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A LONG TERM MONETARY  
STRATEGY FOR HONG KONG  
AND CHINA

by

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August 1997

## A LONG TERM MONETARY STRATEGY FOR HONG KONG AND CHINA

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# **A Long Term Monetary Strategy for Hong Kong and China\***

by

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## Abstract

Hong Kong is a Special Administrative Region within China, and the Basic Law provides that the Hong Kong SAR and Mainland China are fiscally independent. This paper demonstrates that because fiscal transfers are not permissible Hong Kong SAR and the Mainland need to have two separate currencies, if each is to achieve full employment and fiscal budget balance. An analytical framework is provided in the paper supporting the argument that Hong Kong is in the position to adopt a "full employment budget balance fiscal policy" and to adopt an enlightened monetary policy that aims at bringing aggregate demand to the full employment level. For Mainland China, because full employment budget balance is unlikely to be achievable in the short term and because of its weaker monetary position, a system of linking the RMB to a basket of currencies is recommended as providing both a clear monetary rule and a superior degree of flexibility relative to linking with a key currency at a fixed exchange rate.

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## 1. Introduction

The subject of what makes a good monetary strategy has attracted continuing interest from economists. There has been an unsettled debate over such questions as: should central banks set monetary supply growth targets or interest rate targets (implying the use of instrumental target rules), and should central banks focus solely on price stability, or more broadly on the overall performance of the macroeconomy (implying the use of discretion aiming at policy goals). There is also great concern over the stability of a currency in the foreign exchange market (Mussa et al., 1994; Eichengreen, Tobin, and Wyplosz, 1995), to the extent that a tax on foreign exchange transactions was proposed (dubbed the Tobin Tax) to help fight currency speculation. Following the recent devaluation of the Baht, a number of Asian currencies were under speculative attack. The cover story of the July 28 1997 issue of the Business Week raised the question: "Will the turmoil damage banks, disrupt trade, and slow growth?" There is little doubt that worry over exchange rate volatility is at the heart of the reluctance of China to allow convertibility of the Renminbi in the capital account of the balance of payments (Ho, 1997).

This paper attempts to address the question of what makes an optimal monetary strategy. In particular, we will look at the desirability of "one country, two currencies" which characterize China and the Hong Kong Special Administrative Region. Section 2 will present the analytical framework. We will demonstrate the desirability of a "full employment government budget balance fiscal policy" and a "full employment private sector budget balance monetary policy" in the general case. In Section 3 we will see if this policy can apply to the case of "one country, two fiscal

systems.” In particular, we will examine whether there is a case for a unified currency or for having separate currencies for Hong Kong Special Administrative Region and Mainland China. This discussion has obvious implications for the debate over the formation of a monetary union for different countries as being proposed for Europe. Section 4 will present the proposal that follows from the analysis. Finally, Section 5 will provide the conclusions.

## 2 Analytical Framework

By breaking down the GNP into taxes net of transfers  $T$ , disposable income  $Y_d$ , and interest payment on government debt  $B$ , we can rewrite the “Keynesian cross” condition of aggregate demand equilibrium as:

$$T + Y_d - B = C + I + G + X - M \quad [1]$$

We can then transpose terms to obtain:

$$T - G - B = C + I - Y_d + X - M \text{ (or } I - S + X - M) \quad [2]$$

The left hand side is the government budget surplus. Equation [2] says that the government budget surplus, if positive, will finance the shortfall of investment over private savings (a shortfall of domestic savings), plus the shortfall of rest-of-the-world savings ( $X-M$ ).

The left hand side,  $T - G - B$ , can be called the Government Budget Surplus(GS), while the right hand side,  $I - S + X - M$ , can be called the Private Sector Deficit<sup>1</sup>(PD). Both GS and PD can then be plotted against the GNP, and their intersection determines the equilibrium aggregate demand(Figure 1):

