

Capital Flows, Hedge Funds and Market Failure: A Hong Kong Perspective

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1. Introduction

This paper examines some of the problems created by international capital flows in the light of the recent global financial turbulence. It also outlines a number of possible approaches, requiring international co-operation, towards resolving, or at least limiting, these problems. Section 2 of this paper examines the rapid growth and destabilising effects of unregulated and unmonitored 'synthetic' flows arising largely from derivatives transactions in over-the-counter (OTC) markets. Section 3 discusses the role of highly leveraged institutions (HLIs) in this process and sets out two scenarios in which the taking of large positions by HLIs could threaten the integrity and stability of financial markets. As an illustration of one of these scenarios, Section 4 outlines the mechanics of the speculative attack on Hong Kong in 1998. Section 5 summarises the concerns about the volatility and concentration of capital flows, the manipulative tactics adopted by some HLIs, and the lack of transparency in OTC markets. Finally, Section 6 discusses three broad approaches in addressing the potential risks posed by HLIs: enhanced transparency, indirect regulation and direct regulation.

2. Capital Flows

The case that free trade in goods and services is conducive to economic growth has been well established. According to the academic argument of comparative advantage, free trade promotes a more efficient utilisation of factor endowments. There are also ample empirical studies suggesting a strong correlation between trade liberalisation and economic growth. Many people have thus taken it for granted that capital flows, like trade flows, will invariably facilitate long-term economic development. This presumption, however, has been questioned recently in light of the experience of some emerging market economies. Bhagwati (1998), for example, expresses doubts about the assumption that free capital is as virtuous as free trade and argues that the claims for enormous benefits from free capital mobility are not persuasive.

There are undoubtedly many benefits associated with free flows of international capital. Traditionally, capital flows take the form of commercial bank lending, foreign direct investment, or equity portfolio investment. Over the past few decades, capital flows have facilitated the efficient utilisation of capital, provided liquidity in financial markets and promoted long-term development in both home and host economies.

Advances in information technology and the increased openness of domestic financial markets in recent years have allowed capital to flow in and out of an economy in huge amounts within a very short space of time. Rapid increases in the quantity and volatility of capital flows have led to new problems and challenges for the emerging market economies. To cope with these volatile capital flows, there can be no substitute for sound macroeconomic policies, a strong financial system, and a robust regulatory framework.

The latest global financial turbulence has, however, highlighted the changing nature of capital flows. With the massive growth in OTC derivatives markets, especially in the foreign exchange market, significant 'synthetic' capital inflows or outflows can be created as a result of large position-taking by the big players. For example, a player can take up a huge short position against the currency of a country (the target currency) through a forward sale of the target currency against the US dollar. The transaction is typically done with an international bank. The international bank will normally unload its position through the sale of the target currency in the spot market and fund the sale through a swap transaction (borrowing the target currency against the US dollar to settle the spot deal). The economic consequence of this series of transactions will be equivalent to a very significant capital outflow, thereby causing sharp volatility of the exchange rate and/or interest rate of the target currency. Yet the originator of the deal (i.e. the position-taker) has never moved funds into the target currency in the first place and has therefore no exposure to hedge. The concern here is not the purely speculative nature of this kind of play, but the magnitude of the transaction and the way in which it is conducted.

As the above example illustrates, this form of 'synthetic' flows typically arises from derivatives transactions that take place in OTC foreign exchange markets, which are subject to very little, if any, supervision. Forex derivatives have undeniably helped investors to unbundle and repackage their risks. They have helped to promote investments that have generated substantial benefits to developing economies. But the use of derivatives by those having no investment to hedge could generate huge synthetic capital outflows and frighten genuine local and foreign investors into disinvesting rapidly in concert, resulting in an overwhelming outflow, which eventually undermines the stability of the financial system.

