

Mechanism For Defending The Linked Exchange Rate System
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1. A bubble economy developed in Hong Kong around the time of Hong Kong's reversion, and Hong Kong became the most expensive city in the world for business. This, together with the Asian financial crisis, triggered the speculative attacks on the Hong Kong dollar.
2. Hong Kong must lower costs to regain competitiveness. Currency depreciation is one way of lowering costs. However, if a fixed exchange rate is maintained, competitiveness can only be regained through lowering domestic prices and wages. Under a fixed exchange rate regime, rise in interest rates and deflation cannot be avoided as they are part of the adjustment process.
3. Maintaining the Linked Rate is better than depreciation which may lead to a downward spiral when financial markets are unstable. Unlike Taiwan and Singapore, Hong Kong does not have any controls on capital flows. De-linking would destroy confidence in the Hong Kong dollar and it would then be very difficult to fend off speculative attacks.
4. The Linked Rate is a form of Currency Board. A Currency Board guarantees that the Monetary Base (money used for settling transactions) is backed by foreign exchange reserves and is convertible into foreign currency at a fixed exchange rate. In the old days, Currency Notes were used extensively to settle transactions while nowadays, large transactions are usually settled by Deposit Money. In a modern Currency Board, convertibility should also cover the clearing accounts that banks maintain with the Currency Board.
5. A Currency Board relies on automatic arbitrage to fix the exchange rate instead of discretionary intervention of the Central Bank. Under a Currency Board System, the money supply can only be increased when there is net capital inflow. A Currency Board is thus less vulnerable than the usual fixed exchange rate system.
6. A Currency Board relies on two mechanisms of arbitrage to fix the exchange rate: Base Money arbitrage and interest rate arbitrage. If the Hong Kong dollars weakens in a speculative attack, some people will profit by buying Hong Kong dollars with US dollars at the market rate, and replenish their US dollars by converting Base Money into US dollars at the guaranteed official exchange rate. Base money arbitrage thus increases the demand for Hong Kong dollars. Such arbitrage also leads to a reduction in foreign exchange reserves and a contraction in the money supply. This leads to a rise in the rate of interest which attracts capital inflow (interest arbitrage). In a nutshell, part of the shock of the speculative attack is absorbed by a reduction in foreign exchange reserves, and the rest is absorbed by capital inflow induced by the rise in interest rate.

7. Before the implementation of the seven technical measures announced by the HKMA in early September this year, the Currency Board System of Hong Kong was quite defective because the Convertibility Undertaking only covered Currency Notes but not the clearing accounts of banks at the HKMA. Currency arbitrage is impractical as there is too little currency notes in a modern economy. Though arbitrage through deposit money in the clearing accounts should be highly effective, such arbitrage was emasculated by the lack of a Convertibility guarantee for these deposits. In the absence of Base money arbitrage, the entire burden of adjustment falls on interest rate arbitrage, leading to interest rates that are unnecessarily high. Moreover, the Aggregate Balance of the clearing accounts is usually quite small (a few billion Hong Kong dollars). Even a small speculative attack can turn the Aggregate Balance negative and drive up interest rates appreciably. As a result of the above defects, interest rates in Hong Kong have been unnecessarily high and volatile.

8. Besides the defect in the Linked-Rate system, the misguided policy of the HKMA during the speculative attack of last October also exacerbated the rise in interest rates. The HKMA warned banks on 23rd October, 1997 that "repeated borrowers" of overnight Hong Kong dollar liquidity provided by the HKMA might be penalized. This led to a panic and the interbank overnight rate momentarily shot up to 289 percent. The high interest rates led to a capital inflow and an *increase* in foreign exchange reserves, which is abnormal as part of the shock of a speculative attack should be absorbed by a *decrease* in foreign exchange reserves in a Currency Board System. This abnormality shows that interest rates have then risen to excessive levels.

9. The seven technical measures have basically corrected the defects of Hong Kong's Currency Board System. The seven measures involve two basic parts. The first is a convertibility undertaking to the banks that their deposits in the clearing accounts can be converted to US dollars at the fixed rate of HK\$7.75 to US\$1 (first measure), facilitating base money arbitrage. The second (other six measures) is to allow banks access to a Discount Window to augment the aggregate balance if it falls too low. The interest rate (Base Rate) will be determined with reference to market interest rates.