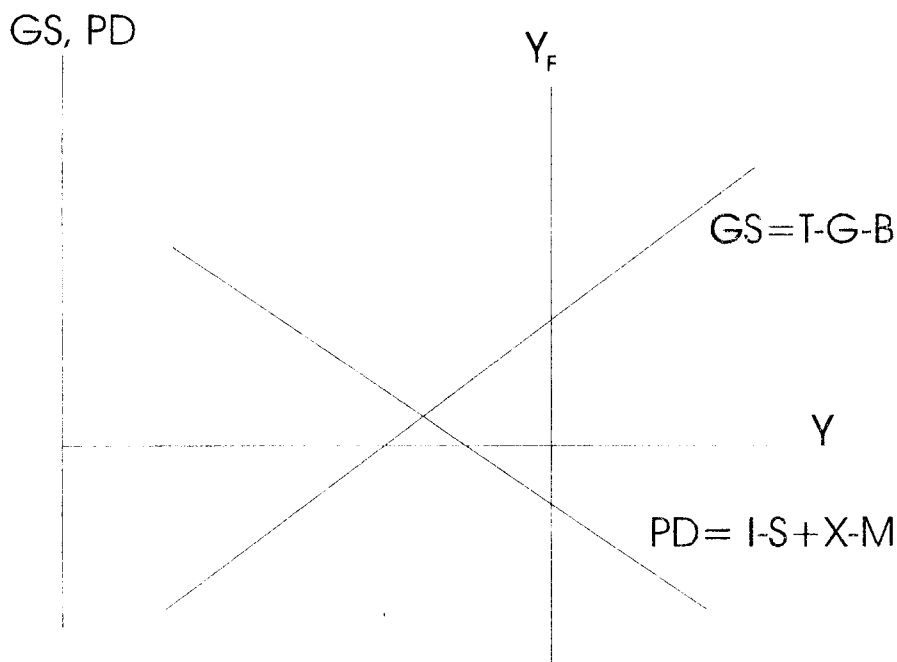


Figure 1

The diagram shows that, once the GS line has been positioned, the actual fiscal surplus or deficit, along with the level of aggregate demand, is determined by monetary policy and other factors that shift the PD curve.

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<sup>1</sup> This is a deficit in the sense that  $I - S$  represents a shortfall in domestic savings while  $X - M$  represents a shortfall in foreigners' savings.



We define “*Full Employment Government Budget Balance Fiscal Policy*”(FEGBB) as a structure of tax-rates and government spending such that the GS line intersects the horizontal axis at the full employment output level. Because the GS line is drawn as a function of Y, fluctuations in Y will not affect the position of the GS line. However, the state of business confidence, the strength of the economy of trading partners, monetary policy, and even tax rates will all affect the position of PD. Regardless of the state of the other factors, *once they are given* monetary policy can shift the PD to the position that is compatible with full employment and “private sector budget balance” in the sense that  $I - S + X - M = 0$ . This will be called “*full employment private sector budget balance monetary policy*.”(FEPBB) Figure 2 shows the situation when both FEGBB fiscal policy and FEPBB monetary policy are implemented. A monetary policy consistent with FEPBB will be symbolised by M\*.