The OTC foreign exchange transactions (including spot, outright forwards, and forex swaps)¹ have grown rapidly in recent years. While no accurate statistics are available, it is widely believed that the great majority of forex transactions are unrelated to genuine commercial trade or hedging purposes. The inadequate data on OTC markets make it difficult to understand the nature of capital flows, their movements or their impact on financial markets and the real economy. In light of the potential destabilising effects of capital flows on the emerging market economies, *it is timely to review the existing regulatory framework with a view to promoting the free flow of soundly based capital and the well-functioning of financial markets.*

1. According to BIS Statistics, in April 1995 the global value of foreign exchange transactions taking place on an average day was US\$1.2 trillion. In April 1998, this figure increased to US\$1.5 trillion.

3. Highly Leveraged Institutions

The latest financial crisis has put the spotlight on the activities of HLIs, particularly the hedge funds. It has been suggested in some studies that HLIs can and do play a positive role in providing liquidity in the financial markets and in promoting greater price efficiency through the use of arbitrage and other trading techniques. Furthermore, owing to their specific risk-return profile, investment in HLIs offers an opportunity of portfolio diversification to high net worth and institutional investors.

On the other hand, it has also been observed that the very aggressive trading activities and techniques deployed by some HLIs could also threaten global market integrity and even financial system stability. This paper presents two scenarios to illustrate this point. The first scenario is a situation in which HLIs taking excessively large positions are overwhelmed by market forces. The second scenario refers to a situation in which open markets, in particular the smaller ones, are overwhelmed by HLIs taking very large positions, whether or not they are acting in concert.

3.1 Scenario 1: HLIs taking very large positions overwhelmed by market forces

The near-collapse of Long-Term Capital Management (LTCM) has highlighted the systemic risk arising from very large individual market players being overwhelmed by market forces. LTCM held very large positions in both the cash and OTC derivatives markets, which were financed mainly by credit lines provided by commercial banks. Systemic risks posed by the case of LTCM on the financial markets and banking system were discussed in detail in the Basel Committee report on *Banks' Interactions with Highly Leveraged Institutions*, released in January 1999.

A single counterparty's exposure, as measured by the replacement value, net of collateral, is often small and manageable in normal market conditions. However, the more important concern is that such exposure could be magnified by 'stressed-market exposures'. This refers to the impact of rapid deleveraging of positions on markets associated with the default of an HLI of the size of LTCM, which could lead to very sharp volatility and a drying up of liquidity in and beyond those markets in which LTCM was involved. If the deleveraging of the large positions held by HLIs happens very rapidly in a disorderly manner against an already volatile environment, the process could have systemic effects even in large and mature markets, thereby threatening the global financial system. The concern for market dislocation became the main justification for the New York Fed's decision, in September 1998, to orchestrate the rescue of LTCM by a consortium of banks.

Learning from the LTCM experience, the international community is taking steps to prevent excessive leverage by HLIs. This is done primarily through indirect means by asking banks and other financial institutions to be more prudent in granting credit lines to HLIs. This approach could, to a certain extent, reduce the risks arising from HLIs taking excessively large positions in deep and liquid markets, as in the case of LTCM. But it may not, as explained in the second scenario, be adequate to address the problems that may arise in smaller open markets.

3.2 Scenario 2: smaller open market economies overwhelmed by HLIs taking very large positions

This scenario would be most likely to happen to smaller and open market economies, since the HLIs, even with more limited leverage resulting from more prudent lending by banks, could still corner these markets.

Under this scenario, a currency crisis is not necessarily the outcome of an underlying policy inconsistency of weak economic fundamentals. The 1999 World Bank report on *Global Development Finance* cited the Obstfeld model², which explores the dynamics of a currency attack based on self-fulfilling expectations. According to the model, the existence of many small traders reduces the risk of self-fulfilling attacks because it is difficult to co-ordinate the activities of hundreds of traders. However, self-fulfilling attacks can occur if there are *large* traders who can co-ordinate their activities or serve as guides for the multitude of small traders. This is more liable to occur in smaller markets, where it is easier for just a few large players to engineer huge price movements.

Some have argued that the intense pressure on Asian currencies is less the consequence of speculation and more the result of a loss of investor confidence in an overvalued currency with very weak economic fundamentals. While some Asian economies exhibited various degrees of overheating and macroeconomic imbalances prior to the recent crisis, the overshooting of currency devaluation and the resulting devastation seem to be grossly out of proportion to the severity of their 'policy mistakes'. The lack of transparency and data on the OTC markets have made it very difficult to assess to what extent the overshooting and devastation was exacerbated by the activities of HLIs.

