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INTERNATIONAL MONETARY FUND

Minutes of Executive Board Meeting 98/22

10:00 a.m., March 3, 1998

Contents

Executive Board Attendance

S. Fischer, Acting Chairman

Executive Directors	Alternate Executive Directors
	S.M. Al-Turki
	M. Askari-Rankouhi, Temporary
	W. Szczuka
	R.J. Singh, Temporary
	R.J. Heinbuecher, Temporary
	J. Spraos
	T. Belay, Temporary
K.A. Hansen	
	H. Mori, Temporary
	D.A.A. Daco, Temporary
K. Lissakers	B.S. Newman
J.-C. Milleron	
A. Mirakhor	
	A. Vernikov
	J. Shields
	M.H. Elhage, Temporary
M.R. Sivaraman	H.B. Disanayaka
G.F. Taylor	
J.J. Toribio	
	A. Levy, Temporary
	K. Kpetigo, Temporary
Y. Yoshimura	H. Ono
Zamani A.G.	
Zhang Z.	Han M.
	J.A. Costa, Temporary

R.H. Munzberg, Secretary
S. Bhatia, Assistant

Hedge Funds and Financial Market Dynamics
Staff representatives: Eichengreen, RES; Mathieson, RES; Chadha, RES

Also Present
Asia and Pacific Department: M.R. Stone. External Relations Department: J. Morrison. IMF Institute: A.W. Lake. Monetary and Exchange Affairs Department: R.B. Johnston. Policy Development and Review Department: T. Leddy, Deputy Director; A.H. Al-Yousuf, Y.A. Metzgen. Research Department: F.C. Adams, B. Chadha, B. Eichengreen, A.C. Jansen, A.A. Kirilenko, L.E. Kodres, S. Lall, J.V. Levy, D.J. Mathieson, A.J. Richards, G.J. Schinasi, S. Sharma, A.J. Tweedie. Secretary's Department: P. Gotur, A. Mountford, B. Sarr, J.M. Boughton, Historian. Treasurer's Department: M.G. Papaioannou, O. Roncesvalles. Office of the Managing Director: M. Russo, Special Advisor; B.V. Christensen, T.J. Hill. Advisors to Executive Directors: P.M. Fremann, C.M. Gonzalez, N. Jadhav. Assistants to Executive Directors: A.S. Alosaimi, M.A. Brooke, M.A. Cilento, C.K. Duenwald, S.K. Keshava, T.-M. Kudiwu, K. Lai, Lu A., A. Lushin, M. Vismantas, Wang X., Zubir bin Abdullah.

1. HEDGE FUNDS AND FINANCIAL MARKET DYNAMICS

The Executive Directors considered a staff paper on hedge funds and financial market dynamics (EBS/98/9, 1/16/98). They also had before them a background paper on selected issues (EBS/98/10, 1/21/98).

Mr. Ono made the following statement:

This paper was prepared at the request of the Southeast Asian countries facing market crises. Given limited information on hedge funds, particularly their numerical data, the staff made significant efforts to obtain details by holding numerous hearings with the people involved. This paper has made forward steps in revealing the actual profile of hedge funds.

Frankly, the staff paper does not contain much new or surprising information, and it describes, like a university textbook, the definition and history of hedge funds, and their role in past financial crises. Nevertheless, I think this paper is worthwhile because it succeeds in convincing us that hedge funds do not have magical and mysterious powers. Publishing this report will help market participants understand hedge funds, and will unmask their allure, which has appeal for some people. With this outcome, the staff's efforts will contribute to the stability of international financial markets.

The report addresses two important issues: the first, which motivated the production of this report, is whether hedge funds should be treated differently than other institutional investors, and the other is issues resulting from investors' behavior, such as herding. On the first issue, the report is successful in clarifying that hedge funds are not something special, and that there is no need to restrict them exclusively. As the report describes, hedge funds do not have a particular function superior to that of other institutional investors in terms of scale, ability to gather information, or behavior. Based on this understanding, issues regarding regulation to secure market integrity and disclosure of herding should be discussed from a broader point of view including all institutional investors as issues relevant to overall international capital flow.