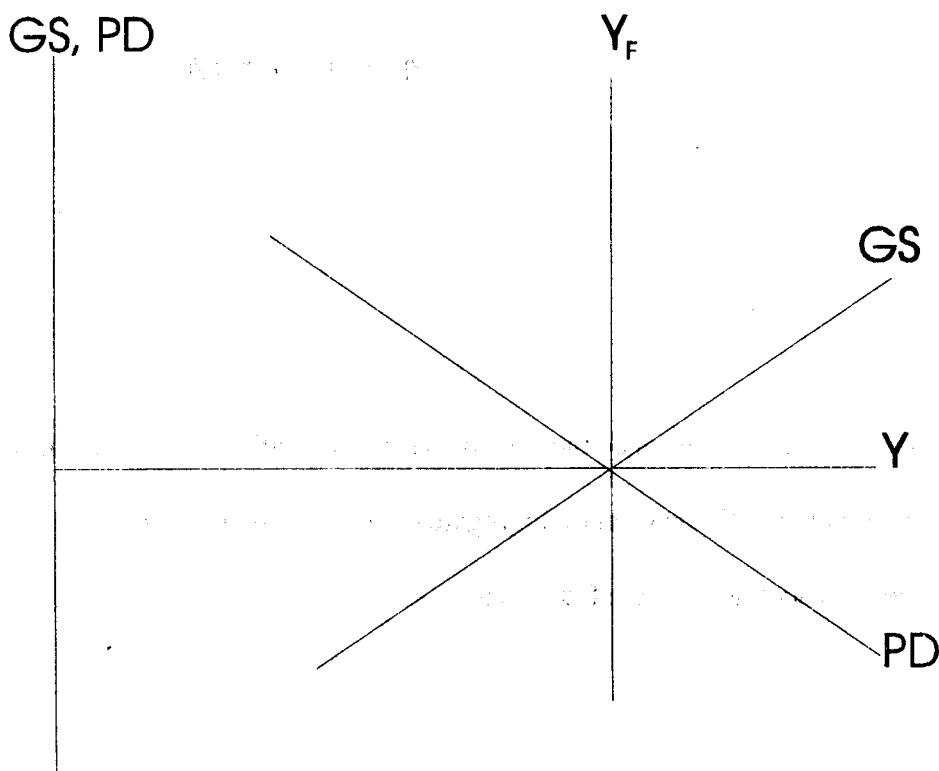
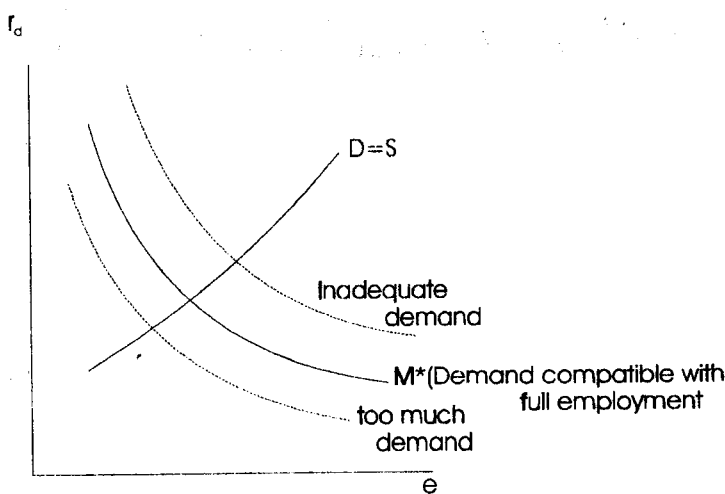


Figure 2

The situation depicted in Figure 2 is highly desirable. Here, fiscal policy will not be used to offset private sector demand fluctuations, suggesting a stable no-surprise fiscal policy which the financial market likes to see. Monetary policy will make sure that the PD line is brought back to the FEPBB position whenever other factors move it away from that position.

In a closed economy monetary policy is summarized in an index for interest rates to the extent that interest rates directly affect the level of private sector demand. In an open economy monetary policy incorporates the effective exchange rate index as well. We can conceive a locus of combinations of the domestic interest rate index and the effective exchange rate index that is consistent with FEPBB. This locus is depicted as line  $M^*$  in Figure 3. Figure 3 also shows that an appreciation of the currency (a rise in  $e$ ) and/or a rise in  $r_d$ , will reduce aggregate demand, implying a lower PD line, while a depreciation of the currency and/or a drop in domestic interest rates will raise aggregate demand. Along the  $M^*$ , moving towards the northwest, external demand will increasingly replace internal demand although aggregate demand is constant.



**Figure 3**

In the foreign exchange market, demand for the domestic currency can be seen to comprise four elements: the demand arising from the export of goods and services,  $D_x$ , the demand arising from foreign direct investment,  $D_{fdi}$ , the demand arising from hot money flows,  $D_{hm}$ , and the demand arising from selling of foreign currency from the official reserve,  $D_{or}$ . Supply of the domestic currency comprises two elements: the supply arising from the import of goods and services,  $S_m$ , and the supply arising from direct investment overseas,  $S_{dio}$ . All of these are related to the effective exchange rate index,  $e$ , the relative price levels of the domestic economy as compared with trading partners,  $P_d/P_f$ , and expectations about relative inflation rates. Demand arising from exports will also depend on the level of overseas GNP, while supply arising from imports will also depend on the level of the domestic GNP. The demand for the home currency arising from hot money flows can be positive or negative, and will depend on expectations or confidence about the domestic currency ( $E$ ). Taking all these factors into account, and assuming that the relative price levels and relative GNP levels as given, we can write:

$$D_x\left(\frac{eP_d}{P_f}, Y_f\right) + D_{fdi}\left(\frac{eP_d}{P_f}, \dots\right) + D_{hm}\left(\frac{eP_d}{P_f}, r_d, r_f, E\right) = S_m\left(\frac{eP_d}{P_f}, Y_d\right) + S_{fdi}\left(\frac{eP_d}{P_f}, \dots\right) \quad [3]$$

implying:

$$e = e(r_d, E) \quad [4]$$

where  $E$  summarizes market expectations about the risk of depreciation. This equation is depicted as  $D=S$  in Figure 3.

