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TO MONETARY INTEGRATION?

Shu-ki Tsang

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From “One Country, Two Systems” to Monetary Integration?

Shu-ki Tsang*

Hong Kong Baptist University

Hong Kong Institute for Monetary Research

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Abstract

The Hong Kong dollar has been pegged to the U.S. dollar since 1983. Recently, the rapid economic integration between Mainland China and Hong Kong has raised concern about the continuing optimality of the peg. Officially, the Hong Kong Special Administrative Region (HKSAR) is under the framework of “one country, two systems” and “one country, two currencies”. Hence monetary integration was never in the pipeline. However, is the existence of separate currencies consistent with the fast changing economic reality? Would a re-peg with the Renminbi, the Chinese currency, or even a monetary union with the Mainland, be possible options, particularly if the Renminbi becomes fully convertible some time in the future? If so, what are the preconditions for the options? What needs to be done to prepare for them? This paper addresses these interesting questions by going through the complicated issues of trade, real versus nominal convergence, risk sharing as well as labour mobility. It emerges that the *status quo* is optimal in the foreseeable future.

* Tel: (852) 3411 7544/7548, Fax: (852) 3411 5580, Email: sktsang@hkbu.edu.hk, Homepage: www.hkbu.edu.hk/~sktsang

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1. Introduction

One country, two monetary systems, or indeed multiple monetary systems, is nothing new in China. During the civil wars of the 1930s and 1940s, even communist occupied areas had their own currencies, as these areas were militarily separated by Nationalist armies (Wu, 1998). Anyway, those currencies were short-lived, and were later unified by the ultimate currency, the Renminbi (“the people’s money”) in 1948-49.

During the reform period, the foreign exchange certificates (FECs) were used “exclusively” by foreigners inside China before they were abolished in the reforms of 1994. They could also be regarded as a pseudo-currency for the purpose of market segmentation despite the fact that it had a parity value with the Renminbi. In the development of the four special economic zones (SEZs) in the 1980s, there were also discussions of setting up an SEZ currency (Chan and Tsang, 1985). I, for one, was supportive of such an idea, along with other SEZ officials and scholars, although nothing emerged at the end of the day.

Actually, China is now practicing “one country, three currencies”: the Renminbi, the Hong Kong dollar, and the pataca in Macau (after Macau became the second special administrative region (SAR) of China in 1999, following Hong Kong as the first in 1997). Macau has been Hong Kong “polarized” to a marked extent for a long time, despite its history as a Portuguese colony. But the pataca is still used in Macau today (which is pegged to the Hong Kong dollar at the rate of 1.032). If Taiwan ever re-unites with Mainland China, there may be a situation of “one country, four monetary systems”!

In any case, what seems interesting about the case of Hong Kong and Mainland China is perhaps the circumstances under which the two separate currencies emerged and then developed, and the “asymmetry” between the SAR and the sovereign economies. Hong Kong is an international financial centre that has roughly the fourth highest GDP per capita in the world; while China has undergone a very impressive process of economic reforms, albeit from a very low level of development and having had to deal with much socialist institutional rigidity. The gaps between the two economies have been rapidly narrowing in the past two decades. Moreover, the integrative process between them, in terms of trade and investment, as well as controlled population flows, has generated a tremendous impact on both sides, particularly on Hong Kong. The transformation of Hong Kong into a service economy with massive relocation of manufacturing industries to southern China is a case in point. Still, few would recommend a hasty monetary union, even after the Renminbi has achieved full convertibility sometime in the future.

In any event, if and when a monetary union is in order, it would be a very interesting experiment. Hong Kong is practicing a currency board system, with the Hong Kong dollar, a fully convertible hard currency, pegged to the U.S. dollar at the rate of 7.80. The Renminbi is “Article VIII convertible”, according to IMF standards, under a managed float (Tsang, 1997). The convergence process, if deemed feasible and desirable, would pose challenges for monetary and economic management. Of course, one may argue for a long-term coexistence of the two currencies (Barandiaran and Tsang, 1997) and against any proposal for monetary integration or even monetary union.

2. One Country, Two Monetary Systems: The Facts

Officially, the position is clear. Under the framework of “one country, two systems”, the Hong Kong Special Administrative Region (HKSAR) is to decide its own monetary policies in accordance with Articles 110 to 113 of the Basic Law, the SAR’s mini-constitution. Post-1997 monetary relations between Mainland China and Hong Kong have come to be officially defined as, in the words of Joseph Yam, Chief Executive of the Hong Kong Monetary Authority (HKMA), the territory’s central bank, “one country, two currencies, two monetary systems and two monetary authorities which are mutually independent” (Yam, 1996). Such a characterization has been endorsed by Chen Yuan, a Deputy Governor of the People’s Bank of China (PBOC), the country’s central bank. Chen (1996) emphasized that “(t)he Hong Kong dollar and the Renminbi will circulate as legal tender in Hong Kong and the mainland respectively. The HK dollar will be treated as a foreign currency in the mainland. Likewise, the Renminbi will be treated as a foreign currency in Hong Kong.”

That is the theory. Reality has certainly been driven by more practical factors and forces. Before 1978, the beginning of the Chinese economic reform, the existence of the Hong Kong dollar as a convertible currency served China well. As much as one-quarter to one-third of Chinese foreign exchange earnings was said to have been derived from Hong Kong. Of course, Hong Kong at that time was a British colony, and nothing could have been done by China on the Hong Kong dollar.

After the launching of the economic reform and the open policy in the late 1970s, Hong Kong assumed a new role, as an important trading partner and “foreign investor” for the Mainland, as well as a stepping-stone for other foreign traders and investors. After more than two decades, Hong Kong is still now the largest trading partner with China if outward processing is not netted out, and is the busiest port re-exporting the Mainland’s goods.

Moreover, as Table 1 shows, the SAR is the country’s biggest foreign investor, accounting for over 50% of total foreign capital. The second is the U.S. and the third is Japan. However, it is widely believed that the second largest investor should be Taiwan, much of whose capital has been channeled to Mainland China through Hong Kong because of the restrictive policies of the Taiwan government.

In a number of ways, China has been benefiting from the continued existence of the Hong Kong dollar, given the fact that the Renminbi is not yet a fully convertible currency. Other than using Hong Kong as a source of foreign exchange earnings, citizens and enterprises, especially those in southern China, have been hoarding Hong Kong dollars for transactions as well as store-of-value purposes. Table A.1 in Appendix A gives a rough estimate of the amount of extra-territorial circulation of the Hong Kong currency in China.