Some critics have cited the choice of exchange rate regime as a source of the problem. However, the Asian experience has confirmed that economies, such as Australia, with floating exchange rate regimes are not immune to massive speculative attacks.

It has also been argued that currency markets are infinite and therefore not conducive to being cornered or manipulated. This is at best partially true. First, there is an asymmetry between betting on depreciation and appreciation of a currency. When speculators exert a downward pressure on a target currency, and when improper means are used to foster a climate of undue pessimism, the consequence could be a sharp rise in the degree of risk aversion among other market participants

2. In this highly stylised model, there are three players: a government selling reserves to defend its exchange rate and two holders of domestic currency. If neither trader has sufficient resources to exhaust the government's reserves whereas together they do, the exchange rate will be sustained if neither believes the other will attack, but will collapse if each believes the other will attack. Fundamentals – usually measured in the level of international reserves – are important here: if reserves are very low the currency would surely collapse, and if reserves are massive there would be no attack. But with intermediate levels of reserves, the way is open for expectations to play a critical role.

who would, at least temporarily, stay away from the market. Under extreme circumstances, the central bank could be left as the only major buyer of domestic currency in the market, and its ability to absorb the selling pressure would be constrained by the amount of foreign exchange reserves it possesses. The currency markets will thus have become finite and exposed to the possibility of manipulation. On the other hand, when the bet is on an appreciation, the central bank would have, in theory, an unlimited supply of domestic currency for sale to prevent its value from rising excessively. Even so, central banks are usually constrained in their ability to increase their domestic money supply without regard to the effect on their monetary policy target.

3.3 Highly leveraged institutions and scenario 2

The intellectual validity of the second scenario is still being debated in various international fora. It should be stressed that in principle there is nothing objectionable to any market participants, including the HLIs, taking a view on the market and positioning itself accordingly. Speculators in essence buy low/sell high, or sell high/buy low, thereby providing the much-needed liquidity to markets and helping to bring the value of the underlying assets to their equilibrium levels. The issue here is the way in which some HLIs, particularly certain hedge funds, conduct their trading activities, and the impact that these activities may have on the price discovery mechanism in financial markets.

The price discovery mechanism in a free and competitive market can only function if all market participants are price-takers and no single participant can move prices. The major differences between the trading strategy of certain hedge funds and that of other position-takers are:

- These hedge funds have *the leverage power to borrow large resources and the motive, intention and ability to move prices* through collusion and/or other manipulative practices.
- Only these hedge funds have the knowledge of the size of their very large positions and the timing of the build-up of such positions. Because they are the market leaders, they are able to persuade the commercial and investment banks, who are their major liquidity providers and who also run large proprietary positions, to follow their lead. In a number of ‘raids’ on smaller markets, they have proved their ability to launch self-fulfilling speculative attacks. They also have an *information advantage* over other market participants.

Hedge funds are not the only class of institutions that can take large short positions against any financial market. But unlike other players, hedge funds are usually not subject to any licensing, regulatory or reporting requirements. Commercial banks are subject to local licensing regimes and to clear guidelines on position-taking. Normally, other financial institutions are required to diversify their portfolios globally or against well-defined benchmarks. These constraints do not normally apply to hedge funds, which rarely, if ever, need to account for their actions or trading strategies to their shareholders or investors.

In other words, a hedge fund is potentially more destabilising than an investment bank of comparable leverage, as the hedge fund can bring to bear all its market power against a financial market. Furthermore, certain hedge funds, which have a proven track record of 30 per cent to 40 per cent return per annum, often put the reputation and charisma of their principals to good use in orchestrating copycat and herding behaviour.

4. Hong Kong's Experience in 1998

Another difficult issue being raised in the debate on the second scenario is whether there is evidence to support it. Hong Kong's experience with the hedge funds last year provides some substantiation. But it is difficult, if not impossible, to obtain direct or hard evidence of exactly what the hedge funds did last year, because they were, and still are, not subject to any regulatory requirements. The OTC markets in which hedge funds normally operate are equally opaque. Nonetheless, plenty of anecdotal evidence and market intelligence is available to enable the events in Hong Kong to be reconstructed.