It should be noted that market expectations are related to the conduct of fiscal policy, the existence of a credible and comprehensible monetary rule, the size of the foreign exchange reserve, and the economic conditions of the country in general.

### 3. Hong Kong SAR and China

An interesting question is whether, on economic grounds, the Hong Kong currency should integrate with the RMB. Would a unified currency promote trade and investment better than two separate currencies? The assumption that the removal of exchange risks and the lowering of transaction costs associated with currency conversions will promote trade and investment underlies the urge in the European Community to have a unified monetary system by 1999.

We know that on political grounds a unified currency for Hong Kong SAR and the rest of China is not feasible in the foreseeable future, because this would call into question the “One Country-Two Systems” arrangement that is at the very foundation of the Sino-British Joint Declaration in 1984.

Purely on economic grounds, because of the vast differences in the economic structure of Hong Kong and that of the Mainland, assuming that Hong Kong and the Mainland separately adopts the “full employment budget balance fiscal policy,” unification of the currency means that when the PD for Hong Kong brings about Full Employment Private Sector Budget Balance and thus the full employment aggregate demand, the PD in the Mainland may not. If monetary policy attempts to achieve full

employment aggregate demand on the Mainland, then full employment equilibrium aggregate demand in Hong Kong can only be achieved with a deviation of fiscal policy from the full employment budget balance position. This implies that Hong Kong would have a fiscal deficit or a fiscal surplus that entirely depends on how fiscal policy need to be fine tuned to offset movements in the PD.

In a way this scenario is similar to what prevails at the moment, except that now the Hong Kong dollar is tied to the US dollar rather than tied to the RMB. Currently Hong Kong's PD is at the mercy of US monetary policy (apart from investment sentiments and other external shocks). There is a potential for excessive demand (implying inflation) or inadequate demand (implying unemployment) with concomitant consequences on the fiscal balance.

Theoretically, if we incorporate multi-level government considerations, we can write the following equilibrium condition for the local economy in the general case:

$$Y_d + T_{ll} + T_{lc} - B_{ll} - B_{cl} = C + I + G_{cl} + G_{ll} + X - M \quad [4]$$

The left hand side is the GDP decomposed into disposable income *plus* local taxes paid to local government plus local taxes paid to central government *minus* interest payment paid by local government to local residents - interest payment paid by central government to local residents. In general, in the case of Hong Kong, the two B terms are effectively equal to zero, and there are no intergovernmental fiscal transfers

or taxes. Central government spending on the local economy,  $G_{cl}$ , is also assumed to be zero. We would then have:

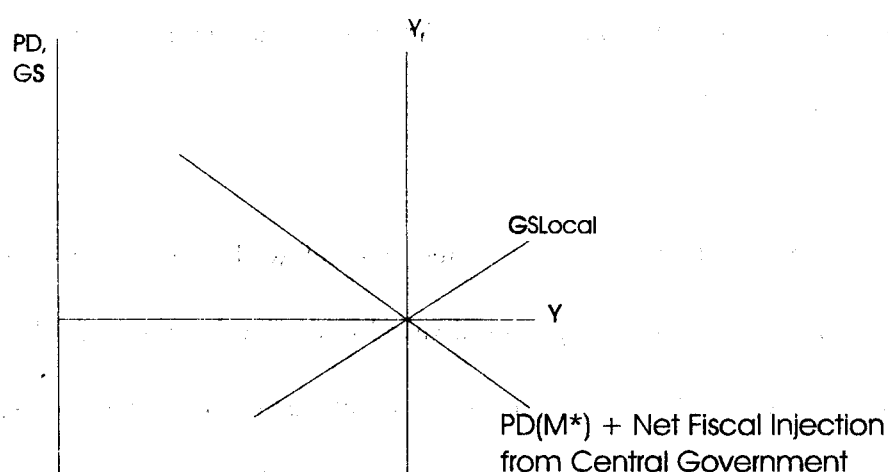
$$Y_d + T_{ll} = C + I + G_{ll} + X - M \quad [4']$$

Going back to Equation [4] which shows the general case the right hand side is GDP decomposed into expenditure categories, with G comprising spending by central government on the local economy and spending by local government on the local economy.