While in the earlier years of reforms, hoarding might have been driven by a fear of devaluation of the Renminbi, and therefore could be regarded as a form of “currency substitution”, the situation has been rather different in recent years, particularly after the Deng whirlwind of 1992, when paramount leader Deng Xiaoping urged the country to accelerate its reforms and the pace of growth. Emboldened by the success in the transformation of some of its state-owned enterprises, China expanded its own stock markets in Shanghai and Shenzhen, and allowed a growing number of enterprises to be listed in Hong

Kong. That resulted in an explosion of Chinese stocks traded in Hong Kong. At present, the company with the largest market capitalization in the Hong Kong stock exchange is China Mobile. Together with two other Chinese stocks, China Unicom and CNOOC, the three account for 17-18% of the whole market's capitalization! There are others that are called "red chips" and "H-shares", which take another 4-5% of the share. In short, about one-quarter of the market value of Hong Kong's stock exchange belongs to Chinese-owned or directly related companies. Ten years ago, this was totally unimaginable.

On the other hand, because the impact of the East Asian financial crisis, Hong Kong plunged into the deepest recession on record. Asset and consumer prices rapidly adjusted, but not deeply enough. Consumer goods, durable or otherwise, and services in southern China have become increasingly attractive and a new trend has emerged that Hong Kong people spend their free time consuming in Shenzhen and the Pearl River Delta. Despite the official position (since 1994) that foreign currencies are not allowed to circulate in China, Hong Kong dollars are still easily accepted in daily transactions, at least in the Pearl River Delta, but with a major difference from the past. That is, in the retail sector, particularly in Shenzhen, just north of the SAR in Mainland China, Hong Kong dollars are often traded at parity with the Renminbi, implying a devaluation of the SAR currency (which is pegged to the U.S. dollar at the rate of 7.80, while the Renminbi's exchange rate against the U.S. dollar has been hovering around 8.20-8.30 since 1995). In bulk transactions, though, the prevailing exchange rate is still used.

In other words, the situation is less of "currency substitution" than "transaction convenience". While the credibility of the Renminbi has been on the increase all the time, the higher degree of economic integration of Hong Kong and Mainland China means that it would reduce transaction costs for Chinese parties to accept and to store Hong Kong dollars. The other side of the story must also be told: Renminbi is also increasingly accepted for transaction purposes in Hong Kong. Unlike China, of course, Hong Kong allows the circulation of foreign currencies although the Hong Kong dollar is the only legal tender.

One interesting episode is that during the East Asian crisis, Chinese authorities, including Premier Zhu Rongji, had to declare that Renminbi would not be devalued, in order to ward off speculative pressure against the Hong Kong dollar, as if the fate of the two currencies were intertwined. The problems actually had more to do with Hong Kong's own economic development (Tsang, 1994; 1999c) and the defects in Hong Kong's own currency board system (Tsang, 1996b; 1998a,b, c; 1999a,b). Nevertheless, one can easily be reminded of Gresham's Law. But which is the good money? Which is the bad one? One has to be open-minded about it, particularly in the long run.

3. Theories Updated

"One country, two monetary systems" is a unique experience. As Barandiaran and Tsang (1997) argue, supporting the *status quo* amounts to addressing critically the arguments for monetary unification, the alternative to the coexistence of the two currencies. The situation cannot be compared directly with Europe's ongoing economic integration and monetary unification because of the differences in the political systems. In Europe, monetary unification has been advanced as an instrument of political integration. Nor can it be compared with the reunification of Germany, where the two economic systems were hardly related before the collapse of communism in Eastern Europe, and monetary unification was a

prerequisite for absorbing East Germany rapidly into the West German economic entity. Furthermore, it is unlike the unification of Germany in the 19th century under Bismarck, when political centralization spearheaded by Prussia over the various German states went ahead of monetary and fiscal union (James, 1997). Hong Kong, under the “one country, two systems” framework, enjoys full autonomy from China except two things: defence and diplomacy. After all, it is an SAR.

What then is the economic rationale for monetary unification? If not, what are the ways in which the two currencies can continue to coexist? Because of the political reality, a system of one currency can only mean the elimination of the Hong Kong dollar. Just before the transition of 1997, we (Barandiaran and Tsang, 1997) found no good economic arguments for this option.

The benefits of unification are related mainly to (a) the transaction costs of currencies and (b) the risk posed by exchange rate variations. In the case of Mainland China and Hong Kong, unification would reduce the transaction costs and the risk of exchange rate variations *only between the Hong Kong dollar and the Renminbi but not between the Renminbi and other currencies*. (The transaction costs and risk between the HK dollar and the other currencies are generally perceived to be relatively small.) For China, the value of these benefits would be determined mainly by the relative importance of trade and capital flows between China and Hong Kong, which is rather high, but not overwhelming. For Hong Kong, however, their value would depend mainly on the impact on trade and capital flows between Hong Kong and countries other than China which in turn would depend on perceptions about the quality of the Renminbi: *only if the Renminbi were a perfect substitute of the Hong Kong dollar, there would be no impact*. This is unlikely to be the case in the short run.

In conclusion, both the economic benefits and costs of unification are likely to be low in the near future. Moreover, for Hong Kong, the net benefit could be negative. While there is no good economic justification for unifying the two currencies, the questions are how they may coexist and what the Chinese government should do to facilitate any particular form of coexistence. Three forms of coexistence are distinguished by Barandiaran and Tsang (1997): (1) spontaneous competition, (2) legal competition, and (3) monopoly.

The first two forms imply that both currencies *may* be used by residents of the same geographical areas for their domestic transactions. Spontaneous competition means that only the Renminbi is the legal tender but at least in some areas of China residents use both currencies in some domestic transactions and use the Hong Kong dollar in some transactions with Hong Kong counter-parties (and perhaps with other non-residents), whereas legal competition means that both are legal tender at least in some areas of China (e.g. Shanghai and Shenzhen). Monopoly assumes the strict enforcement of the prohibition of the Hong Kong dollar (or any foreign currency) to circulate in China.

We characterized the situation in 1996-97 as one of spontaneous competition. As it turns out, of course, the situation now is still that of “spontaneous competition”, at least in the Pearl River Delta. But as I said above, the competition is now less related to “currency substitution”, than to “transaction convenience”.