The report makes an ambitious address on the analysis of market dynamics by the institutional investors' behavior such as herding. The microeconomic point of view is useful to supplement the analysis of international capital flows which have been implemented only from the macroeconomic point of view so far. Analyzing the institutional investors' behavior from the point of an applied microeconomics theory, such as the game theory, will help analyze excessive movement of asset prices, including exchange rates, and will become a useful tool in clarifying issues to be addressed and in finding an appropriate policy response to them. I wish this type of research could be continued at academia and research institutions. The Fund should pay closer attention to market movements together with its traditional surveillance of member countries. In this context, it will be important for the Fund to implement research on the behavior of markets with a microeconomic point of view, as I stated above. Let me comment on some of the important points as follows:

Reporting of large trade and position will certainly reduce the risk that market integrity is threatened by the dominant position of specific investors, including hedge funds. As the staff pointed out, it is hard to establish such a report system on a global basis. However, it is sufficiently worth considering the strengthening of monitoring large trades and positions. The current United States reporting system on large trade and position could be expanded to other major financial markets and financial institutions, especially with closer cooperation among the G-10 supervising authorities.

On the effects of capital restrictions, I commend the staff paper for its' balanced description of them in that it clarifies their limits as well as their benefits. When capital markets are expanded in the short term and large amounts of capital flows, recognition of potential risks associated with such movements tends to weaken. Capital suppliers will likely consider that the risk of exchange rate fluctuation, which certainly exists from the medium-term perspective, can be marginalized in the short-term perspective. Similarly, capital recipients tend to lack asset liability management and misunderstand that short-term capitals are able to continuously roll over. It seems that the weakened recognition of potential risks associated with capital movements has contributed to the deepening current financial turmoil in Asia. There may be room for considering the introduction of certain types of restrictions in capital movements in such cases. For example, introduction of capital restrictions in Chile has led to a positive consequence, namely the lengthening of the debt obligation time period. I, therefore, encourage the staff to further review the effects of capital restrictions, including how cases such as Chile's are evaluated.

Moving to disclosure of information, as the staff paper makes clear, while hedge funds do not always play a leading role in herding, it is hard to deny that herding may create market turmoil. In order to discourage herding, the staff notes the importance of the more timely and comprehensive provision of information regarding macroeconomic policy and financial regulation. I have no difficulty in supporting the staff's view that more disclosure of information will help eliminate information cascades as well as information asymmetry. At the same time, it is also hard to eliminate herding by only providing all relevant information. We must address some difficult questions regarding information, such as how to treat market-sensitive information, and whether too much, rather than insufficient, information could confuse market participants. Further consideration, including these points, would be needed.

In this connection, we must pay more attention to the fact that hedge funds focus mainly on macroeconomic information to determine their actions and that Fund documents are one of their primary sources. We should again recognize the importance of transparent and appropriate disclosure of information regarding Fund surveillance. In this regard, given the bitter experience of Fund documents having been leaked and intensifying market turmoil in Asia, we must make every effort to avoid this recurrence. At the same time, in the light of avoiding herding, it is important to consider not only what kind of information should be disclosed through PINs and other Fund information disclosure measures, but also what kind of information should be excluded from disclosure, including market-sensitive information.

Finally, in addition to herding, the staff paper appropriately focuses on feedback trading as an action pattern of hedge funds. It is an important point that while speculation has the possibility of disturbing the market through increasing volatility, it can also assume the role of stabilizing speculator. In this regard, we should be cautious about implementing excessive restrictions through margin and collateral requirement increases for fear of market disturbances, which may reduce the volume of transactions in the market and thus may weaken the stabilizing function of markets.

Mr. Askari made the following statement:

The staff paper is comprehensive, informative and timely. Its analysis clearly dispels the view held in some quarters that transactions by hedge funds have been the underlying cause of instability in the major episodes of financial market crisis. I would be strongly in favor of publishing the staff paper and the Selected Issues paper as soon as possible. The following key messages can be drawn from the staff's analysis and other studies in this area:

Transactions by hedge funds represent a small portion of the market; there is no evident benefit in making a distinction between hedge funds and other players in financial markets, as their activities and the instruments they use are more or less the same; hedge funds do not necessarily lead the market. Even if they did, their activities would not be the cause of instability, but a consequence of inappropriate policies and unsustainable exchange rate systems; policies that allow one-way exchange rate bets provide the opportunity for hedge funds, as well as for other players in financial markets, to drive a currency down. The solution is not to limit the operation of hedge funds, but to pursue appropriate policies; while there is a possibility of overshooting, hedge funds often help move a currency toward its equilibrium level. There is no evidence that hedge funds played a critical role in the Asian crises; regulatory constraints on the operations of hedge funds would be difficult to implement and counterproductive.