Transposing terms, we can derive:

$$T_{ll} - G_{ll} - B_{ll} = -(Y_d - C) + I + X - M + (G_{cl} - T_{lc} + B_{cl}) \quad [4]$$

where the left hand side is the local government fiscal balance, while the right hand side is the PD plus net fiscal injection from the central government.



**Figure 4**

This clearly shows that in the general case if the local government adopts a full employment local budget balance fiscal policy, thus keeping the left hand side zero at full employment, then net fiscal injection from the central government(which can be positive or negative) would have to adjust to the exogenous movements in the  $PD(M^*)$ , where  $M^*$  is the monetary stance consistent with full employment equilibrium aggregate demand for the central government.

Going back to the Central Government, a similar analysis shows that a full employment budget balance(excluding fiscal transfers) fiscal policy(represented by  $GS_{Central}$ ), combined with a monetary policy that brings about full employment aggregate demand( $M^*$ ), would lead to deviation from the full employment budget balance *once fiscal injections  $t^*$  to the local government are included*.

In principle, however, if the central government adopts a FEPBB monetary policy( $M_c^*$ ), while the local government adopts a full employment local budget balance fiscal policy, net transfers  $t^*$  will then be determined as a function of  $M_c^*$ . The central government can in principle adapt its fiscal policy so that the fiscal balance inclusive of  $t^*$  is zero at full employment.

This shows that if fiscal transfers are allowed, we can still achieve four objectives: full employment aggregate demand in the local economy, full employment aggregate demand in the national economy, fiscal balance in the local jurisdiction, and fiscal balance in the central jurisdiction. While the unified monetary system implies the loss of one policy instrument, fiscal transfers adds one policy instrument. Together

with balanced budget full employment fiscal policy at the local level and compensating balanced budget full employment fiscal policy at the central level, we will still have four policy instruments. This analysis is consistent with that of Sala-I-Martin and Sachs(1991).

To the extent that Hong Kong SAR and the Mainland have independent fiscal systems and no inter-governmental fiscal transfers is allowed, a unified monetary system in general will void at least one of the four policy objectives: budget balance in Hong Kong, budget balance in Central, full employment aggregate demand in Hong Kong, and full employment aggregate demand in Central.

#### 4. A Proposal

Because the economies of Mainland China and Hong Kong SAR are so different, and given the non-availability of fiscal transfers as a policy instrument, the above analysis suggests that it makes sense for them to have separate monetary systems.

For Hong Kong, it is proposed that a simple full employment budget balance fiscal policy be complemented with an accommodating monetary policy that brings PD to the position that ensures equilibrium aggregate demand at the full employment level. This should be announced as a credible policy rule.



Because  $GS = 0$  at full employment, we will have one of three situations when monetary policy is set to ensure full employment. In each case total private sector deficit will be equal to zero:

$$I-S = X-M = 0; \text{ i.e., internal private deficit} = \text{capital outflow} = 0$$

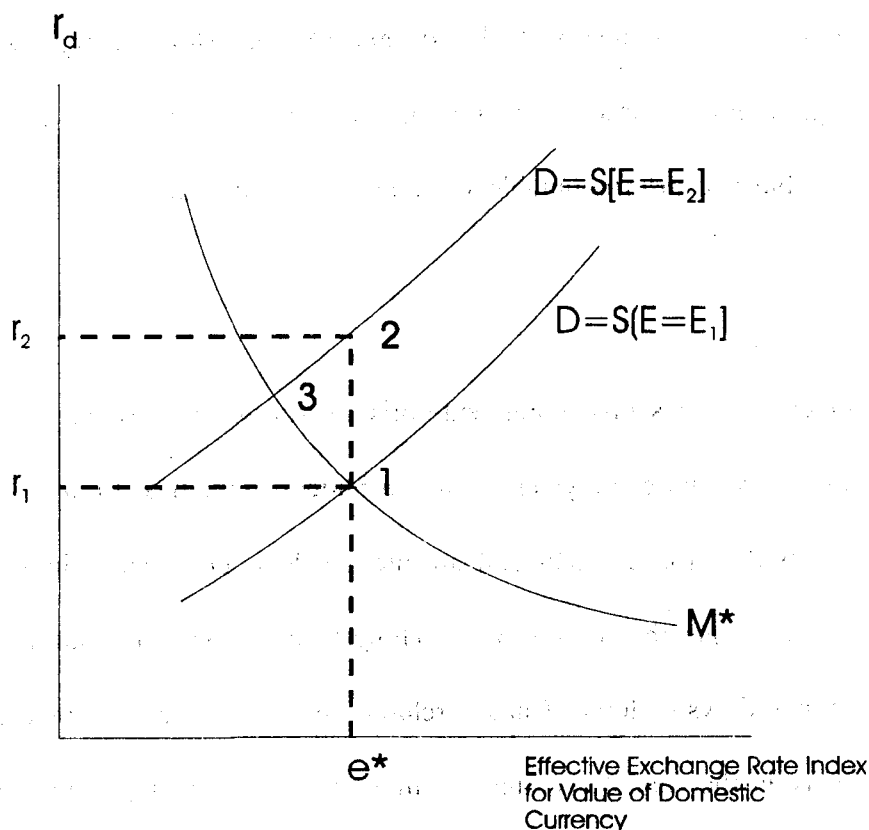
$$I-S = M-X > 0; \text{ i.e., internal private deficit} = \text{capital inflow} > 0$$