With hindsight, the failure of options (2) and (3) to prevail should not be surprising. With rising confidence about the Chinese economy and concern about “political correctness”, option (2) is really a non-starter, particularly after the transition of 1997. Monopoly is the official position. But given the difficulties of

strict implementation and the informal benefits of “transaction convenience”, in some localities at least, why bother to crack down on spontaneous competition, a game in which the Renminbi is not losing?

4. Empirics for a Hong Kong-China OCA

Given two neighbouring countries or territories, each with its own currency, there are two forces conditioning the extent to which the two currencies are used and demanded in both areas. First, the degree of market integration between the two economies conditions the transaction demand for the currencies (i.e., their demands as means of payment). Second, if the two economies are closely integrated, the differences in the quality of the two currencies as determined by the stability of their values and their convertibility into other foreign currencies condition the asset demand for the currencies.

The degree of economic integration between China and Hong Kong is very high in the Pearl River Delta in the Guangdong Province of south China, but it declines rapidly when one moves further north inside the country. On the surface, the process of economic integration between Hong Kong and southern China has been phenomenal; and one may ask whether the co-existence of two currencies within a highly integrated economy is beneficial. Nevertheless, one needs to look at the micro-structure of integration.

Appendix A, on the other hand, gives estimates of the circulation of the Hong Kong currency (notes and coins) in China. The figures for 1998-2000 are subject to the noise of the East Asian financial crisis and the problems of Y2K, which led to large increases in currency issuance in Hong Kong. Given the rather simplistic methodology that I have adopted, it tends to exaggerate the increase in extra-territorial circulation. Taking into account other anecdotal evidence, it seems safe to conclude that such circulation has stabilized at about 2% of Hong Kong's GDP. In other words, Hong Kong is not winning, and Mainland China is not losing in the process of “spontaneous competition”.

Tsang (2002) has also attempted some more formal tests on whether Hong Kong and Mainland China constituted an “optimum currency area” (OCA) (Mundell, 1961). In a nutshell, the answer is “no”. Tsang (2002) extends the techniques of Ma and Tsang (1997) to more updated and higher frequency data. The findings show closer integration with Eastern China in a few aspects, but Mainland China and Hong Kong still did not constitute an OCA even up to the very recent past.

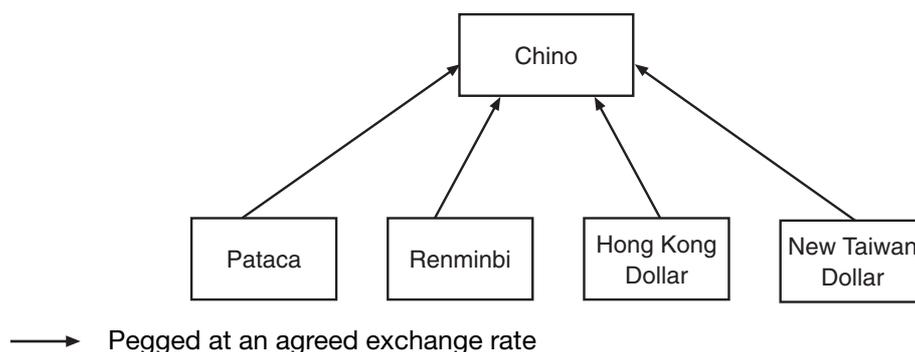
Hence, the empirical conclusion is quite clear. There is no case for a monetary union any time soon. Since the present situation is not heavily manipulated by government policies, and it reflects to a large extent the interplay of economic forces, “one country, two monetary systems” appears to be the optimal choice.

5. Possible Forms of Monetary Integration

What about in the future, when the Renminbi becomes full convertible, is a monetary union justifiable? It still very much depends on the degree of economic integration. Moreover, one must also address the fact that Hong Kong-Mainland China monetary integration would provide the framework for an eventual

Greater China monetary union. So it has to be broad enough. Potentially, four forms of monetary integration can take place in the future:

- I. The *status quo*.
- II. The pegging of the Hong Kong dollar (or Macau's pataca and the New Taiwan dollar) to the Renminbi instead of to the U.S. dollar (or Hong Kong dollar and floating).
- III. A "Chino" can be launched, and the currencies of the four members, Mainland China, Hong Kong, Macau and Taiwan, can be pegged to it at agreed fixed rates.



- IV. Abolition of the Hong Kong dollar and other currencies: i.e. Renminbi-zation or Chino-ization for Hong Kong and the others.

Options I, II and III would meet no legal problems as far as Hong Kong and Macau are concerned as their respective Basic Laws stipulate the continuous existence of the SAR currencies, but without any specific provisions about the exchange rate regime except that of adequate reserves. The loose legal framework for Hong Kong's exchange rate regime is described in Tsang (1999b), in contrast to more stringent regimes like Bosnia-Herzegovina and Estonia.

"In the case of Hong Kong, Article 111 of the Basic Law requires that the issue of Hong Kong currency be backed by a 100% reserve fund, without specifying the reserve assets. There is no central bank law. The only other relevant statutory provision in Hong Kong's CBR is Section 4 of the Exchange Fund Ordinance, which covers the Certificates of Indebtedness for issuing bank notes. Section 4(1) of the Ordinance stipulates full backing for Hong Kong dollar bank notes issued. Again, no specific assets in foreign currency are referred to."

Indeed, the terms "U.S. dollar", "7.80", and "currency board" appeared in no ordinances or regulations. Hence legally Hong Kong's exchange rate regime can be fixed or floating, or a peg to any currency, as long as there is full reserve backing for the issuance of the currency.

For Taiwan, the situation is of course much more complicated. The major constraint is political as well as economic in nature. Option III would probably meet less resistance than option IV.

For option IV, both legal and political problems are involved for Hong Kong and Macau. The Basic Laws for the two SARs would have to be amended.

6. A Common Market? Trade and the Matter of Invoicing

Let us start with option II, i.e. the minimum deviation from the *status quo*. Should the Hong Kong dollar be re-pegged to the Renminbi, particularly in the light of the recent discussions of establishing a Hong Kong-Mainland China Free Trade Agreement?

The Economic and Monetary Union of Europe grew from the establishment of the Common Market. In other words, it was driven by trade. A common currency is based on the popularly perceived benefit that it would reduce transaction costs and exchange rate risk in trade.

In discussing a possible Asian monetary union, Charles Wyplosz (2001, Table 6) stresses the obstacles by pointing out that the portion of East Asian trade is smaller than that of intra-Europe trade, as shown in Table 2. So the precondition of trade convergence is less mature.

