pegged at a fixed rate to the value of another single currency or to a basket of other currency. There is no legal commitment to keep the peg permanently. To maintain such a system, a country will buy or sell its own currency in the open market. If the exchange rate drifts too far above the target rate, the government must sell its own currency thus increasing demand and reducing value of the currency. The reverse occurs when exchange rate drifts too far below the target rate.

Advantages
Since there is a fixed exchange rate, there is low volatility and the exchange rate can be predicted thus making it relatively stable. As a result, the reduced uncertainty also reduces risk to investors thereby encouraging investment. (Evrensel, 2013) Furthermore, devaluation is not allowed under this system thus further reducing cost for firms as import prices will remain relatively stable. (Tejvanv, 2013)

Disadvantages
Since the band is pegged at a fixed rate so it is not flexible therefore, it cannot respond at once when there is a sudden shock to the economy. Also, once the currency drifts too far below the target rate, the government must buy its own currency using its foreign reserves. However, this is only a short term solution. The most effective method is to increase interest rates however this will also affect economic growth. (Tejvanv, 2013) Furthermore, it is difficult to set the correct rate and the rate should be measured thoroughly. If the rate is too high, there is
EXCHANGE RATE REGIMES

Reduced international competitiveness resulting in reduced exports and the possibility of trade deficit. If the rate is too low, there is also the risk of inflation.

CRAWLING PEG
Crawling peg is a target exchange rate adjusted periodically against a single currency or a basket of currencies. It is usually seen as a part of fixed exchange rate regimes which allows the gradual depreciation or appreciation of an exchange rate. The rate of crawl can be set to generate inflation-adjusted changes in the exchange rate, backward looking, or set a predetermined fixed rate at or below the projected inflation differentials, forward looking. (Anderson, Habermeier, Kokenyne, & Veyrune, 2009)

Advantages
The advantage of crawling band is that it can bring down the inflation rate. One successful example is from Brazil, where the inflation rate went from 2.951.63% on the average in 1994 to 3.21% in 1998, just before the abandonment of the crawling peg system. (Eugenio, 2011). Therefore crawling peg would be a resort for the countries that have a long history in high inflation rate.

Disadvantages
The disadvantage is that the downturn in inflation is delayed whilst the exchange rate is fixed immediate. Consequently when the normal exchange rate has been fixed at a specific value, the inflation rate may continue to be elevated and the real exchange rate of the country or the real purchasing power of that rate will start to appreciate. As a result, the effect on inflation comes far later than the effects on the exchange rate thereby ruining a country's international competitive, making its exports more expensive in the global market. (Eugenio, 2011)

CRAWLING BAND
The value of the currency is maintained within certain margins of fluctuation of at least ±1% around a fixed central rate, or the margin between the maximum and minimum value of the exchange rate exceeds 2%. And the central rate is fixed in terms of a single currency or of a basket of currencies, and determined by the government or central bank. (Anderson, Habermeier, Kokenyne, & Veyrune, 2009). The exchange rate is maintained within a narrow band around the fixed central rate that is adjusted periodically on a fixed preannounced rate to maintain the competitiveness of the effective exchange rate (Yagci, 2001).
EXCHANGE RATE REGIMES

Advantages
The advantage of a crawling band is similar that of a crawling peg that is to alleviate the high inflationary pressures off a country. The band width has typically set between ± 10% around the parity, which is also close to the inflation differential. Therefore, the crawling band can ensure that high domestic inflation does not lead to significant erosion in international competitiveness. The purpose of making parity changes in relatively small steps is to avoid attacks like speculation, the situations where the market is able to profit through correct anticipation of an impending parity change. (Williamson, 1998)

Disadvantages
However, the obstacle for adopting this regime is to effectively manage the exchange rate. Firstly, determining the width of band is difficult, if the band is wide, especially for the emerging countries, it may prone to the large shocks like speculative capital flow and currency attacks. Secondly, a country must decide the unit to define the band and its parity or neutral exchange rate as named by Tarapore Committee. Thirdly, the issue is to determine the value of the parity, i.e. the problem of deciding whether to devalue or revalue the parity inherited from the past. This is particularly difficult for the country when they are trying to stabilise a currency that has been floating (Williamson, 1998)