The hedge funds launched their attack on Hong Kong after careful planning. First, the hedge funds pre-funded themselves by borrowing Hong Kong dollars, a move designed to insulate themselves from the sharp rise in Hong Kong dollar interest rates when the short-selling of Hong Kong dollars began. Most of this funding was obtained by swapping US dollars for Hong Kong dollars with international financial institutions that issued a very large volume of Hong Kong dollar debt. Second, the hedge funds built up short positions in the cash and futures equity markets. The gross open interest of Hang Seng Index Futures more than doubled, to 103 101 contracts (valued at US\$4.7 billion), in the five months to end August. Finally, they launched the attack in August by selling large amounts of Hong Kong dollars in the spot and forward markets, with a view to pushing interest rates sharply higher, thereby causing the stock and futures prices to collapse, or even the Hong Kong dollar peg to break.

The attack on Hong Kong was accompanied by numerous pessimistic reports on Hong Kong, on the Linked Exchange Rate System, and on China. Rumours proliferated about bank runs in Hong Kong, about the plans by the HKSAR Government to abandon the Link, and about an imminent devaluation of the renminbi. The strategy of the hedge funds was to generate undue pessimism and market panic so that they could close their short positions with huge profits.

In order to frustrate the cross-market play by the hedge funds and to protect Hong Kong's market integrity and financial stability, the HKSAR Government began a two-week operation on 14 August of intervening in the stock and futures markets. The outcome was that stability returned to the local financial markets following the unwinding of the hedge funds' positions in the stock and futures markets. The risk premium on the Hong Kong dollar, as measured by the interest rate premium over the US dollar for three-month money, fell from a high of 1 250 basis points in August to 45 basis points in December 1998, which was comparable to the pre-crisis level in July 1997.

5. Concerns Raised by Capital Flows, HLIs and OTC Markets

The Asian financial crisis has underscored how *volatile capital flows* could devastate our markets, our economies, and even our social and political stability. The main lesson is clear: Asian economies need to strengthen their financial markets, banking systems, and corporate sectors so as to make their markets less vulnerable to volatile capital flows. However, these measures alone are not enough to prevent the recurrence of other major financial crises in the future.

In particular, the *concentration risks* generated by the very large positions of some HLIs and concerns about *market manipulation* caused by their very aggressive trading strategies were highly destabilising and threatened to dislocate emerging market economies. Worse still, the *lack of transparency in the OTC markets*, where HLIs usually conduct their trading activities, has made monitoring and surveillance difficult, thereby raising the risk of price-ramping, collusion and other forms of misconduct by the large players.

Some believe that the emerging market economies should seek to develop and deepen their markets so that they can absorb external shocks and reduce the risk of being manipulated. This advice is well taken. But, given the relatively small size of the emerging market economies, there is a limit to how big their markets can become. Most of the Asian markets are tiny in relation to the size of global capital flows and will remain so for many years to come.

6. Possible Approaches

Globalisation and liberalisation are trends that should continue and will continue. The last crisis saw how rapidly and intensely contagion spread from one troubled spot to another, and then from one region to another. Given the increasing integration of financial markets, the speed and magnitude of contagion could be even more intense when the next crisis hits. The concerns raised about HLIs are therefore of paramount importance and need to be addressed urgently.

In theory, there can be three broad types of approaches in addressing the potential risks posed by HLIs:

- enhanced transparency;
- indirect regulation; and
- direct regulation.

These three approaches are discussed briefly below and their main points are summarised in the Appendix.

6.1 Enhanced transparency

The transparency approach is based on the premise that timely and reliable information relevant to decision-making by market participants will impose some discipline on the HLIs. The approach entails the setting up of a disclosure or

reporting framework to provide information that is necessary for proper risk assessment by counterparties, creditors, and investors.

Much useful work has already been done in various fora. Working groups have been formed by the BIS Committee on the Global Financial System (CGFS), the Basel Committee on Banking Supervision (Basel Committee), the International Organisation of Securities Commissions, the US President's Working Group on Financial Markets, and the Financial Stability Forum. These groups primarily aim at enhancing transparency, improving risk management practices, and reducing excessive leverage of HLIs.