The remainder of the statement will address the issues raised by the staff.

Has the proliferation of international investment vehicles had a positive effect on global financial markets?

The efficiency of global financial markets is predicated on the availability of a wide range of international investment vehicles and the existence of open and liquid capital markets. Hedge funds and other investors promote asset price adjustments when new information arrives, which helps allocate capital efficiently. This positive role of international investment vehicles has been questioned because of the sudden reversal of investment flows in some markets, notwithstanding the fact that in most cases unsustainable exchange rate pegs have been the main cause of the reversal. There is, however, evidence of herd behavior that may have led to overshooting. To mitigate this herding behavior, uncertainty about government policy and the financial health of the government must be reduced so that investors can make independent decisions on the basis of accurate information.

It is difficult to blame international investment vehicles for the Asian crises, which were mainly due to domestic policy mismanagement and the lack of complete and accurate information. In most cases, domestic banks and other domestic market participants that had borrowed in foreign currency without hedging the currency risk are to blame. In particular, domestic banks that had written (sold) put options without hedging their exposure were acting as insurance sellers, betting that the domestic currency would not depreciate.

In Canada, there is evidence that some investment vehicles (not just hedge funds but also proprietary trading desks of financial institutions) have attempted to manipulate government of Canada debt markets by acquiring an unduly large holdings of specific issues. Events such as these tend to undermine investor confidence (reducing market efficiency and liquidity) and discourage market-making activity by other securities dealers. To address these issues, the Bank of Canada and the government of Canada are currently reviewing the rules associated with the Canadian debt auction process and are also developing a code of conduct with market participants to provide guidelines for secondary market activity.

On balance, the proliferation of international investment vehicles coupled with the availability of derivative instruments, that is, the availability of insurance, has had a positive effect on global financial markets.

Is it useful for policy purposes to draw a distinction between hedge funds and institutional investors such as corporate treasuries and the proprietary trading desks of international banks? In particular, do the mobility and regulatory status of hedge funds enable them to engage in different financial market operations than other institutional investors?

While there are some differences between hedge funds and other institutional investors, their impact on financial markets and the instruments they use are similar. The real concern raised by some during the Southeast Asia crisis—and to which this paper was probably supposed to respond—was the alleged speculative activities including the use of derivatives, independently of who engaged in these activities.

Hence, the focus on hedge funds may not be as useful as would be a discussion of investment strategies and derivative instruments used by institutional investors as a whole. A better understanding of strategies and instruments of institutional investors would help public policy makers to deal with them more effectively. For example, dynamic hedging programs (and portfolio insurance, more generally) could frustrate an interest rate defense of a weak currency and might be potentially destabilizing (*International Capital Markets* report, Part I, April 1993).

Would greater transparency regarding the operations of hedge funds, their counterparties, and their creditors significantly alter financial market dynamics?

Transparency and disclosure of information are beneficial in principle. However, in the case of hedge funds, risk-exposure changes from minute to minute. The reporting frequency would have to be extremely high, possibly too high to be technically feasible or indeed desirable. Further, greater transparency would not necessarily change the investing behavior of hedge funds.

To be effective, reporting requirements would have to be applied in all jurisdictions, and should not place a high burden on hedge funds. Otherwise, they could relocate to jurisdictions with less stringent requirements.

Would raising margin and collateral requirements effectively limit the impact of hedge funds on market volatility? If so, would such measures have other costs?

Such measures should only be considered when there is sufficient evidence that hedge funds have raised market volatility, and that the measures would be effective. Given that hedge funds account for only a small portion of the market, limiting their operations would not have a noticeable impact. Moreover, the empirical evidence suggests that the volatility of major exchange rates, as measured by the standard deviation, has declined in recent years, notwithstanding the presence of hedge funds and the rapid growth of foreign exchange trading more generally.