MANAGED FLOAT
A managed floating exchange rate system is when the government or central bank actively intervenes in the foreign exchange market to influence the exchange rate (Bofinger and Wollmershauser, 2013). This system is sometimes called a “dirty float” due to the intervention however there is no specific target for the rate and there is no preannounced or specified path for the exchange rate. The government will intervene during periods of high volatility or extreme appreciation/depreciation of the currency to buffer or prevent the effects of an external economic shock on the local economy. To achieve this, the government will intervene directly as a buyer or seller in the market and buy domestic currency in times of inflation or excessive appreciation or sell in times of deflation or excessive depreciation.

Advantages
Firstly, a country can maintain a perfect UIP (uncovered interest parity) through foreign exchange market intervention. Also, a country is able to adopt an intermediate regime in the impossible trinity triangle. A managed float allows a country to convert the impossible trinity triangle to a consistency triangle where capital mobility, monetary autonomy and exchange
rate path follow the interest rate differential and can be controlled as long as foreign reserves are above a critical level. This is a comprehensive solution to the impossible trinity theory triangle (Bofinger and Wollmershauser, 2003).

**Disadvantages**

One of the disadvantages of a managed float is that there is no anchor for private expectations. In the past monetary targeting and exchange rate targeting were treated as ideal targeting means for developing a transparent and credible monetary framework in different currency areas. However, targeting of private sectors cannot be achieved without the help of central banks announcing the public inflation target. Also, the central bank may lose control over their macroeconomic situation. Direct intervention of the foreign exchange market requires the use of foreign reserves however, these resources are limited and with insufficient reserves, the monetary authority will lose control over its exchange rate. To maintain a given Monetary Conditions Index (MCI), the monetary authority must increase interest rates resulting in restrictions for the domestic economy. This sharp depreciation due to lack of confidence then transforms the currency crisis into a financial crisis. Furthermore, this regime runs the risk of being misused. The exchange rate is determined by the government to facilitate trade however, changes in the exchange rate have similar effects to trade barriers. In this case, an increase in exchange rate can increase government revenue and simultaneously escape WTO regulations (Bofinger and Wollmershauser, 2003).

**FREE FLOAT**

This is when the exchange rate is determined through market forces and there may be intervention during times of severe volatility (Bofinger and Wollmershauser, 2003). This regime is sometimes termed “independent floating” or a “clean float” as there is no regular intervention and any intervention is usually covert. As this regime is free floating, the rate is affected by the demand and supply of the currency in the foreign exchange market with trade being a major determinant.

**Advantages**

Under this regime, authorities only intervene when necessary therefore, there is no need to hold large foreign reserves as the case for regimes which require regular intervention thereby reducing the opportunity cost of holding reserves. This regime also provides the flexibility of adjusting the currency when necessary to buffer or alleviate sudden external shocks in the international market. The balance of payments is also adjusted automatically. Changes in the
current account of the balance of payments will automatically affect the exchange rate which then adjusts the price of imports and exports and ultimately influencing consumer demand (Evrensel, n.d.).

Disadvantages
The major disadvantage of this regime is high volatility resulting in uncertainty and instability thereby increasing risk to businesses, reducing their incentive to invest in this country. This regime can also aggravate existing economic problems in the economy. For example, in the case of high inflation, the currency will depreciate which will drive the inflation higher due to increased demand on domestic goods and higher prices of imports. Consequently, not many countries use this exchange rate system (Evrensel, n.d.).

