Are there sharks in the South China Sea?
Strategic aspects of the attack on the Hong Kong Dollar[1]

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There can be multiple Nash equilibria — either everyone lends or no one lends — without any individual being in a position to shift the equilibrium. Using two-creditor examples to illustrate the cordination problem may appear to overplay strategic aspects of the situation. But the attack on the Hong Kong Dollar in summer of 1998 suggests otherwise. Players big enough to move markets were, it seems, able to place bets so as to reduce the number of equilibria from two to one — namely an attack on the currency!

The first table below illustrates the payoffs to each of two players considering whether to speculate against the Hong Kong currency — which has been peggged against the US$ for fifteen years. If neither attacks, the peg is sustained. Any player attacking on its own will fail (with a loss of 5). But if both attack, the HK$ will be forced to devalue giving profits of 20 each. So there are two Nash equilibria the speculators may choose. It is a pure coordination game: for sharks to make a killing, they have to hunt in packs!

But the payoffs in Table 1 do not incorporate the benefits of what has been described as the "double play in which speculators push up the local interest rates by selling HK$ and benefit from short positions in the stock market" (FT, Monday, September 7, 1998). Assume that any player who sells HK$, drives up interest rates and makes a profit of 6 on the short position taken in the stock market before the attack. The payoffs *including the benefits of the "double play"* are shown in the next table. What is the effect of adding 6 to

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[1]Extracted from "CREDITOR PANIC, ASSET BUBBLES AND SHARKS: THREE VIEWS OF THE ASIAN CRISIS" by Marcus Miller and Lei Zhang. This paper can be down-loaded from http://www.warwick.ac.uk/fac/soc/CSGR/current.html.

	Player 2	
	Attack	Not attack
Attack	(**20, 20**) ⟵	(-5, 0)
Player 1	↑	↓
Not attack	(0, -5) ⟶	(**0, 0**)

Table 1: Payoffs to a speculative attack on HK$.

the payoff of any attacker? A successful attack is, of course, more profitable. But even an unsuccessful attack now pays dividends as the double play more than covers the costs of the attack. *There is only one Nash equilibrium: attacking is the dominant strategy*!

	Player 2	
	Attack	Not attack
Attack	(**26, 26**) ⟵	(1, 0)
Player 1	↑	↑
Not attack	(0, 1) ⟵	(0, 0)

Table 2: Payoffs with the "double play" of 1998.

It is, we believe, for this reason that the Hong Kong Monetary Authority (HKMA) has gone to such drastic lengths to defend the peg — using its reserves to buy a substantial fraction (about 10%) of the shares in the Hang Sheng Index and impose a "bear squeeze" on speculators. The effect has been to replace the profits of the double play with losses so attacking the peg is no longer the dominant strategy. (In addition, by increasing bank liquidity the HKMA has reduced the risk of interest rate rising sharply when large amount of HK$ are sold and made it much more expensive for speculators to manipulate the territory's money markets.)

One of the most disturbing features of the East Asian crisis has been the destabilising role of capital flows. Could it be that the payoffs to short term creditors — after adding in the benefits of government gurantees and "double plays" — have made capital flight the dominant strategy? (If you can pull your money out of Thailand with a dollar guarantee and profits on short selling the Baht to boot, why keep on lending?)