Furthermore, to be effective, the increase in margin and collateral requirements would have to be prohibitively large and cover all markets. Otherwise, hedge funds could easily move their operations to locations with lower requirements.

More importantly, as the staff notes, hedge funds provide a useful service in that they take long positions in a currency after a speculative attack, providing the necessary liquidity and allowing the currency to move toward a level consistent with fundamentals. Hence, stringent regulations aimed at hampering the activities of hedge funds may in fact lead to more instability in financial markets.

Would the more timely and comprehensive provision of information regarding macroeconomic policy and financial regulation limit the herding in which hedge funds can play an important role?

Herding can be reduced by providing complete and accurate information. However, this does not preclude hedge funds and other institutional investors from reacting to inappropriate policies collectively and drive down a currency. In that context, herd behavior could be observed even in countries with highly transparent policies, and comprehensive and high quality data.

Mr. Vernikov and Mr. Lushin submitted the following statement:

The papers presented by the staff are very interesting and informative. They provide a balanced and well argued response to the concerns expressed by some government officials with regard to the role played by institutional investors in general, and hedge funds in particular, in the recent bout of turbulence in international financial markets. Before turning to the issues proposed by the staff for discussion, we would note that the answers to the questions posed are already suggested in the papers, and these answers are in the main difficult to disagree on. Nevertheless, below we will take these issues one by one.

Has the proliferation of international investment vehicles (including hedge funds) had a positive effect on global financial markets? It is difficult to give a definite answer to this question since it is unclear what is meant by a "positive effect." If the staff mean further globalization of financial markets and the ease with which huge amounts of money are transferred across regions, the answer is "yes." But at the same time, one cannot deny that markets have been behaving pretty strangely of late, as has been exhibited by the increased recklessness of investors' behavior, huge "herd" migrations of capital, rapid changes in markets' sentiments from cheerful idyll to gloomy pessimism. What seems to be clear is the fact that "proliferation of investment vehicles" has resulted not only in the growth of international capital flows, but also in a greater market volatility. Have "importing" countries benefited from such a course of events? Some maybe not. We do not deny the merits of theory of efficient financial markets. However, the most recent experience suggests that an assertion like "the evidence that financial liberalization leads to financial deepening and accelerated growth is incontrovertible" (para 119, p. 38) needs some re-thinking.

Can a distinction be drawn between hedge funds and other international investors, especially with regard to the type of financial operations they perform? The staff clearly show that for policy purposes this difference is increasingly arbitrary (see para 18, 35, 85). We would share the staff's view on this issue.

Would greater transparency regarding the operations of hedge funds and their counter parties significantly alter financial market dynamics? We understand that the staff are skeptical on such a policy with the main argument being that more transparency with regard to hedge funds is difficult to enforce effectively. While not denying this assertion, we see merit in an attempt to extend the US-like requirements of reporting large trades and positions by investors (not only hedge funds, but in general) to other countries as well. After all, if the United States, which is presumably not threatened with a speculative attack on the dollar, finds it reasonable to monitor the major foreign exchange transactions, why would this not be appropriate for the countries that are much more vulnerable in this respect? We are aware that a lot of technical problems may arise along the way, including the possibility that these measures will not be totally effective due to potential offshore migration. But even admitting that a water-tight reporting system is hardly feasible, we are of the view that the option of greater transparency should be taken seriously.

4. Would raising margin/collateral requirements effectively limit the impact of hedge funds on market volatility? It is possible to assume that the staff do not see merit in such type of policy. This may be true when the issue applies specifically to hedge funds. However, taken in a broader context (that is, limiting the ability of international investors in general to go short in domestic stock and foreign exchange markets), the answer to this question is far less evident. However, we would like to address this issue in detail when a paper on the feasibility and advisability of a "sand-in-the-wheels" policy is presented for a separate Board discussion (as promised by the staff on p. 38, footnote 61).