In fact, the matter is worse than those figures suggest, because a large chunk of the East Asian trade is trade in raw materials and intermediate goods, e.g. that between China and Hong Kong (for outward processing), and between Indonesia and Singapore (for oil refining activity). Most of the finished goods then go to the U.S. and Europe. As a note of caution, though, I was not able to locate information about intermediate trade within Europe. An intelligent guess is that it should be less than in East Asia.

In the case of Hong Kong, Table 3 shows some interesting features and drives home the point dramatically.

If one neglects the phenomenon of outward processing, under which Hong Kong manufacturers take advantage of the cheap labour and other production costs in southern China, one would conclude that China has replaced the U.S. as Hong Kong's number one trading partner. However, adjusted for outward processing, Hong Kong's dependence on the U.S. as the largest market for end products has actually increased, not decreased! The swing is huge.

Similarly, from the angle of the Mainland, Hong Kong is only its third largest trading partners, after Japan and the U.S., as shown in Table 4, which already nets out intermediate trade.

There is also the issue of trade invoicing. In the early years of European economic integration, trade among European countries were largely invoiced in U.S. dollars. As the process deepened, it began to be denominated in national currencies such as the German mark and the French franc. Now it is of course the Euro.

In the case of trade between Hong Kong and Mainland China, it has mostly been denominated either in U.S. dollars or Hong Kong dollars, as the Renminbi is not fully convertible. With current account convertibility (or to be more exact, Article VIII convertibility) achieved in 1997, the trade counterpart in the Mainland would not have difficulties in converting his Renminbi into Hong Kong dollars (or U.S. dollars or Japanese yen) and paying his supplier in the SAR in the latter. Of course, since the Renminbi has been under a soft peg, theoretically there is an exchange rate risk in accepting offers invoiced in any of the currencies, on top of the transaction cost of converting. In the national foreign exchange centre in Shanghai, three currencies (the U.S. dollar, the Japanese yen and the Hong Kong dollar) are being traded by designated foreign exchange banks and financial institutions.

Overall, from the perspective of Mainland China, since its external trade, even including some of its trade with Hong Kong, is largely denominated in U.S. dollars and Japanese yen, a monetary union with the Hong Kong dollar would not bring significant benefits in reducing transaction cost and exchange rate risk.

The invoicing issue can be solved if members of the monetary union's external trade is invoiced in the same currency, say the U.S. dollar, then the risk of intra-monetary union trade could be reduced. What is bad is if the trade proportions differ substantially and the intra-trade partners practice conflicting exchange rate regimes. Appendix B provides a demonstration. The lesson is that there are quantity considerations! The smaller the external trade or invoicing portion, the less the likelihood of asymmetric shocks generating destabilizing effects.

So far, intra-trade and invoicing do not justify any further strengthening of monetary integration. However, a recent proposal is to have a Hong Kong-Mainland China Free Trade Zone/Agreement. That proposal would have the end result of promoting intra-trade, and hence enhancing the net benefit of monetary integration.

In sum, from the perspective of trade, deepening of monetary integration is not an urgent matter to address. Over the long term, what needs to be monitored are the patterns and proportions of external and internal trade, even after the Renminbi has become fully convertible.

7. Issues of Real Convergence and Nominal Convergence

What about further progress beyond a common market? Will options III and IV become attractive or desirable in the very long run?

A monetary union requires economic convergence (Mundell, 1961). However, there is a controversy on what "convergence" means. The key contention is that between the so-called "traditional view" (De Grauwe, 1996) which stresses real convergence against the new view (Melitz, 1988; Alesina and Grilli, 1993) which emphasizes nominal convergence for the monetary union.

A. *The Issues of Real versus Nominal Convergence*

Indeed, some would reason that real convergence and nominal convergence should be achieved in parallel. Others even argue that real convergence is the prerequisite to nominal convergence, hence also a precondition to a monetary union.

In the European monetary union, policy makers have been talking about the need for nominal convergence among members or potential members. The Maastricht Treaty of 1992 laid down five criteria of nominal convergence concerning government deficit, exchange rate stability, inflation, interest rates and national debt. The Stability and Growth Pact of 1997, on the other hand, provided guidelines for fiscal convergence. There were also discussions about real convergence, but so far they have not been buttressed by detailed guidelines, except in the case of East European aspiring entrants, where the need for real structural reforms are obvious.

According to De Grauwe (1996), the traditional theory of OCAs concentrates on real convergence and neglects nominal convergence, and for good reasons.

“The most striking aspect of the theory of optimum currency areas is that it is completely silent on the need for prior convergence in inflation rates, interest rates, budget deficits or the level of government debts. In contrast, this theory stresses the need for real wage flexibility, mobility of labour, and fiscal integration as preconditions for a successful monetary union.” (p. 1092)

In other words, real growth, employment and economic structures should converge to handle asymmetric shocks. Which comes first?

In any case, nominal convergence is also important for a monetary union, if in an ex post rather than ex ante sense. The main reason, as argued by von Hagen and Hammond (1998) is that the union “will entail the loss of the exchange rate as an independent policy instrument to cope with asymmetric shocks to member economies. If goods and factor prices were sufficiently flexible for immediate relative price adjustment, this loss would pose no problem for macroeconomic stability. Nominal rigidities, however limit the role of this adjustment mechanism.”

A “compromised view” is that real convergence and nominal convergence are related and they interact with each other. In its Annual Report 2000, the Eesti Pank (Bank of Estonia) states,

“The combined effect of real and nominal convergence is a serious monetary policy issue for the candidate countries: in order to reach the EU level in real income, Estonia’s economy should grow faster than EU member economies whereas this would bring higher inflation level. Therefore it is not appropriate for the candidate countries to focus their monetary policy strategy solely on bringing down the inflation, ignoring requirements for real convergence or to use a floating exchange rate policy for slowing inflation through nominal appreciation of the currency. Monetary policy should support macroeconomic stability, so that economy grows fast and maintains competitiveness. Countries with fixed exchange rate policy should avoid wage-price spiral that will threaten competitiveness.” (Eesti Pank, 2001, p.37)

Economists in Estonia, one of the candidate countries in the enlargement process of the EU, are talking about real annual growth rates of about 3%, and inflation rates of about 2% above the EU averages. One of the main reasons is the trade-oriented real growth pattern of those candidate countries and the so called “Balassa-Samuelson effect”.

B. The Case of Hong Kong and Mainland China

The question is whether Hong Kong and China can achieve real and nominal convergence in the future, and what the sequential implications are.