China’s Exchange Rate Regimes
Since the People’s Republic of China was founded by the Communist Party of China in 1949, Chinese economy has transitioned through many phases during its development to become the second largest economy in nominal USD terms in the world (World Bank, 2012). From 1949, the economy was a centrally planned closed economy run by Chairman Mao and the socialist government. During the period of 1978-1994, the economy experienced a period of transition (Guo and Han, 2004) where several economic reforms gradually changed and opened the domestic market to the rest of the world (Morrison, 2013). Since then, China became a member of the World Trade Organisation in 2001 and is classified as a socialist market economy (Guo and Han, 2004). Although the Chinese economy is classed as one that is still developing, it has grown rapidly and is now a key player in the world economy (World Bank, 2013).

Alongside the changes to the Chinese economy, the exchange rate regime has also developed to correlate with the goals of the Chinese government. To support the centrally planned closed economy during the period of 1949-1978, China had an “administrative exchange rate arrangement” (Huang and Wang, 2004, p.337). However since 1980, the exchange rate regime has experienced four phases.
EXCHANGE RATE REGIMES

PHASE 1: 1981-1985
During this period, China adopted a dual exchange rate system which consisted of an official rate and an internal settlement rate (Guo and Han, 2004). The official rate would be used for non-trade related transactions whilst the internal settlement rate was used for current account transactions (Huang and Wang, 2004). This was used in order to achieve the goal of increasing foreign trade. Although the two rates were unified in 1984 and the official rate was used to settle all transactions, the internal settlement rate was abolished in 1985 leading to another phase in China’s foreign exchange regime (Yi, 2008) (Huang and Wang, 2004).

As China had multiple exchange rates, the de facto regime during this period, based on IMF classifications, could be considered a pegged exchanged rate within horizontal bands (Yi, 2008) (IMF, 2006). The internal settlement rate which was allowed to fluctuate within bands of at least ±1%, played a key role in trade-related transactions and since it was the most commonly used exchange rate, it was the rate used to classify the de facto regime (Yi, 2008) (IMF, 2006).

PHASE 2: 1986-1993
The dual exchange rate system was reintroduced during this period however, the internal settlement rate was replaced by a swap rate which reflected more closely to the market rate (Guo and Han, 2004). This swap rate was determined in the foreign exchange adjustment centres or otherwise known as swap centres in various Special Economic Zones through the trade of retention quotas (Huang and Wang, 2004) (Yi, 2008). This exchange rate system correlated with the government’s plan to transition from a planned economy to a market economy (Huang and Wang, 2004). Although the government intervened when necessary, the widening gap between the two rates and the increased volatility in the swap rate market resulted in further reform (Huang and Wang, 2005) (Guo and Han, 2004).

As China continued the dual exchange rate system, the de facto regime in this period could be considered a managed float (Yi, 2008). The swap rate was the most commonly used rate for foreign exchange transactions and was increasingly determined by demand and supply (Yi, 2008). Although the government and intended for active intervention reduce volatility, there was no specified direction that the exchange rate would take (Yi, 2008).
EXCHANGE RATE REGIMES

PHASE 3: 1994-2005

To achieve the government’s goal of transforming the economy into a socialist market economy, China unified its exchange rate and adopted a new managed-float regime in 1994, allowing RMB convertibility (Yi, 2008). This rate was allowed to float within a narrow band of ±0.3% of the reference rate, set by the People’s Bank of China and was traded in US Dollar, HK Dollar and Japanese Yen (Guo and Han, 2004) (Yi, 2008). The old swaps market was replaced by China’s Foreign Exchange Trading System which was an interbank market for the trade of foreign exchange (Guo and Han, 2004). However, during the Asian Financial Crisis, the Chinese government was determined to maintain a stable exchange rate resulting in tight controls over the flow of capital, resulting in the a relatively constant RMB during this period (Yi, 2008).

Although the officially announced exchange rate regime during this period was a managed float, the de facto regime for this period could be classified as conventional peg to the US Dollar (Huang and Wang, 2004). Although the RMB was allowed to fluctuate within a band of ±0.3%, it was not allowed to fluctuate at a margin greater than ±1% during the period 1995-2005 from the de facto fixed rate of 8.28 (Yi, 2008).