$$I-S = M-X < 0; \text{ i.e., internal private surplus} = \text{capital outflow} > 0.$$

In the first case there is no net capital inflow or outflow, and the current account is balanced. In the second case, a capital inflow finances the domestic savings shortfall so that total investment is larger than savings by exactly equal to the current account deficit. In the third case Hong Kong has excess private sector savings to help finance the shortfall of savings in the rest of the world. So Hong Kong would be exporting capital.

It is proposed that the Hong Kong SAR Government announce to the world that *it would adopt a simple balanced budget fiscal policy*, and that *the Monetary Authority would adopt a full employment monetary policy* ( $M=M^*$ ). The Monetary Authority would adopt a “flexible link” with the US dollar to ensure private deficit at zero at full employment. The note-issuing banks of Hong Kong SAR shall buy the right to issue Hong Kong dollars (certificates of indebtedness) with US dollars at the “link rate” stipulated by the HKMA which would set it with a view to maintaining full

employment. In practice, certificates should be redeemed at the same link rate as that at which they were issued.<sup>2</sup>



**Figure 5**

Figure 5 shows that the effective exchange rate index is initially at  $e^*$  while the equilibrium domestic interest rate is at  $r_1$ . Expectations are summarized in  $E$ , which is assumed to stand at  $E_1$  initially. Now suppose expectations have changed and  $e^*$  can be maintained only if the domestic interest rate goes up to  $r_2$ . This would lead to a fall in aggregate demand. Figure 5 shows that if the effective exchange rate index is allowed to fall, then a new equilibrium can be established at point 3 such that full employment is maintained. It should be noted that expectations  $E$  incorporates the

<sup>2</sup> I owe this point to Y.C.Jao of the University of Hong Kong.

following considerations: (1) that monetary policy is such that full employment will be achieved; (2) that full employment government budget balance will be maintained; (3) that the Hong Kong dollars will be issued against the stipulated US dollar backing as announced by the Hong Kong Monetary Authority; and (4) that Hong Kong has a large foreign exchange reserve. These considerations will ensure that the D=S line in Figure 5 will not be subject to insurmountable speculative pressure such as befell the British pound in 1992<sup>3</sup>.

For China, given that it has a large state enterprise sector which is still incurring huge losses it cannot achieve full employment balanced budget in the near future, and given also that it has both a foreign debt and an internal debt, potential swings in expectations will be much larger than in the case of Hong Kong. Concern about large fluctuations in hot money flows underlies China's reluctance to move quickly towards Renminbi convertibility in the capital account. A monetary policy that provides an even clearer signal for currency stability than that proposed for Hong Kong will help contain expectations. A currency board system similar to that currently in place in Hong Kong with a key adjustment to be explained below would serve the purpose. In the case of Hong Kong, the Monetary Authority stands ready to issue certificates of indebtedness to the designated note-issuing banks at the rate of HK\$7.8 for each U.S. dollar submitted (thus allowing issue of the currency in the corresponding amount), and to redeem such certificates paying US\$1 for the return of every HK\$7.8. This arrange-

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<sup>3</sup> The pound sterling was forced to leave the European Monetary System in September 1992 under immense selling pressure primarily because speculators the strength of the sterling was hurting the economy in a way that speculators believe is politically unacceptable. It is apparent that if the UK had not been a member of the EMS and if full employment had been the objective of monetary policy, the pound sterling would never have appreciated so much and would not need to have depreciated so much.