Regarding real convergence, it is essentially Mainland China converging towards Hong Kong, at least in the medium run. Mainland China is like Estonia (although this may not be a politically correct way of putting it), and it needs to continue its market reforms, so that it would have a functioning market

economy and could stand competitive pressures within any future monetary union. The EU resolved on the so called “Copenhagen economic criteria” in anticipation of the enlargement process.

In this regard, the prospects look good, particularly with China’s WTO accession. Market reforms are most likely to persist, albeit perhaps with occasional hiccups. China is expected to grow at an average of 6%-7% in the coming decade, while potential GDP for Hong Kong is estimated to be around 3%-4%.

However, as De Grauwe (1996) points out, real convergence involves also “the need for real wage flexibility, mobility of labour, and fiscal integration as preconditions for a successful monetary union.” There are political as well as economic problems in those regards and I will revisit them later in the paper.

As far as nominal convergence is concerned, it refers in the key sense to the convergence in inflation rates, not in price level. Both Hong Kong and Mainland China have experienced bouts of strong inflationary pressure in the past two decades.

One interesting phenomenon observed in Hong Kong is that despite the peg with the U.S. dollar, Hong Kong’s inflation rate had been persistent over the U.S. counterpart, up to the East Asian financial crisis. In the literature, two standard explanations are offered to explain inflation in open economies: (1) the Balassa-Samuleson effect and (2) the Dutch disease. As Sachs and Larrain (1993) explain, both are a result of a significant rise in the demand for the tradables of the economy, which raises their prices. The price and income effect spill over to the nontradable sector, where growth in total factor productivity (TFP) is slower. Hence export-led economies tend to suffer from an inflation bias. The major difference between the Balassa-Samuleson effect and the Dutch disease is that in the latter case, the demand is for new tradables, which crowds out the traditional tradables. The inflationary pressures also tend to be stronger under the Dutch disease.

Imai (1999) has performed an empirical analysis on the average Hong Kong - U.S. annual inflation gap of 4.3% in 1985-96, and confirms the Dutch disease as the major cause. His findings show that an “overwhelming part (3.8%) of the gap in the rate of inflation originates from the growth rate gap in the price of tradables, which is largely attributable to the fast rise of Hong Kong’s tradable services prices. The Balassa-Samuelson effect, the change in the price of the nontradables, was quite small (0.5%). Because the tradable services sector, whose TFP growth rate has been slow, dominates Hong Kong’s tradable sector, the TFP growth rate gap has been small and therefore, it has failed to generate a strong Balassa-Samuleson effect.” (Imai, 1999, p.14)

Guillaumont Jeanneney and Hua (2001), on the other hand, study provincial inflation differentials in 1992-1999 and find that the Balassa-Samuelson effect cannot be rejected as a hypothesis. Although this is not a study of China as a whole vis-a-vis the rest of the world, it does not seem too far-fetched to speculate that the Balassa-Samuelson effect is also working in that context.

Looking into the future, Imai predicts that the Dutch disease in Hong Kong would subside as Hong Kong’s tradable services would no longer be “new”, implying a decline in its demand. “The Hong Kong services sector’s TFP growth, whether tradable or not, has not been high. In the light of the Balassa-Samuelson effect hypothesis, Hong Kong’s long-term rate of inflation under the U.S. dollar peg should, therefore, settle at a level close to the U.S. in the future.” (Imai, 1999, p.14). As to Mainland China, it

seems likely that the Balassa-Samuelson effect may continue to operate, if not indeed strengthen, after its WTO accession.

Moreover, particularly in recent years, the border between the Hong Kong SAR and the Pearl River Delta in the Guangdong Province has become increasingly permeable. More and more Hong Kong citizens spend their holidays in the Delta, some even have bought residential units there. Economists are now talking about the equalization of factor prices between the two places.

Some claims seem exaggerated. For example, according to a report by the Planning Department of the HKSAR Government (Planning Department, 2001), only 41,300 Hong Kong residents aged 18 or over (0.8% of all persons aged 18 or over) had taken up residence in the Mainland (94% in the Guangdong Province) in the second quarter of 2001. Seventy-eight percent of those surveyed took up residence because it was “required by work”. The report also finds that 163,000 households in Hong Kong (7.9% of all households in the SAR) had purchased or built residential properties in the Mainland, while the households that had rented properties were 26,300 (1.3%). Other indications are that many of those properties are for “second home” and vacation purposes.

This is actually good news for Hong Kong. The last thing that the SAR needs is a rapid process of nominal convergence, implying serious deflation here and with all its economic and social consequences. A controlled or slow process of nominal convergence, with some positive inflation in Hong Kong is the best outcome. The key however is that Hong Kong must re-invent its growth engine. Manhattan’s property prices and rentals are still markedly above elsewhere in New York and New Jersey. The crux of the matter is whether Hong Kong can maintain its premium in physical assets, goods and services.

Nevertheless, in the long run, given the real growth potentials on the two sides, it appears that approximate nominal convergence (in terms of the inflation rate or even prices) between Hong Kong and Mainland China is possible.

8. Monetary Union and Risk Sharing

In a monetary union, the giving up of monetary and exchange rate policy needs to be balanced by smoothing and risk sharing mechanisms among members of the union, unless goods and factor prices are very flexible, a condition rather unlikely to obtain even given nominal convergence. These typically include:

- (1) Fiscal smoothing mechanism such as either independent fiscal policies among members or fiscal federalism by a central authority using taxation policies, fiscal transfers and insurance schemes (e.g. progressive federal income taxes) (Hughes Hallett, Hutchison and Jenson, 1999); and
- (2) Market-based mechanisms through the functioning of financial and credit markets, which share risk among different member regions through cross equity holdings and borrowing and lending (Athanasoulis and van Wincoop, 1998).

Asdrubali and Kim (1999) used a structural panel VAR model to analyze channels of interstate risk sharing among the states of the U.S. from 1963 to 1990, as well as channels of international risk sharing among 23 OECD countries from 1960 to 1990 and the 15 EU members from 1960 to 1990. In the U.S., they find that the bulk of risk sharing is provided through private channels (capital markets and credit markets), while fiscal risk sharing is very limited. Asdrubali, Soerensen, and Yosha (1996) find similar results for the same period, 40% of the shocks to state gross domestic product were smoothed by capital markets, 14% by the federal government, and 24% were smoothed by credit markets. The remaining 22% were not smoothed.