10. Professor Tsang Shu Kee of the Baptist University has long proposed that the HKMA should guarantee the convertibility of the clearing balances and also augment the size of the balances to dampen the volatility of interest rates. The proposed model (the AEL model) involve the use of reserve deposits. Banks are required to maintain reserves (say 5 percent of deposits) at the HKMA to augment the size of the clearing accounts.

11. The seven technical measures of the HKMA achieved the goals of the AEL model (augmenting the size of the clearing accounts plus convertibility for such balances) *without the use of statutory reserves*, which is an advantage as reserves amount to a tax on banks (reserves usually carry no interest). In a statutory reserve system such as the AEL model, only *excess reserves* (reserves over and above the statutory requirement) can be used to augment the clearing accounts. The rest (required reserves) cannot be used productively. The seven technical measures allow banks to use their holding of Exchange Fund Bills to augment the clearing balances by borrowing through the discount window when necessary. This is better than the AEL model as interest costs are lower and banks do not need to keep part of their funds in unproductive reserves. The trend of central banking nowadays is to abolish statutory reserves to minimize costs for banks.

12. Last December, scholars from the Economics Department of the Chinese University have proposed to marketize the interest rate of the Hong Kong dollar lending facility (the discount window) of the HKMA. The purpose of the proposal is to dampen interest rate volatility. We pointed out that the discretionary powers of the HKMA to shut down the lending facility and to charge penal rates of interest had created great uncertainty for market participants. A freer access to the discount window at market interest rates would imply greater transparency. The seven technical measures *did* allow freer access to the discount window and the interest rate (Base Rate) would be determined with respect to market interest rates. This is in line with our proposal last December.

Recently, the HKMA has consulted academics and bankers on the methodology of determining the Base Rate. We welcome the move. We proposed that the Base Rate should reflect the US Federal Funds Target Rate and the one-month HIBOR. We do not favour the use of the overnight HIBOR as it is too volatile and is also easily affected by the actions of the HKMA. The HKMA will be open to charges of manipulating the Base Rate if the overnight HIBOR is used as a determinant of the Base Rate.

13. Professor Miller proposed a put option scheme of around HK\$40 bn to HK\$80 bn to strengthen confidence in the Link. We are of the opinion that the psychological impact of the scheme will be quite limited. It is difficult to understand why a put option scheme of around HK\$80 bn, which is only about 5 percent of the Hong Kong dollar money supply (M3), would have a strong impact on confidence.

The principle of a Currency Board is to guarantee convertibility for the Monetary Base, which is credible as it is fully backed by foreign exchange reserves. Extending the Convertibility Undertaking to the entire money supply is not credible as the size of the foreign exchange reserves of the HKMA is only a fraction of the money supply. The exchange rate of the rest of the money supply is stabilized through the powerful leverage effect of the Monetary Base on the entire money supply. An option scheme would not have a powerful impact unless it is targeted at the Monetary Base (which is not part of the original proposal of Professor Miller).

It has been argued that a put option scheme would strengthen confidence because the HKMA would lose financially if it devalues. However, the argument assumes that investors underestimate the determination of the HKSAR government to maintain the Link. If investors have a correct assessment of the determination of the HKSAR government to maintain the Link (in terms of the political and economic costs that it is prepared to pay), then a put option scheme would have no impact on confidence. In any case, the purpose of a put option scheme is not to improve base money arbitrage nor to augment clearing balances. Its purpose is thus quite different from that of the seven technical measures. Lastly, the Link-Rate system is not an eternal system and Hong Kong is likely to adopt some other system in the future (e.g., link to a basket of currencies or a floating exchange rate system). A put option scheme would raise the cost of exit from the present system.

14. Though the seven technical measures have remedied the defects of the Link-Rate system, speculative attacks may still occur if there is a deterioration in economic fundamentals. Interest rates will still rise under speculative attack, though the rise will be smaller than before.

15. The accountability of the HKMA is a sensitive and important issue. Preserving the independence of the central bank is important. Investors will lose confidence if the central bank is vulnerable to political pressure. A greater degree of transparency of the operations of the HKMA would be good for both accountability and investor confidence. Along with the seven technical measures, the HKMA has announced a voluntary move towards greater transparency and disclosure on its Currency Board operations (including the size of clearing balances, size of foreign exchange reserves, and determination of the Base Rate). We welcome such a move.