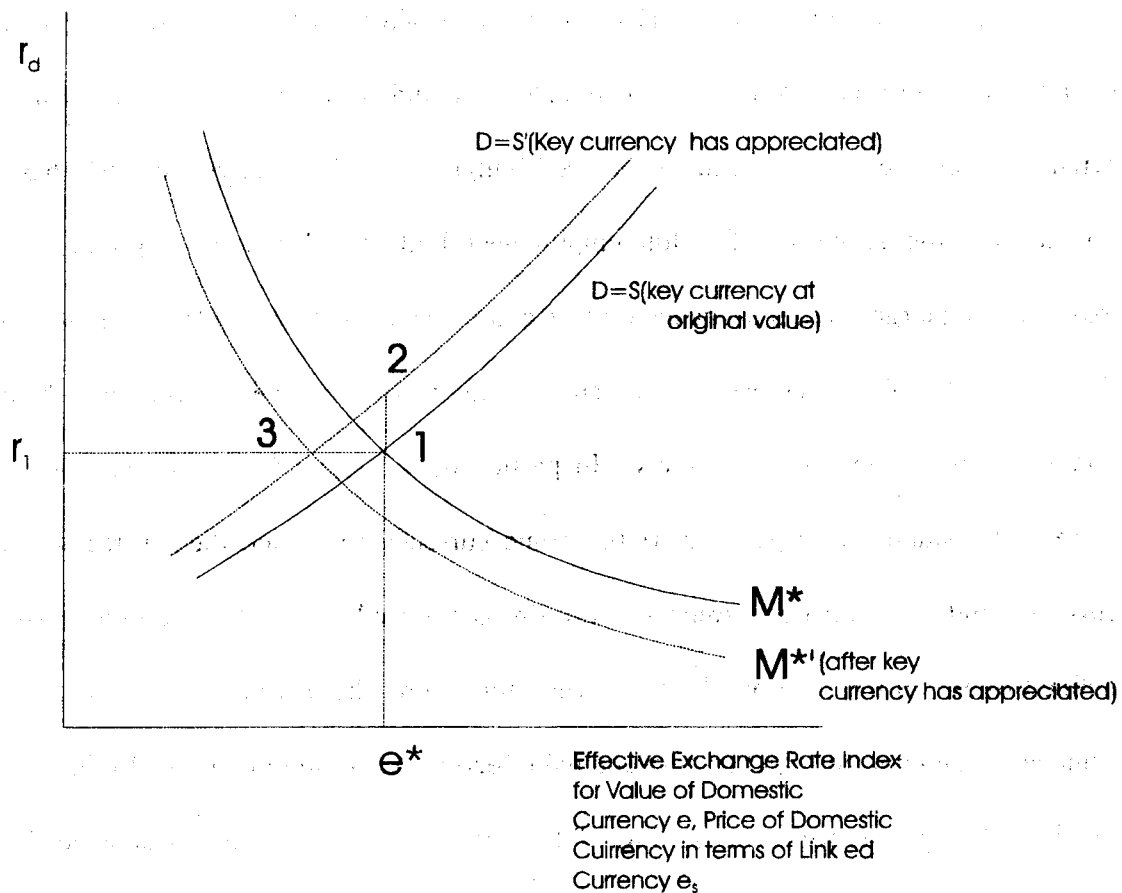
ment links the Hong Kong dollar to the U.S. dollar at a fixed, officially announced rate. The Hong Kong experience since the adoption of this “linked exchange rate system” on October 17, 1983 shows that it is effective in containing expectation gyrations, particularly when complemented with other institutional arrangements.