PHASE 4: 2005-PRESENT

On 21st July, 2005, there was further reform to China’s exchange rate regime and the People’s Bank of China announced that China will move its exchange rate to a managed float based on market forces with reference to a basket of currencies to improve the currency’s flexibility (People’s Bank of China, 2005). The US Dollar is allowed to float within a band of ±0.3% around the published rate whilst the band other currencies are allowed to move within are set by the People’s bank of China (People’s Bank of China, 2005). The major currencies comprising of this basket include the US dollar, Euro, Yen and South Korean Won (Yan and Lam, 2005). Other currencies considered are The Singapore dollar, pound sterling, the Malaysian ringgit, the Russian rouble, the Australian dollar, the Thai baht and the Canadian dollar (Yan and Lam, 2005).

Although the official classification of China’s exchange rate regime is a managed float against a basket of currencies, IMF’s de facto classifications state otherwise. In 2005, IMF classified the de facto exchange rate to be other conventional pegged against a basket of currencies (IMF, 2005). This classification changed to a crawling peg in 2008, a stabilised arrangement in 2009 and a crawl-like arrangement in 2011 (IMF, 2008) (IMF, 2009) (IMF, 2011).
The Best Option for China

On 21 July 2005, the Chinese government announced to reform the exchange rate regime by moving to a managed float exchange rate regime based on market supply and demand with reference to a basket of currencies (The People's Bank of China, 2005). With this reform, the Chinese RMB switched from being a peg to the US Dollar to a managed float based on a basket of currencies after a 2.1 percent appreciation.

It is believed that managed float is the best exchange rate regime for China. It can facilitate China’s economic development while striking a balance between the internal restrictions and external pressure.

**Internal restrictions**

The reform conduces to economic construction and resource allocation. Since the opening and reform of the economy as well as the membership to the WTO, China has lead a new pattern of economic development and consequently, all sectors of the economy must evolve. Although it may be convenient for risk management in the short run by keeping a fixed exchange rate system, in the long run, there is the risk of foreign and domestic economy imbalance as a result of misalignment between demand and supply. Therefore, a managed float should be adopted to enhance the efficiency of resource allocation. By increasing flexibility of the currency, industrial development is upgraded and there is a reduction in economic imbalance, leading to a new phase of economic development. With this, China’s growth and development is more sustainable and will be able to continue to thrive.

A managed float can also be used to combat internal constraints. Firstly, China’s economic development is not completely mature and the macroeconomic situation is unstable. Since the economic reform, there have been drastic changes to the economic system and structure resulting in a set of problems including immature and ineffective financial system without sound and stable legislations on finance as well as tight and expert supervision over this sector. There are also many uncertainties during the transition and China cannot rely on adjusting the exchange rate to control the market. As Xia Bin said, “The RMB is unlikely to be floated freely in the near term as the country’s economy faces internal difficulties during its reform drive and external uncertainties of the global economy.” (Xinhua, 2011). Meanwhile, the law of demand is invalid on that time and consequently the demand is not fully reflected by the price. Although there is no specific target for the exchange rate, there is still an active intervention by the authority. Therefore, managed float is suitable for China’s current situation.
EXCHANGE RATE REGIMES

This regime has limited constraints and provides the flexibility and stability that China seeks. Many investment banks want to know the weight of the currencies in the basket to predict the trend of the RMB. However, the adjustment of the RMB under a managed float only uses the basket of currencies as a reference and is not directly pegged to these currencies. Therefore, the central bank is still able to control the exchange rate when necessary according to market development as well as the economic and financial situation. However, since the exchange rate is based on a basket of currencies, there is increased flexibility, thereby ensuring that RMB maintains equilibrium and the macroeconomic and financial stability can be achieved (Embassy of the People’s Republic of China in the Republic of Namibia, 2005).