Would the more timely and comprehensive provision of information limit the herding? The staff consider releasing full information about current government policies to be a viable solution to solving the problem of markets' volatility resulting from herding. Of course, in the case of sound fundamentals and healthy domestic financial institutions this may encourage investors to behave more calmly and thus to avoid massive capital flight. There is, however, a counter question: Will such a policy be helpful if the domestic situation is not particularly bright at a given moment, but the exposure to foreign short-term borrowing is high? Surely in this case the existing weaknesses must be addressed forcefully and without delay, but we doubt that their premature disclosure would be beneficial for the authorities. To illustrate this point, we can refer to the example of Thailand, when the staff themselves have recognized that "disclosure of the extent of the Bank of Thailand's forward commitments the day after program approval surprised markets and contributed to market concern about the adequacy of program financing" (EBS/97/187, 10/10/97, p. 3).

On balance, we would agree with the general conclusion of the staff that hedge funds can hardly be found guilty in the case of Asia's financial crisis and that the main reasons for it lie within the countries involved, with bad banking being perhaps the most important. Also, we may note that it would be wrong to single out hedge funds and assign to them any special role, as the issue of capital flows should be addressed through a general approach. The Asian crisis has revealed to the fullest extent some not very attractive features of global financial markets, which should be thoroughly examined, especially within the context of amending the Articles with respect to capital account convertibility.

Mr. Zamani and Mr. Zubir Adbullah submitted the following statement:

We would like to thank management and staff for their quick response to the request made by our authorities for a study on hedge funds and their activities. Considering the short time that the staff had to do the study, it is well-researched and balanced. The study has managed to give an objective account of hedge funds' influence, dispelling the myths that they are invincible and overwhelming. International financial sector regulators would no doubt be able to benefit from the insights contained in the study in formulating prudential policies and guidelines. However, while this study has done much to cast some light on what was once the dim and shadowy side of the financial world, the need for caution remains. This is because the study is based on what is known, what data are available, and how much counter-parties in the investment and banking industries are willing to reveal.

Staff has outlined a number of issues for discussion. We would like to concisely address those issues as follows:

In regard to transparency and good governance, the financial turbulence in Asia has further underlined the importance for greater transparency in policy making, as well as timely disclosure of comprehensive economic and financial data. Markets are spooked when an unexpected development occurs and they do not know what is happening, and they do not have reliable information to base a judgment upon. As the study rightly pointed out, in the absence of reliable and detailed information, market players are forced to transact on rumors and perceptions. In such an environment, there is indeed a tendency for the market to follow the lead of any player who appears to know what he/she is doing and is confident enough to do it with large transactions. Such herding behavior seldom occurs in open developed financial markets where investment decisions are based on pure financial and portfolio considerations.

Our authorities agree on the point that is again forcefully made: to prevent financial volatility and eventual economic distress, policy-makers must continuously adhere to sound and prudent macroeconomic policies that are transparent to the markets. Such policy-making must be based upon and complemented by the timely release of comprehensive statistical information. However, as stressed by our authorities, this is only one side of the coin. For policy-makers to implement appropriate monetary and financial policies, financial market players themselves must also adopt the same rules of transparency and agree to greater disclosure of their activities.

As to transparency of financial markets, the move toward increased transparency on the part of governments should be complemented by efforts on the part of the private sector, including hedge funds and international banks to increase transparency of their activities in order to ensure orderly markets. We acknowledge that the proliferation of international investment vehicles do have many positive effects on global financial markets. Nevertheless, they could also destabilize financial markets.

It must be remembered that all the international money players in the financial markets are accountable largely only to their investors; and the name of the game is to maximize returns at minimum risks. If a particular game makes money (and plenty of it), it is natural that more players are attracted to it. Hence, it is not a surprise that in the markets, it is very difficult to draw a distinction between hedge funds and other institutional investors. However such problems of definition is not the major issue and should not deter attempts at greater transparency of financial market activities. What is more important to market regulators is how to ensure orderly market behavior and a level playing field for all players. In emerging markets, where there are fewer players and lesser liquidity, this issue has greater significance. As such, there is a need for regulators to know who are taking large positions that can potentially be destabilizing, particularly in thin markets.

The paper points out that some form of mechanisms for such reporting of large transactions do exist and are in place in the United States and United Kindom. The tasks that remains then are: a)to adapt such mechanisms for better general use; b) to make the picture more complete by making such reporting part of routine prudential reporting requirement for all financial players in all financial markets; and c) greater cross-border cooperation in collating and disseminating such information as quickly and as widely as possible.