In seeking to plug the gaps in disclosure and reporting by HLIs, several difficult issues will need to be resolved: these include who should report, what market segments should be covered and what data should be gathered. There is also a need to strike a delicate balance between avoiding undue reporting burdens and infringements of proprietary information on the one hand, and the benefits to the efficient functioning of markets that can result from enhanced disclosure on the other.

6.2 Indirect regulation

This approach involves the imposition of some form of discipline on the HLIs through indirect means. The Basel Committee has issued a useful report on *Banks' Interactions with Highly Leveraged Institutions*. The report recommends indirect regulation, in which banks should adopt more prudent policies on the assessment, measurement, and management of their exposure to HLIs.

Another possible tool of indirect regulation entails the development of a more risk-sensitive approach to capital adequacy and lending policies for the creditors and counterparties of HLIs. These policies could include the imposition of capital charges on lending to HLIs, raising margin and collateral requirements etc. This is a more difficult area and is still being considered by the Basel Committee.

6.3 Direct regulation

Direct regulation could involve the direct regulation of the hedge funds, OTC markets or large players or a combination of these. It has been argued that OTC markets should be exempt from regulation as trades are typically conducted among sophisticated investors. Others believe that the need to protect market integrity and financial stability justifies a regulatory framework similar to that adopted in organised exchanges. But direct regulation involves many difficult and complex issues: these include the choice of an appropriate supervisory authority, the sheer volume of the OTC markets, the large number and different types of players and migration to 'regulatory safe havens'.

Recognising the technical and political difficulties involved in devising an effective direct regulatory regime, some have suggested the introduction of a code of best practices for HLIs as a fallback. While the compliance of the code would have to be on a voluntary basis, consensus among the international and national regulatory authorities could put pressure on the HLIs to comply.

Appendix: What Can Be Done to Address Concentration Risk and Market Manipulation

The table below analyses what can be done to address concerns about HLIs. A section then follows setting out the case for a global, rather than a national, solution towards reducing the destabilising potential of HLIs. It should be emphasised that the table serves as an analytical tool to facilitate discussion, rather than as a recommendation of what should be done.

Concentration risk

Indirect regulation through reduction of excessive leverage of HLIs

<p>(i) How can excessive leverage of HLIs be reduced?</p>	<ul style="list-style-type: none"> • Encourage better risk management by creditors and counterparties of HLIs. Creditors and counterparties would need relevant information from HLIs about their degree of leverage and concentrations in individual markets (see also Section 6.1, paragraph 3). • Incorporate in the Basel Capital Accord risk weighting which would ensure appropriate capital charge to better reflect the level of risk for exposures to HLIs. • Regulators to develop appropriate guidelines governing creditors' and counterparties' interactions with HLIs.
<p>(ii) Is the reduction of excessive leverage of HLIs adequate to address concentration risk?</p>	<p>Reducing excessive leverage of HLIs could help prevent recurrence of an LTCM-type crisis. However, even with more limited leverage, HLIs can still pose systemic threats to small and medium-size markets.</p>

Indirect regulation through enhanced transparency/disclosure

<p>(i) What type of <i>information</i> would be helpful to understand and assess concentration risk?</p>	<ul style="list-style-type: none"> • Size of individual markets. • Large positions of participants. • Large transactions.
<p>(ii) What are the types of <i>recipients and users</i> of the information?</p>	<ul style="list-style-type: none"> • Shareholders/investors of HLIs. • Counterparties. • Regulators. • International regulatory bodies/agencies. • Other investors in markets that HLIs trade in.
<p>(iii) How could enhanced transparency help address the problem of <i>concentration risk</i>?</p>	<p>Depending on the extent of transparency implemented:</p> <ul style="list-style-type: none"> • HLIs would be more cautious in building up very large positions since they need to consider the possibility of being squeezed if their positions are known to other market participants. The information advantage of HLIs can thus be reduced. • Lenders and counterparties could assess more accurately the true risks assumed by HLIs taking very large positions in individual markets. • Regulators could identify unusual trends and potential risks created by high market concentration of positions. • Other investors could be aware of which markets have higher concentration risks and hence larger volatility.