External pressure

China also needs to reform its exchange rate regime from a fixed exchange rate to combat external pressure. Due to China’s large trade surplus and foreign reserves, China is targeted by major developed economies like the US, Japan, Europe and other G7 nations. China is accused of undervaluing the currency thereby creating an unfair environment to do business as most countries are attracted to invest in China due to reduced cost. As a result, they claim that China infringes the rule stated by the WTO with an unfair trade. This issue of RMB appreciation has become a major concern to many countries. They pressure China to revalue the RMB and end its peg to the US Dollar (Yi, 2005). Consequently, to combat the pressure, China has to reform the exchange rate and cannot continue to carry out a fixed exchange rate. With the reform, China switched from a peg to the US Dollar to a managed float based on a basket of currencies after a 2.1 percent appreciation. This can alleviate the pressure from other countries whilst simultaneously giving China greater flexibility. It is necessary for China to alleviate the global attention by appreciating its exchange rate to a degree.

In addition, despite the appreciation under managed float exchange rate system, another benefit for China is that RMB is still weak, resulting in the privilege of exports remaining cheap. Chinese economy can finally succeed in production for the U.S. economy. Otherwise, if RMB is allowed to float freely to run counter to U.S. dollar and appreciate its value, China would lose many foreign enterprises. Many foreign firms have invested huge amount of money in China and use China as a platform to produce goods for export due to China’s cheap labour cost. If there is a high labour cost to them, they would just stop investing in China. Therefore, to control the exchange rate movements, it is appropriate for China to exercise active intervention under managed float.
In short, to alleviate the global attention, adapt the new pattern of development and opening-up after China entering into the WTO, it is inevitable for China to adopt a managed float exchange rate regime. This can also help the construction of the new economic structure, providing flexibility and stability and facilitating China’s economic development.

WHY OTHER REGIMES ARE UNSUITABLE

**Dollarization**

Dollarization is when a country, or an economy, officially abandons its own currency, and adopts a more stable currency of another country as its legal tender (Berg & Borensztein, 2000); and it is obvious that this currency regime is not feasible to practice in China.

Firstly, going dollarization is an extreme currency reform, usually used by a country whose credibility of currency is low and the value of it deflates drastically, while the people have lost the confidence towards this currency. However, China’s current economy is growing strongly and the currency is under pressure of appreciate, which shows that people are actually confident with RMB. While China is still developing its economy with heavy emphasis on export, seigniorage is needed to maintain its exchange rate in a stable and beneficial rating.

As dollarization will be contracted to both of these situations, it is obvious that it is not a practical exchange rate regime for China now.

**Currency union**

Currency union is another currency regime that is infeasible for the foreseeable future. As mentioned before currency union is basically an agreement that the member states of a league agree to share the same currency, monetary and foreign exchange policies (Rosa, 2004). In Asia, only Chinese RMB and Japanese Yan are strong and reliable enough to act as national legal tender. However, it is also unlikely that either of them will be willing to give up their own currency, monetary and foreign exchange policy to join the union, because of their constant conflicts on economic, military and diplomatic aspects. Apart from that, the economic situation of the other Asian countries also various, for example, Japan is facing a serious economic recession, while the development of China and India is booming. For Southeast Asia countries like Vietnam, Philippines and Indonesia, although there is a gradual improvement on their economy, yet their regional currencies are still unreliable and fluctuate a lot. With all these uncertainties and obstacles, currency union is definitely not suitable for China.
**Free Float**

Free float is the currency regime that allows the currency to fluctuate on its own, its price is determined by the market, without any government intervention (International Monetary Fund, 2006). The reason for it to not be suitable for China is that, a huge appreciation of RMB will occur and that hinders the export industry, which is what China's economic boom greatly depends on. In order to keep its international competitiveness, the Chinese government needs to have active intervention with its currency, to manage a constant and reasonable appreciation, instead of a complete market flow. A perfect free float is difficult to achieve and most developed countries do not use it. Consequently, it is impractical for a developing country like China to use such a regime, especially when China needs to regulate its currency for further development and to attract foreign investment.