As to the 23 OECD countries, Asdrubali and Kim (1999) find that most risk sharing on impact takes place through the credit market channel. Since international data allow them to break down the credit channel into the components of saving (capital depreciation, net fixed investment, inventory change and trade balance), they could separate the credit channel smoothing into domestic smoothing (through gross total capital formation) and international smoothing (through the trade balance). This detailed analysis revealed that the bulk of smoothing is actually carried out through domestic investment (and in particular net fixed investment), rather than via lending and borrowing internationally.

Antia, Djoudad, and St-Amant (1999) look at the proposal of a monetary union between Canada and the U.S.. They find that there appears to be more smoothing of specific provincial shocks across Canadian provinces than there is smoothing of specific shocks affecting the two countries. Within Canada, their results show that the contributions of the capital markets, federal transfers and credit markets were 37%, 27%, and 27% respectively in the years 1962-1995, while 14% of the shocks were not smoothed. Comparing with the findings of Asdrubali, Soerensen, and Yosha (1996), they conclude that risk sharing via federal transfers and credit markets is higher in Canada than in the U.S.. "This is consistent with the fact that the Canadian federal government is generally seen as playing a larger role than its U.S. counterpart in stabilization and redistribution. Also, historically, the banking system is more integrated in Canada than in the United States, which allows for greater credit market smoothing." (p.12)

Regarding risk sharing between Canada and the U.S., Antia, Djoudad, and St-Amant (1999) find much less smoothing. There is no evidence of a significant role played by the capital markets or international transfers.

A controversy exists over whether fiscal federalism is necessarily a good thing for a monetary union. There are two contrasting views: Bayoumi and Masson (1997) versus Beetsma and Bovenberg (1997).

Bayoumi and Masson (1997) look at theoretical and empirical issues associated with the operation of fiscal stabilizers within an economy. They argue that such stabilizers operate most effectively at a national, rather than local, level. As differing cycles across regions tend to offset each other for the country as a whole, national fiscal stabilizers are not associated with the same increase in future tax liabilities for the region as local ones. Accordingly, the negative impact from the Ricardian effects associated with these tax liabilities is smaller. Empirical work on data across Canadian provinces indicates that local stabilizers are only one-third to one-half as effective as national stabilizers which create no future tax liability.

Beetsma and Bovenberg (1997), on the other hand, explore the case for monetary and fiscal unification. Monetary policy suffers from an inflation bias if the monetary authorities are not able to commit, i.e. in

the absence of a monetary union. Ironically, with international risk sharing in a fiscal union, fiscal discipline suffers from moral hazard. An inflation target alleviates the inflation bias but weakens fiscal discipline. In a monetary union, however, this adverse effect on fiscal discipline is weaker. The advantage of monetary unification may outweigh the disadvantage of not being able to employ monetary policy to stabilize country-specific shocks. While monetary unification may thus be optimal, international risk sharing through fiscal federalism may be undesirable because it weakens fiscal discipline. Hence it may be optimal to have a monetary union without fiscal federation.

Fatas (1997) in addressing the question “does EMU need a fiscal federation?” also came up with a sceptical answer. He points out that it is important to distinguish intertemporal transfers and interregional transfers. In the absence of interregional transfers, national fiscal policies within the monetary union play an important role.

So it seems to be an issue of fiscal “beggar thy neighbours” versus fiscal discipline. The Growth and Stability Pact (GSP) of 1997 apparently wanted to prevent the former scenario. However, with comprehensive real convergence, is the GSP viable?

If we cast all these theoretical and empirical considerations in the context of a possible Hong Kong-Mainland China monetary union, we can detect immediately a number of difficulties:

- (1) Independent fiscal policies are the norm under the Basic Law, which rules out tax-transfers mechanisms under fiscal federalism. However, the fiscal policies of Mainland China and Hong Kong are very different. In a monetary union, Hong Kong might suffer from the lack of fiscal discipline in China, if the present trends continue. Then Hong Kong has to practice a more pro-active fiscal policy to offset asymmetric shocks, which is however constrained by Article 107 of the Basic Law, which states, “The Hong Kong Special Administrative Region shall follow the principle of keeping expenditure within the limits of revenues in drawing up its budget, and strive to achieve a fiscal balance, avoid deficits and keep the budget commensurate with the growth rate of its gross domestic product.”
- (2) Hong Kong may then have to rely on market-based risk sharing, through the capital and the credit markets. Then it depends on the degree of integration between the markets in the two economies. Presently, the integration is one-sided: Chinese enterprises get listed in Hong Kong, absorbing Hong Kong capital; while Hong Kong banks lend to the Chinese side, much more than the other way around. A much better two-way flow is required for smoothing in a monetary union.

As Helpman and Razin (1982) and Neumeyer (1998) argue, a flexible exchange rate regime may be beneficial if insurance markets are incomplete in the absence of an effective tax-transfers system. Since the real returns to nominal assets in different regions would diverge as a result of shocks, exchange rate variability provides the missing insurance against those shocks.

Hence the question for Hong Kong and Mainland China, in pondering a possible monetary integration, is how “complete” the insurance through capital and credit markets is between the two economies, in the absence of a fiscal mechanism.

9. Labour Mobility and Monetary Union

Another key issue concerning monetary integration via comprehensive real convergence is that of labour mobility. Europe has very low labour mobility despite the EMU. What about the case of the “caged” Hong Kong?

The reality is 150 southbound immigrants to Hong Kong per day, while northward transfer of labour from Hong Kong is not under any clear rule. Unlike the 150, it is not automatic. Any person wanting a job in the Mainland has to go through a series of procedures. Although cultural and linguistic homogeneity is very much higher between Hong Kong and Mainland China than in Europe, it is not so easy under the present arrangements for Hong Kong residents to seek jobs in the Mainland, unlike the situation in the U.S., where people move around with no legal and relatively few economic barriers. Hence the major constraint is mainly political and, to a certain extent, economic.

We can look at the issue from the theories of endogenous growth that emphasize imperfect competition between firms, multiple equilibria in the markets and the role of history. Krugman (1992) tackles endogenous growth and increasing returns to scale from location and knowledge accumulation. The flexibility of the labour force becomes a key factor. In the localization process, the pooling effect is crucial for the firms, if they could hire more labour force in good times and less in bad times. And the labour force is in a better position because the firms are not able to exercise a monopsony power as labour is mobile. Hence labour mobility is crucial in determining the location of industries, on top of local-specific endowments and cumulative advantages.

In other words, technological spillover is not the most important factor determining localization of firms. High-tech industries tend to be localized, e.g. the Silicon Valley and route 68 in the U.S.. In a nutshell, real convergence is a necessary condition for an efficient distribution of localized industrial specialization. And labour mobility is a key.

