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Theoretically, the drop can arise either from a shock drop of forward premium or from a drop in the expected rate of drift within the target zone. My question is, which caused such a drastic change of devaluation risk? When we look at HIBOR-LIBOR interest differentials in figure 7.2, we can see a large but relatively gradual decline of interest differentials after September 1998. If there was a sharp drop of forward premium on 5 September 1998, how can we reconcile this with relatively gradual decline in interest differentials? If there was an intensifying drop in the expected rate of drift within the target zone, we probably can give some intuitive interpretation for why this happened in terms of the target zone theory. By contraction, however, the expected rate of drift can change drastically when the regime changes because the coefficients were estimated separately for each regime. Although it is true that there was a big structural change from regime 2 to regime 3, the actual change in coefficients may be more gradual than what was supposed in calculating the devaluation risk in the simulation.

Comment Takatoshi Ito

This paper combines ideas in the literatures of currency board, target zone, and rule versus discretion, and then applies an empirical model to the case of Hong Kong. The idea of the currency board became a focus of attention in recent years, as currency board economies have ridden currency crises well. Argentina stood well against the tequila crisis in 1995. Hong Kong has maintained the dollar peg despite fierce attacks by speculators in 1997 and 1998. Indonesia's announcement of considering to adopt a currency board became a source of contention between the Indonesian government and the International Monetary Fund (IMF) in February 1998.

In the postcrisis discussion, the so-called two-corner solution became a popular argument. According to this argument, the two corners—that is, a freely floating exchange rate regime and the currency board system—are the only stable exchange rate regimes. Hong Kong and Argentina, both under a currency board arrangement, have survived repeated attacks on their currencies in the second half of the 1990s. Such successes are usually proof that the currency board is stable. This is the first paper, to my knowledge, that looks into details of the workings of a currency board. The reader learns that the currency board in Hong Kong has experienced different regimes within the currency board arrangement.

The paper argues that the Hong Kong Monetary Authority (HKMA)

has been shifting between the rule-based currency board and the discretionary currency board. The authors identify three regimes. In regime 1 (1983:10–1992:3), the HKMA was a rule-bound currency board, whereas in regime 2 (1992:4–1998:9) it was a discretionary currency board; the HKMA switched back to a rule-based currency board in regime 3 (after 1998:9). The peg of HK\$7.80 to a US\$1.00 has been kept since October 1983. The authors argue that the HKMA's intervention policy with a target zone-like band invited speculative attacks and caused the very high interest rate of regime 2, whereas the rule-based currency board in regime 3 did not experience speculative attacks.

Rules versus Discretion

A narrowly defined currency board is as a rule one in which any currency (monetary base, to be precise) is backed one-to-one by foreign reserves. On the asset side of the currency board, there are no domestic assets, such as government bonds of that country (See Williamson 1995, pp. 2–5.) In order to maintain the fixed exchange rate, the board intervenes in the market. Any net capital inflows mean an increase in foreign assets matched by the equal amount of the increase in the domestic monetary base. As a result, the interest rate will decrease, and capital inflows would stop. Similarly, net capital outflows, either by capital flight or withdrawal of foreign capital, will automatically raise the interest rate, and capital outflows will be deterred.

The original purpose of the currency board is to be a rigid rule to keep the monetary authority from causing inflation. This is the ultimate form of the nominal anchor, or a rule-based monetary policy. A downside of a currency board is that it cannot provide domestic liquidity even if it is needed, unless there is capital inflow. The function of lender of last resort has to be abandoned.

In the wake of currency crises in Mexico and Asia, the currency board has gained another role: that of generating credibility in the currency due to sufficient foreign reserves. By backing every domestic note and coin with foreign reserves, the currency seems to be resilient to a speculative attack. However, for this function the amount of foreign reserves may not be just enough to cover the monetary base. Demand deposits (M1) can be converted quite easily, by domestic residents, to foreign currencies. Even savings accounts (M2) may be quickly converted into foreign assets, if the investors sacrifice some interest payments. Therefore, both Hong Kong and Argentina have foreign reserves that exceed M1. In this regard, the HKMA does not seem to be a pure currency board. Of course, from the viewpoint of preventing currency attacks, having more foreign reserves than monetary base (and even M1) means that HKMA is something more than a pure currency board. It is better from the standpoint of being robust to speculation, but it also invites the criticism of being discretionary.

The paper well describes that discretion combined with the real-time gross settlement (RTGS) system led to high interest rate volatility in 1997 and 1998. The paper argues that it was “only after severe public criticism and heavy market pressure during the financial crisis that the HKMA gradually abandoned its high interest rate defense strategy” (239). Because the currency board is designed to let the interest rate fluctuate as capital comes in and out, the authors’ judgment that the interest rate rose more than the normal working of the currency board is a crucial element in evaluating the regime 2. However, a question remains in my mind. What would a “natural” degree of rise in interest rate be under a pure currency board in the time period of regime 2? To what extent was “discretion” responsible for the extra volatility in the interest rate?