**Conventional fixed peg**

Conventional fixed peg is to peg the currency at a fixed rate with another or a basket of currencies (IMF, 2006). This was the currency regime that adopted by China in before 2005 however it is not the best regime for China now as the government is trying to incorporate more market incentives to the exchange rate of RMB, as well as starting to loosen the control over it. It is believed that China is trying to let its own currency to flow in the market freely, in a certain extent and controllable percentage. Due to the nature of conventional fixed peg, the exchange rate will be a constant without any fluctuation if this regime is adopted. As this is not the purpose of the Chinese government, this regime is not suitable for China.

**Crawling peg and crawling band**

Crawling peg is adjusted periodically in small amounts at a fixed rate, while crawling band is maintained within certain fluctuation margins of at least ±1 percent around a central rate (IMF, 2006). Both of exchange rate regimes’ central rate and or margin is adjusted periodically, while the target exchange rate is announced.

These two regimes are practical, but not the best for China’s current economy. The flexibility of adjustments of both crawling peg and crawling band are not as high as a managed float, as the target rates and margins can only be adjusted periodically. Additionally, the fixed rate towards one or a basket of currency needs to be preannounced, which is information that Chinese government would like to keep it confidential. That is why comparing to managed float, crawling peg and crawling band are not the most ideal exchange rate regimes.
Impossible Trinity Theory

### Free Capital Flows
Free capital flows can allocate capital to the country in need, in theory it usually flow from advanced economies to emerging economies regardless of the country origins (Han, Cheng & Shen, 2011). With the free capital flow, not only domestic investors can invest in a higher yield abroad, but also the domestic enterprises can look for much needed investment. However, investment from abroad can be dangerous, because foreign investment is looking for speculative and quick profits (hot money) which can ruin an economy with its sudden departure. Policy makers need to strike for a balance between investors’ desires and the volatility of foreign investment.

### Fixed Exchange Rate
The exchange rate between two countries’ currencies reflects the difference in purchasing power between the currencies. Usually, governments desire to stabilize exchange rates, because it is costly for international businesses to hedge currency risks. Some countries, such as China, can intervene in markets to make their currency comparatively cheaper so as to lower their export price, and make the price more attractive for the consumers abroad than their domestic price. (Han, Cheng & Shen, 2011). The common way to fixed one countries’ exchange rate is to pegging with other currency, for example many currencies are pegged with US dollar.
Independent Monetary Policy

Central banks have independent power in using monetary policy to control the interest rate by manipulate money supply and liquidity. The typical central bank tactics are discount window, open market operations, and reserve requirements. (Han, Cheng & Shen, 2011). For example, US central bank purchases US debt from Federal Reserve to increase the money supply.

THE EVOLUTION OF IMPOSSIBLE TRINITY THEORY INDEX IN CHINA

First, for the capital market openness index (free capital mobility), there is a continuous rise from 1996 to 2009, and the growth was speed up remarkably since 2002 – China entered WTO. Second, for the exchange rate stability index (fixed exchange rate), it maintained to 0.9 over the period of 1998 to 2004, with the adoption of fixed exchange rate regime. And a sudden fall in 2005 was attributed by the exchange rate reform – from fixed exchange rate regime to managed float exchange rate regime, from peg to US dollar to peg to a basket of currencies. And it remained low rate until the financial crisis in 2008. Third, for the monetary independence index (Independent monetary policy), it was quite fluctuated over time, but there was an obvious drop in 2006, the deterioration of independent monetary control was caused by the overheated domestic money. (Han, Cheng & Shen, 2011).

Figure 1: The Evolution of Impossible Trinity Theory Index in China, 1996-2009

Source: Authors’ calculations
EXCHANGE RATE REGIMES

MANAGED FLOAT EXCHANGE RATE
1. Independent control in monetary policy
2. Exchange rate stability (disallow exchange rate fluctuated by currency market)

Using managed float exchange rate requires independent control in monetary policy, as well as the fixed exchange rate, in order to keep RMB stable over time. The fixed exchange rate does not necessarily mean the rate is totally “fixed”, instead it can be varied with the government’s intervention for different purposes – maintaining stability in most of the time. However, according to impossible trinity theory, it is not possible to reach all three policy goals: fixed exchange rate, independent monetary policy and free capital flows without having to make sacrifices. An exchange rate can only achieve two goals at the same time, and sacrifice one of the three goals. Therefore, using managed float exchange rate is sacrificing the free capital flow.