This will be a crucial topic to tackle for any further monetary integration between the Hong Kong SAR and Mainland China.

10. Technicalities of Monetary Integration

How can a monetary union be implemented? The major complication is that Hong Kong practices a currency board system with the Hong Kong dollar pegged to the U.S. dollar, while the Renminbi is a floating currency. Politically, reality dictates that the Hong Kong dollar should re-peg and then merge into the Renminbi. How should the process be managed?

The unfolding experience of the East European currency board regimes, e.g. Estonia and Lithuania, which are applying to join the EMU and the Euro-zone, is an interesting reference. “Exit” from the currency board system becomes quite well-defined. One may even argue that it is not really an exit (to something uncertain in the future or to a land of “freedom”, e.g. re-pegging or floating) but a “re-tracking”, i.e. shifting from one track to another track, to take a railway metaphor (Tsang, 2000a).

One possibility is like what Lithuania is going to do. The initial choice of pegging to the U.S. dollar (rather than the German mark) created some problems. As the intention of joining the European Union and the eventual monetary union was made clear (Bank of Lithuania, 1997), a two-currency basket was proposed as a transitional measure to re-tracking (Niaura, 1998). However, the stability of the exchange rate between the euro and the U.S. dollar, among other factors, led the Bank of Lithuania to announce that instead of the basket transition, the litas would be pegged to the euro in the second half of 2001 (Bank of Lithuania, 1999). Eventually, it was announced that the re-pegging would take effect on 1 February 2002 (Bank of Lithuania, 2001).

In any case, there are uncertainty and costs associated with the re-tracking process (e.g. Keller, 2000). First of all, exchange rate uncertainty exists even after the unilateral pegging to the euro by aspiring currency board regimes. (In Lithuania's case, it seems to have had the blessing of the European Central Bank (ECB).) Renegotiation of the central rate against the euro may need to take place to reach an agreement for the eventual joining in the monetary union. Depending on the perceived size of the required rate realignment, which could range from zero to something rather significant, speculative capital movements might emerge. Given that EU and then EMU membership will involve the fulfillment of many criteria, the re-tracking cost, i.e. costs incurred to facilitate the process by potentially painful fiscal, monetary and other economic policies, could also be substantial; and various measures might not be fully consistent with each other. Finally, a currency board regime is a fixed exchange rate system; but the euro floats. There will therefore be other technical and behavioural adjustments that an economy making such an exit (entry) has to go through.

Can Hong Kong go the Lithuanian way, sometime in the future, as an intermediate step to join the Renminbi-zone? Probably yes, and the convergence problems may be easier to handle, if both Hong Kong and China work from a position of strength.

A more troublesome problem for Hong Kong is the transition period towards that future monetary union. Despite the East Asian financial crisis, which led to deep deflation in Hong Kong, the SAR remains very expensive as an operating hub and an international financial centre. There are critics all around who call for the abolition of the peg and the abandonment of the currency board system. They regard devaluation or re-floating as the best way to restore competitiveness for the SAR economy.

Resisting that advocacy, Hong Kong needs to restore its own growth trajectory consistent with the peg of 7.80. Otherwise, a future re-alignment with the Renminbi in another form of further monetary integration may face similar convergence problems in the "re-tracking" process, as described above.

11. Conclusions

The experiment of "one country, two monetary systems" as practiced in Hong Kong under Chinese sovereignty is a rather unique one, given the institutional differences and the developmental asymmetry. However, China is catching up fast, indeed very fast. Therefore, although there are still scant arguments for a monetary union between Hong Kong and China any time soon, one may be tempted to be a futurologist, and would be inclined to observe closely and, if possible, to draw some lessons from the

convergence problems for East European currency board regimes in their entry to the Euro-zone. A caveat is of course Hong Kong is no former Soviet colonies. And Hong Kong is not eager to form a monetary union with Mainland China, nor is the latter.

Various forms of possible monetary integration are set out for the future in the eventuality of the full convertibility of the Renminbi. Even for the re-pegging of the HK dollar to the Renminbi (option II), there does not seem to be any pressing need, unless intra-trade surges and other conditions prevail. Further forward looking considerations (options III and IV) throw in a number of testing questions to answer for the case of a monetary union, involving real and nominal convergence, public and private risk-sharing, and factor mobility.

The overall conclusion, albeit tentative, is that there is no pressing case for any further deepening of monetary integration between Hong Kong and Mainland China. In other words, option I is optimal in the foreseeable future.

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Table 1: Cumulative Investment of Registered Foreign Enterprises in China (by end-1998)

	Unit: billions of US\$
Hong Kong	410.18 (53.0%)
U.S.	68.76 (8.9%)
Japan	51.50 (6.7%)
Singapore	39.13 (5.1%)
Taiwan	37.50 (4.8%)
U.K.	20.24 (2.6%)
South Korea	16.96 (2.2%)
Germany	13.80 (1.8%)
Macau	11.92 (1.5%)
France	9.80 (1.3%)

Source: *China Foreign Economic Statistical Yearbook 1999*, China Statistics Press.

Note: The figures in parentheses represent the relative percentages in total foreign direct investment in China.

Table 2: Regional Trade Patterns (Per cent)

	Trade with region:			Trade with:		
	East Asia	Asia-Oceania	U.S.	Europe	U.S.	
Australia	42.0	47.8	13.5	Belgium	71.6	6.7
China	54.8	56.5	14.7	Denmark	66.1	4.7
Japan	30.7	33.9	24.8	France	69.2	7.3
Korea	38.0	40.8	19.6	Germany	58.5	8.0
Malaysia	54.3	57.0	17.7	Italy	58.5	7.1
New Zealand	26.5	52.0	13.6	The Netherlands	68.6	6.9
The Philippines	51.7	53.6	26.2	Sweden	61.4	7.9
Thailand	44.5	46.8	15.4	U.K.	56.4	13.7
Hong Kong	47.2	48.6	15.5	Austria	65.2	3.8
Indonesia	51.4	55.3	11.4	Finland	61.2	6.6
Singapore	50.9	52.6	17.0	Greece	62.3	5.0
				Ireland	61.9	14.7
				Portugal	83.5	4.1
				Spain	73.5	4.5
Average	44.7	49.5	17.2	Average	63.5	7.1

Source: Charles Wyplosz (2001, Table 6)

Note: Trade is measured as the ratio of average of exports and imports.