Direct regulation

(i) What to regulate and how?

- *Marketplace*: Regulatory regimes normally apply to an organised marketplace. This presupposes that transactions are carried out in organised markets where some discipline can be imposed on both transactions and participants. However, many financial products (e.g. currency) are traded on OTC markets, which do not have a marketplace.
- *Transactions*: In case of trading done on OTC markets, it is also possible to regulate transactions. For example, some national authorities have powers to require reporting of large forex transactions. Another example would be the regulatory regimes in some jurisdictions to regulate ‘margin forex trading’, primarily for the purpose of investor protection. (Such regimes could regulate capital adequacy, margin levels and currency mismatch limits of margin forex operators.)
- *Market participants*: Once the marketplace or transactions can be brought under a regulatory net, authorities could impose various requirements (e.g. leverage restrictions and capital requirements) on market participants.

Restrictions on market participants have the effect of a tax on them, so they may avoid regulation by moving transactions offshore. There is therefore a trade-off between the level of regulation and the possibility of regulatory arbitrage by domestic or international investors.

Market manipulation

Statutory and non-statutory sanctions against manipulative practices

<p>(i) Are existing statutory and non-statutory sanctions sufficient to address manipulative practices in financial markets?</p>	<p>In most organised exchanges and domestic jurisdictions, there exist statutory and non-statutory sanctions against collusive and market manipulation practices. These include the creation of false trading markets, building up of dominant market positions, announcement of false or misleading statements for the purposes of inducing purchases and sales of the targeted financial products. Although these rules may apply in domestic jurisdictions, there is currently no global consensus or legal framework to deal with market manipulation across markets, particularly for OTC markets.</p>
<p>(ii) If necessary, what additional measures could be considered?</p>	<p>Regulations applicable to on-exchange trading activities could be extended to cover OTC market activities, particularly where large positions are taken. This may require enactment of specific laws in various jurisdictions. However, there should be international agreement on the exchange of information, and enforcement co-operation between jurisdictions to ensure that there is a global framework to capture market manipulation activities on a cross-border basis.</p>

Code of best practices

<p>(i) Why do we need a Code of Best Practices?</p>	<p>If, for whatever reasons, statutory or non-statutory sanctions are not to be implemented, it might be useful to adopt a code of best practice to govern the conduct of HLIs and their counterparties.</p>
<p>(ii) Who should adopt the Code of Best Practices?</p>	<p>Major financial market players, including:</p> <ul style="list-style-type: none"> • unregulated HLIs; • regulated entities; and • unregulated affiliates of regulated entities.
<p>(iii) What are the key aspects of such codes?</p>	<ul style="list-style-type: none"> • Voluntary adoption of enhanced reporting and disclosure standards. • Internal mechanisms to prevent the creation of false markets, front-running and insider trading etc. • Strict rules to prevent research reports of financial firms being used to influence prices or market sentiments for the benefit of their proprietary positions, or portfolios where they have direct or indirect interests.
<p>(iv) What are the possible incentives for compliance with the Code?</p>	<ul style="list-style-type: none"> • Higher capital charges for regulated counterparties dealing with non-complying entities. • Regulated counterparties to impose higher margin requirements.

Global versus national solutions

Financial markets are global but regulatory regimes are national. There are several reasons why enhanced international co-operation is necessary to reduce the destabilising impact of HLIs' trading activities. First, an increase in reporting or regulatory burden on HLIs in one jurisdiction could drive business to offshore centres for taxation or regulatory/transparency arbitrage purposes. Incentives should therefore be considered to encourage offshore centres to comply with international regulatory and disclosure standards. At the minimum, offshore centres should not attempt to attract business through providing safe havens for money laundering, or disguising or hiding cross-border market abuses. Second, national authorities would not be able to provide aggregate market positions unless there is an information collection and sharing mechanism at the international level. Third, international enforcement and monitoring co-operation is necessary to ensure that cross-border market abuses and practices are not conducted offshore to bypass domestic sanctions.

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