Now we can see China has long been enforcing a capital control since it adopted managed floating exchange rate. For example, a cross border portfolio investment in China is limited by different quota schemes including the Qualified Foreign Institutional Investor (QFII) and Renminbi Qualified Foreign Institutional Investor (RQFII) for inward flows, and the Qualified Domestic Institutional Investor (QDII) scheme for outward flows. (Ho, 2013). However, since the degree of market openness in China is increasing, many foreign investors have a high hope that China further allow the free capital flow so as to accelerate growth of China’s economic development. To respond the high capital inflows, the regulators start relaxing the restrictions on capital flow, for example increased the quota for RQFII, and almost doubled the quota of the QFII scheme to $150 billion. (Ho, 2013).

WHY IS CAPITAL MOBILITY IMPORTANT?
Firstly, free capital free can attract more foreign investment for China. Since the China become one of the members of World Trade Organization (WTO) in 2002, China has exerted great efforts in developing the international trade, for example lower the import taxes and open more offshore provinces and business sectors for foreign investors to enter China market. International investment can be classified as Foreign Direct Investment (FDI), Portfolio Investment and Other Investment. In figure 2, the growth of investment became incredibly fast after China entered WTO in 2002, and FDI is the majority part of China international investment. Referring to figure 3, in 2012, China even overtook US to be a leading FDI destination. 44% of global FDI inflows were hosted by five countries. And China took the
major shares 18% of total (or USD 253 billion), which was followed by US and Brazil. From China’s point of view, a stronger FDI inflow allows China to take advantage of the high technologies, experts, and affluent capital sources bringing from foreign investors to China. From the foreign investors’ point of view, China is always an attractive place for them to invest, particularly in the fields of manufacturing and high technology development owing to the sufficient supply of cheap labour. A free capital flow in China is desirable for foreign investors to enter the Chinese market, therefore many believe that a certain degree of capital mobility is needed for China.

Figure 2: Level and Composition of Gross Capital Inflow in China, 1982-2009

![Graph showing the level and composition of gross capital inflow in China, 1982-2009.]

**Source:** IMF IFS [http://www.imf.org/external/index.htm](http://www.imf.org/external/index.htm)

Figure 3: FDI Inflow: Top 10 Host Economies, 2011 H1-2012 H1

![Bar chart showing FDI inflow to top 10 host economies from 2011 H1 to 2012 H1.]

**Source:** ZHANG YE / CHINA DAILY
Secondly, allowing free capital flow is in line with China government’s goal – Renminbi (RMB) internationalization. In recent years, the pace of RMB internationalization is getting faster because of the increasing number of offshore cities opened. The improvement can be reflected by the trading of the RMB in global foreign exchange markets, which has more than tripled from 2010. Moreover, the daily turnover in RMB has increased from $34 billion in 2010 to $120 billion in 2013 (Ho, 2013). In view of the popularity of the use of RMB, HSBC also estimated RMB will become a top three global trade currency in terms of volume terms by 2015 (Lake, 2013). Therefore, in order to facilitate the process of RMB internationalization, free capital mobility is required – RMB need to be convertible into different currencies. “More free capital flow and more financial reforms and innovations may aid the Renminbi to further internationalize,” says Leung, senior economist for the Development Bank of Singapore. (Agencies, 2013).

If free capital mobility is needed for China, what possible changes in exchange rate can be according to impossible trinity theory?