While greater transparency for all market players will indeed alter financial market dynamics, market players should view such transparency positively as part of good corporate governance.

On prudential controls and financial liberalization, the study has rightly brought out the need for measures to address the potential conflict of interest between the trading arms and the proprietary trading desks of financial intermediaries. As brokers for private trades, financial intermediaries, such as banks and brokers, are privy to information that may influence their own proprietary trades. Such influence could result in the amplification of market movements that cause financial panic. Clearly, there is a need to emphasize the creation of "firewalls" as part of the internal controls of financial intermediaries so as to avoid the conflict of interest in the current set-up.

On a sectoral basis, the findings of the study do indicate that some form of controls on short-term capital inflows should be considered a prudential safeguard rather than financial repression, particularly for emerging markets. But be that as it may, the best prudential safeguard is still the conduct of sound prudent macroeconomic policies. What has to be emphasized in financial development is the appropriate sequencing of financial sector reforms. Domestic financial institutions and markets must first be strengthen by compliance to best practices and greater transparency before an economy undertakes complete capital account liberalization and internationalizes its financial sector.

Concerning a more pro-active Fund, while the paper has provided numerous insights on the activities of hedge funds as well as other market players that will indeed lay the groundwork for further research, we are disappointed that little has been mentioned of the role of the Fund.

As the paper have indicated, there has now been four episodes of regional financial instability. It would appear that the impact and the contagion of a financial crises have increased dramatically with each episode. The Fund has correctly pointed out that future crises could initiate from the financial sector; and have, in cooperation with other multilateral organizations, set out a code of best practices as a framework to ensure greater financial market stability in emerging markets. But clearly more needs to be done.

The Fund have initiated the SDDS to provoke greater transparency of economies. Ways must be explored to help markets to use the SDDS effectively to differentiate economies, thereby helping to reduce the contagion effects of a crisis. More challenging, the Fund should explore an SDDS-like mechanism for greater transparency of financial market players and their transactions. This would provide countries with an early warning system on potentially destabilizing market activities and facilitate appropriate policy responses. We would also urge the Fund to study the role of rating agencies, and what best practices they should adopt to avoid aggravating panic in a crisis situation. In short, our authorities strongly feel that the Fund should take a more pro-active role in ensuring the stability of international and regional financial markets.

Mr. Shields made the following statement:

As the staff paper notes at the outset, little hard information is available about the extent of hedge funds' activities and there is no consensus about the implications of their actions for financial stability. The substantial work undertaken by staff in producing this illuminating piece of analysis is therefore very worthwhile. Reflecting the unusually high degree of political and market interest in this subject, we would favor early publication of this report, once account has been taken of Directors' comments and factual errors, and the text has been reordered a little.

Although we tend to agree with most of the analysis presented in the staff paper, particularly on the beneficial effects of diverse forms of investment vehicles and the small size of hedge funds relative to other funds and traders, we approach this subject with some humility. In particular, much of the evidence about the influence of hedge funds upon market dynamics is hazy. Further study in this area will therefore be necessary before firm conclusions can be reached.

However, while the market dynamics of hedge funds' activities remain somewhat uncertain, staff's description of the financial developments prior to and during the 1997 crisis in Asia accords with information my authorities have gleaned from their regular contacts with market participants. In this regard, we have no reason to doubt staff's view that hedge funds played a very modest role in the currency depreciations of the Thai baht, Indonesian rupiah, Malaysian ringgit, Philippine peso, and Korean won. Indeed, the finding that hedge funds only had large short positions on the Thai baht, and not on other Asian currencies, and that even in Thailand they were not earlier than other investors in building up these short positions, is significant. This is consistent with our view that domestic considerations (unsound banking practices, weak financial supervision, poor corporate governance, and inappropriate exchange rate policies) were the main causes of the financial crises in Asia and that domestic investors often play the major role in currency crises.