Table 3: The Shares of China and the U.S. in Hong Kong's External Trade (Unit: %)

	1981		2000		2000 (adjusted)	
	China	U.S.	China	U.S.	China	U.S.
Domestic exports	3.6	36.3	29.9	30.1	10.5	38.4
Re-exports (origin)	19.3	11.5	61.4	4.7	27.2	8.8
Re-exports (destination)	30.7	9.7	35.1	22.3	21.4	27.1
Imports	21.3	10.4	43.1	6.8	13.6	10.3

Source: *Hong Kong Monthly Digest of Statistics*, Census and Statistics Department

Note: The adjustments for year 2000 are to net out the portions, as estimated by the Hong Kong Census and Statistics Department, outward processing that Hong Kong performed in China from China's figures and the total of the exports and imports in calculating the relative shares of the market by China and the U.S.

Table 4: Destinations and Sources of China's Exports and Imports in 2000 (Unit:%)

	Exports	Imports	Total trade
Japan	16.7	18.4	17.5
U.S.	20.9	9.9	15.7
Hong Kong	17.9	4.2	11.4
S. Korea	4.5	10.3	7.3
Germany	3.7	4.6	4.2

Source: *China Foreign Economic Statistical Yearbook 2001*, China Statistics Press.

Note: Chinese statistics have apparently netted out outward processing.

Appendix A

Following Asian Monetary Monitor (1990), we model the normal pattern of currency-to-GDP (C/GDP) ratio in Hong Kong as the economy matures. Any “above normal” amount of currency in circulation (notes and coins) may then be interpreted as extra-territorial demand, i.e. circulation of HK\$ in southern China (and Macau, which we neglect here to simplify our analysis). International experience shows that a currency-to-GDP ratio of about 4% is the norm for a mature economy. We first fitted various equations of the form

$$Y = a + b/X^n$$

where Y is the actual currency-to-GDP ratio over the years, a is constrained to 0.04, and X is a time trend variable (66 representing the year 1966, 67 representing 1967....etc.). As X becomes larger, b/X^n will approach zero. Y will then come close to 0.04. We found that the equation

$$Y = 0.04 + 187364000/X^{5.1}$$

gave the best fit for the period of 1966-1987. The R^2 statistic was 0.9104. The equation was then used to extrapolate the value of Y for 1988-2000. The fitted values of Y in those years represent what the currency-to-GDP ratios should have been in Hong Kong, if there had been no extra-territorial circulation of HK\$ currency in (southern) China in those years. Table A.1 summarizes the simulation results.

Table A.1 Estimates of HK\$ Currency Circulating in China

	(1) Actual C/GDP (%)	(2) Fitted C/GDP (%)	(1)-(2) Extra-Hong Kong C/GDP (%)	Estimate (HK\$ million)
1988	7.49	6.32	1.18	5437
1989	7.57	6.19	1.38	7246 (35.5%)
1990	7.43	6.07	1.36	7896 (9.0%)
1991	7.36	5.97	1.40	9334 (18.2%)
1992	7.85	5.88	1.99	15518 (66.2%)
1993	8.01	5.80	2.25	20187 (30.1%)
1994	7.72	5.72	2.05	20747 (2.8%)
1995	7.39	5.64	1.80	19947 (-3.9%)
1996	7.31	5.43	1.88	22408 (12.3%)
1997	7.00	5.38	1.62	21446 (-4.3%)
1998	7.34	5.31	2.03	25564 (19.2%)
1999	10.10	5.24	4.86	59664 (133.4%)
1999*	8.24	5.24	3.00	36830 (44.1%)
2000	8.32	5.18	3.14	39780

* The second sets of figures for 1999 are derived by applying the year-end monthly increases of 1998 to 1999. In other words, the month-on-month pattern without the Y2K worry is used.

The estimated amount of HK\$15.5 billion for the year of 1992 is indeed very close to that of HK\$15 billion of Yam (1994), which does not specify the exact year to which the estimate applies. The findings for 1992-1993 show evidence that there was an increase in the extent of currency substitution (of the RMB by the HK dollar) in China, as the quality of the RMB deteriorated. However, the situation was reversed in 1994-1997, when the successful effects of the 1994 reforms surfaced and the Chinese currency achieved "Article VIII convertibility" (Tsang, 1997) in late 1996.

The figures from 1998 onwards are difficult to interpret. First, the Hong Kong dollar was under unprecedented attacks from October 1997, and speculation spread to the stock market in 1998. As a result, the government had to take a historic move to intervene in the stock market in August 1998. In any case, Hong Kong plunged into the deepest recession since reliable statistics were available in the early 1960s, and a serious process of asset evaporation as well as deflation set in. Moreover, the "Y2K" problem at the end of 1999, when banks deliberately "overstocked" cash, also clouds any meaningful analysis.

Appendix B Trade Proportions and Monetary Union

Suppose Mainland China (C) and Hong Kong (H) have the same proportions (%) of trade:

	External trade	Intra-trade	Import content of intra-trade
C	50	50	50
H	50	50	50

And the external trade and the import content of intra-trade are invoiced in U.S. dollars (USD), while the intra-trade is denominated by the currency of the exporting economy, i.e. H's exports to C are to be paid in Hong Kong dollars (HKD), and imports paid in Renminbi (RMB).

It is obvious that equivalence will hold whether the HKD and the RMB are pegged at a fixed rate, or if the HKD and the RMB are pegged to the USD separately, assuming initial equilibrium conditions. Hence a higher degree of monetary integration, options II or III, or even monetary union, option IV, bring no additional benefits.

However, that is a totally backward-looking analysis. Although options II, III and IV seem indifferent compared with the *status quo*, they generate forward "guarantees" of various kinds. Should the proportions change in the future, they provide protection against competitive exchange rate changes among the members. That in turn may promote intra-trade.

If we look at another example, which is closer to the reality, the currently evolving one at least, the story is clearer.

	External trade	Intra-trade	Import content of intra-trade
C	90	10	20
H	60	40	90

Then it matters a lot what exchange rate regimes that C and H practice. If C devalues its currency against the USD, it would gain competitiveness in its external trade but lose it in the intra-trade. However since the import content of its intra-trade is small as a proportion (20%), it would most likely emerge with a net gain.

To H, the situation is more complicated. C's devaluation means that H could lose out in both external and intra-trade. If H matches by devaluation of its currency, it might regain some competitiveness in external trade vis-a-vis C, but the higher import bill might harm its competitiveness in exporting to C. The net benefit is by no means clearly positive.