The problem with using a fixed official link rate is that instability of this key currency will cause unnecessary gyrations in the effective exchange rate index. In Figure 6, we let the horizontal axis depict the effective exchange rate index( $e$ ) as well as the price of the domestic currency in terms of the key linked currency( $e_s$ ). Suppose we start from Point 1 which provides for full employment monetary policy and exchange rate equilibrium. Now the key currency appreciates.  $M^*$  plotted against  $e_s$  will then shift down.  $M^*$  plotted against  $e$  will not change. Keeping the same link with the key currency will mean that there will be excess supply of the domestic currency at the old ( $r, e$ ) combination. The  $D=E$  line plotted against  $e_s$  shifts up, necessitating a rise in the domestic interest rate at a time when interest rates should go down. This happens when the appreciation of the linked currency against other currencies shifts  $M^*$  down to  $M^{*'} (plotted\ against\ e_s)$ , implying that interest rate has to fall if the effective exchange rate has appreciated because of the link. If, on the other hand, the domestic currency is linked to a basket of currencies as included in the effective exchange rate index,  $M^*$  will not shift, and  $D=S$  line will also not shift. All that will happen is that the domestic currency will depreciate relative to the key currency. Such depreciation simply offsets that currency’s own appreciation against other currencies. While the effective exchange rate index remains unchanged, the

exchange value in relation to the “key currency” would have fallen, as indicated by dropping a perpendicular from Point 3.

Ho(1990) suggested a simple way of linking a currency to a basket of currencies. It is through announcing a target for the trade-weighted exchange rate index and, whenever there is a need to do so, announcing a new official rate of exchange between the home currency and a key instrumental currency such that the target effective exchange rate index is achieved. The monetary authority or the central bank must be prepared to trade between the home currency and the instrumental currency at the announced exchange rate. Ho argued that speculators would then be a friend to the monetary authority/central bank because whenever there was a tendency for the spot exchange rate index to deviate from the target, the knowledge that the monetary authority/central bank will step in-- and in a predictable direction and magnitude-- will encourage speculators to act in the direction that will eliminate the deviation. Under this proposal the RMB would be effectively linked to a basket of currencies as included in the trade-weighted effective exchange rate index.

Over the longer run, when China’s fiscal position becomes stronger, then China can adopt the FEPBB and FEGBB policies as recommended for Hong Kong. The RMB can be linked to a key currency according to an official exchange rate that, combined with the prevailing interest rate, will bring the PD line - horizontal axis intersection to the full employment level.



Note:  $M^{*'}$  and  $D=S'$  are plotted against  $e_s$  while  $M^*$  is plotted against both  $e$  and  $e_s$ .

Figure 6

### 5. Conclusions

It is widely believed among central bankers that the objective of monetary policy should be price level stability only. The suggestion that monetary policy should aim at full employment will no doubt invite suspicion. However, in point of fact the general policy proposal made in this paper is consistent with the price stability objective. If full employment is interpreted as natural rate employment it is clearly consistent with price level stability.

We have demonstrated that Hong Kong and Mainland China, as economies that do not allow inter-jurisdictional fiscal transfers, should have two separate monetary systems if they are to each achieve balanced budget and full employment. We have argued that the adoption of a full employment budget balance fiscal policy, the existence of a large foreign exchange reserve and the availability of credit facilities, and finally the steadfast adherence to an announced, credible monetary rule will help contain worries over exchange risks. In particular, we argue for a currency board system that stands ready to convert the home currency for a specified instrumental currency and vice versa according to officially announced rates which follow clearly defined rules. In the case of China we argue for setting the official link rate so as to achieve the announced target trade-weighted effective exchange rate index. In the case of Hong Kong, we argue for setting of the official link rate so as to achieve full employment aggregate demand, given a fiscal policy that adheres to full employment budget balance.

## References

Eichengreen, B., Tobin, J., and C. Wyplosz (1995) "Two cases for sand in the wheels of international finance," *Economic Journal*, 105, 162-172.

Ho, Lok Sang (1997) "China's Road to Exchange Rate Liberalisation," in Joseph Cheng (ed.) China in the Post-Deng Era, Chinese University Press, forthcoming.

Ho, Lok Sang (1988) Government deficit financing and stabilisation. *Journal of Economic Studies*, 15(5), 34-44.

Ho, Lok Sang (1990) "A Proposal for an Adaptive Linked Exchange Rate System," Hong Kong Economic Papers, 20, 89-96.

Mussa, M., Goldstein, M., Clark, P., Mathieson, D., and T. Bayoumi (1994) Improving the International Monetary System: Constraints and Possibilities, IMF, Occasional Paper No. 116, Washington D.C.

Sala-I-Martin X. and Sachs J. (1991) Fiscal Federalism and optimal currency areas: evidence for Europe from the United States, *NBER Working Paper* No. 3855, Cambridge MA.