I agree that neither the interest rate defense nor interest arbitrage worked in the month of October 1997. I also support the authors’ view that “the interest rate differential represented a risk premium for holding the Hong Kong dollar” (239). What I am not convinced of is that a major reason for the apparent lack of credibility of the Hong Kong dollar peg comes from the HKMA’s discretionary policy. (The author argues, on page 241, “That the HKMA had deviated from the fixed rules of the currency board made its commitment to the peg much less credible.”) It might have been that contagion from Association of Southeast Asian Nations (ASEAN) currency devaluation and speculators’ determination based on their success in forcing the Thai authority to abandon a de facto dollar peg was responsible for the situation.

In summary, I like the way authors described the changes of HKMA policies during the crisis period of 1997 and 1998. The description is convincing in that even within the currency board regime, there is room to maneuver in details, especially with respect to the relationship to the domestic interbank market. I am less convinced, however, of regarding regime 2 as discretionary and the regime 3 as rule-based, and making judgments that regime 3 was more successful due to the rule-based policy.

The reasons for my hesitation are threefold. First, the introduction of the first line of defense (regime 2) at 7.75 may not be so significant since the difference between 7.75, and 7.80 is less than 1 percent of the par value. Second, introducing a discount window to replace the liquidity adjustment facility (LAF; regime 3) does not seem to be a rule-based system. The pure currency board should not have a discount window. The difference in opinion may be that I interpret rule-based as a pure currency board, whereas the authors may mean something else. Third, I think that the stability in regime 3 cannot solely be explained by the rule-based approach, but requires namely two other important elements: the HKMA’s successful fight by intervening in the stock market (August 1998); and less-active hedge funds, which may be a result of losses from the Russian crisis.

Would the external shocks (speculative attacks) during regime 2 not

be more than those during regime 3? The description of the size of the interbank market as opposed to the foreign exchange rate gives a clue. Again, however, if the size of the interbank market is small, then is it not “natural” to see that the interest rate goes up automatically? How could regime 3 be more rule-based if the interest rate did not rise? It seems to me that the answer is based more on institutional details than on quantitative investigation. In fact, according to the description in this paper, the degree of discretion seems to have increased in regime 3.

Target Zone

In this paper the currency board is also expanded to include a target zone. This has the following meaning in the model: because the currency board with a dollar peg is in place, any interest rate differential (HIBOR – LIBOR) is indicative of some devaluation probability ($E\Delta s$). However, adding a target zone feature to this, there is a mean-reverting force. If the current rate (s) deviates from a central rate, then the deviation (x) may be reversed in the future. The mean-reverting force ($E\Delta x$) should be added to any prediction of exchange rate changes. Therefore, even in the existence of an interest rate differential, it may not always signify devaluation (change in the central rate) probability, but may stay in the band of target zone. The key is how to model this mean-reverting process. This is the essence of regressions summarized in tables 7.1 and 7.2.

My comments on this section are twofold. First, the band is quite small, so that the target zone application may be limited. Is more action coming from the interest rate differential (and Δs) than from mean reversion? That is, it may not be necessary to have a target zone framework, but instead to analyze the breakdown of the interest parity as a proxy for devaluation probability. Second, the changes of the signs of coefficients may be due to changes in the speculative force behavior (see the next section) rather than changes in HKMA behavior from discretionary to rule-based. The authors counter my skepticism by saying, “Had a general Asian risk premium existed in Hong Kong, we could hardly witness its disappearance in the matter of just a few days” (250). The judgment is left to the reader.

Assessment of Intervention in the Stock Market

Apparently, the speculation ended in August 1998. The paper seems to attribute this to the regime change in September 1998 (regime 2 to regime 3). However, there may be other explanations. HKMA had conducted unusual operations in August 1998 by purchasing Hong Kong stocks. This was a policy defense against the so-called double play of speculations. This may have been effective finally to quiet down speculative activities. Second, the Russian debacle, and resulting Long-Term Capital Management (LTCM) trouble may have reduced hedge fund activities, and this may have favorably helped the Hong Kong dollar market to become stable.

Although the paper claims that the necessary institutional changes took place well before the LTCM, it is true that a large unwinding of the hedge funds position took place in the fall of 1998, and it was a force behind the sharp appreciation of the yen. The environment of speculative activities seems to be greatly different before and after September 1998. The intervention in the stock market may have been more significant than changes in operating procedure (discretionary to rule-based). However, investigation into the relative importance of each of these phenomena has to be left to future research.

Concluding Remarks

This is an interesting and important paper, documenting how the HKMA works and how the HKMA responded to crises over its currency, mainly caused by large capital inflows and outflows. The aura around currency boards seems to be intact after a battle, because Hong Kong and Argentina are still holding on to dollar pegs with open capital accounts. It is an interesting question whether Hong Kong and Argentina will follow a rigid currency board rule or deviate from the rigid rule. Some of my skepticism is directed to the authors' interpretation of regimes as discretionary and rule-based. Another question I have is the relative importance of HKMA policy changes in the money market versus those in the stock market.

This paper is informative and valuable in examining the question of the two-corner solution, but is the currency board a silver bullet for the emerging market? If so, what kind of operational regimes should the currency board adopt? Only history will tell the answer.

Reference

Williamson, John. 1995. *What role for currency boards?* Washington, D.C.: Institute for International Economics.