1. Fixed exchange rate (sacrifice an independent monetary control)
2. Floating exchange rate (sacrifice a stable currency)

*Fixed exchange rate associate with free capital mobility*

Using fixed exchange rate like peg and allowing capital mobility mean sacrificing the independent monetary control. According to interest rate parity condition (See figure 4), fixed exchange rate means that the domestic interest rate will be equal to the foreign interest rate. In practice, whenever the central bank of China increase the money supply, the domestic interest rate will then decrease. The sales of domestic bonds will be triggered for the higher returns of foreign bonds. Therefore, the demand for foreign currency will rise for buying foreign bonds, which leads to pressure of depreciation on domestic currency. To maintain the fixed exchange rate, China government need to sell foreign currency and buy back the Yuen from currency market so as to eliminate the excess supply of domestic currency. Subsequently, the initial expansionary monetary policy turn out to be ineffective, which indicates China government lose its control in money supply. From the balance sheet, the open market operation can only adjust the composition of domestic currency and foreign currency in the balance sheet, and does nothing with the monetary base and interest rate, therefore the determination of interest rate will be close to what exchange rate is pegged. (Aizenman, 2011)
EXCHANGE RATE REGIMES

Floating exchange rate associate with free capital mobility

Using floating exchange rate and allowing free capital flow means a country cannot have exchange rate stability. Having independent monetary control can change the interest rate by control the money supply. According to the Uncovered Interest Parity (See figure 4), if the local interest rate is changed, a flexible exchange rate is needed to eliminate the discrepancy between local interest rate and foreign interest rate. In practice, when the Chinese government increases the money supply, the domestic interest rate will decrease. The lower domestic interest rate will lead to a sales of domestic bonds and demand for foreign bonds. Provided that no fixed exchange rate is required, the increasing demand for foreign currency can depreciate the local exchange rate and weaken the local currency. Finally, the cheaper value of local currency will boost up the export amount, at the same time, the lower interest rate will encourage the domestic investment. Ultimately, the net effect of expansionary monetary policy is effective in increasing the money supply, which shows the independency of China government in monetary policy. (Aizenman, 2011)

Figure 4: Uncovered Interest Rate Parity Condition

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(1 + I_{\text{Local}}) = \frac{(S_{t+1})}{S_t} \times (1 + I_{\text{Foreign}})
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JUSTIFICATIONS OF USING CAPITAL CONTROL IN CHINA

According the implication of Impossible Trinity Theory, a country must give up the capital mobility if it holds an independent monetary control and fixed exchange rate. But the reality would not that rigid, many countries will try to achieve certain level of three policy goals instead of completely abandon any one.

In China, even though the rate is intended to be stable over time, managed float exchange rate actually allows government’s intervention on the exchange rate. Similarly, capital control exists in China, but it does not completely prohibit all cash flows crossing abroad. Obviously China is now keen on internationalizing RMB by expanding more offshore centres, not only to Singapore, Taiwan and London, but also Toronto, Luxembourg, Zurich and even Sydney are catching up and will help RMB grow. (Ho, 2013). In fact, a certain level of capital control is needed, because fully free capital mobility can significantly volatile the exchange rate – maintaining a stable exchange rate require a large capital reserve. As a result, in long term the cost of allowing perfectly free capital flows may even greater than the benefits bring to China.
Conclusion

After valuating different exchange rate regimes, we found that the current exchange rate of China – managed float regime is actually the most suitable exchange rate regime for China, which can also provide flexibility and stability of the currency, facilitating China’s economic development in the long run. This will help the China to alleviate the global attention and lead a new pattern of economic development under immature and unstable economy. In other words, it is inevitable for China to adopt a managed float exchange rate regime. However, many claim that the exchange rate of China needs to be more flexible, and capital restrictions should be released for more free capital float crossing abroad. Yet, according to the impossible trinity theory, a country with a fixed exchange rate and independent control in monetary policy cannot allow the free capital flow. However, this theory indeed is merely a theoretical discussion, in reality many countries are able to achieve three policy goals at the same time by adopting intermediate regimes and China as well. Therefore, we believe that the as long as the capital control schemes are not completely banning all the capital flows, the managed float exchange rate regime can allow China to enjoy a certain level of market openness without losing the exchange stability.
References

Aizenman, J. (2011). The Impossible Trinity – from the Policy Trilemma to the Policy Quadrilemma. Santa Cruz: University of California


References


REFERENCES