We therefore agree with the thrust of the paper that there are two key messages to take from this study. First, when a financial crisis hits, it is essential to identify and decisively tackle, at as early a stage as possible, the key domestic considerations that precipitated the crisis. Looking for external scapegoats only serves to divert attention away from the more significant domestic problems that need to be addressed. Second, prevention is better than cure. In this regard, policy makers can help to protect their economies against sharp market movements by: (i) avoiding offering one-way bets in the form of inconsistent policies and indefensible currency pegs; (ii) maintaining strong, well governed and competitive financial systems; and (iii) providing better information to the public about government policy and private-sector financial conditions.

Turning to policy options, even though hedge funds do not appear to have been the principal conduit of past financial crises, the paper usefully goes on to review the regulatory practices currently in place in the United States and United Kindom. Here, the report paints a slightly complacent view of the assessments by my authorities of market risks. In particular, para. 57 notes that regulators seem generally satisfied that hedge funds pose no special problems of systemic risk and para. 70 comments that regulators in the United States and United Kindom are satisfied that banks and brokers are adequately managing their exposure to hedge funds. This is a little over-simplified.

It might be useful to note at the outset that the Bank of England recognizes that the lack of information on hedge funds makes it difficult for potential counterparties to assess the creditworthiness of a hedge fund. They also recognize the risk that some banks may not have the sophistication to understand fully the additional market and counterparty risks in hedge fund business. UK regulators are certainly alert to the possibility that the activities of hedge funds might give rise to systemic risks. Although these risks are likely to be small, they are extremely difficult to quantify.

However, the existence of such risks does not automatically justify regulatory change. When contemplating new regulation, it is important to keep in mind what potential or actual market failure is being addressed; and how effectively the regulations would work in a global environment. As staff do not consider hedge funds to have been the principal cause of past financial crises, and find little or no evidence of a clear market failure associated specifically with hedge funds, the a priori case for adopting new regulations to limit the actions of hedge funds at the moment seems slim. We also need to recognize that the policy options put forward by staff are not precisely targeted on hedge funds. They would, in fact, cover all international investors who undertake transactions in foreign exchange markets and they seem to address the broader issue of preventing exchange rate overshooting. It might have been useful to recognize this specifically.

It is not always a straightforward task to restrict the actions of a particular group of investors. For instance, although a lot of hedge funds conduct their business in the United Kindom, only one hedge fund is actually located in the United Kindom. Hence, the only way that the UK authorities could influence the activities of hedge funds would be through the general requirements imposed for doing business on recognized exchanges. Any additional restrictions on these would, of course, affect all market participants.

Having said this, we recognize that officials in all countries need to be alert to the possibility of any investor dominating or manipulating a market. In this regard, staff suggest that other countries could emulate the large trade and position reporting requirements currently in effect in the United States. While my authorities have not ruled out this option, they see the need to weigh up the costs and benefits carefully. In particular, it is not clear from the paper what practical use has been made of these large currency trade reporting requirements (other than to help detect cases of money laundering).

Finally, we strongly agree with the points outlined in paras. 117-119 listing the disadvantages of taxing short-term capital inflows and/or raising margin and collateral requirements on trading. As staff note, repressed markets may be stable, but this does not mean they are efficient or conducive to growth. History has demonstrated that the costs, in terms of economic growth, of financial repression are high.

Mr. Mori made the following statement:

We thank the staff for the informative papers on hedge funds and wish to comment on two issues raised in the papers: financial market imperfections and a possible distortive effect of low interest rates in financial market developments.

Hedge funds seem to exploit profit opportunities resulting from market imperfections. Staff indicates some hedge funds' specific operating procedures that make them more profitable compared to other institutional investors: (i) a performance-based fee structure for managers, and the investment of the general partner and fund manager's own capital in funds they manage; (ii) longer redemption horizons; and (iii) use of leverage in a variety of other investment tools, their small size, and internal structure makes them more agile and quick in responding to new information. These operational characteristics—and not the regulatory status—appear to distinguish hedge funds, allowing them to engage in different financial market operations as compared to other institutional investors.

In their marginal activity in the financial market, hedge funds may provide financial instruments to correct some market imperfections and capture unexploited gains resulting from operational rigidities of other institutional investors. As hedge funds supply investors with new instruments, the low correlations of their returns by investment styles with returns in bond and equity markets allow the advantages of portfolio diversification—raising returns without increasing risk—available to a bond or equity only investor by allocating a proportion of his portfolio to hedge funds. These instruments—if appropriately designed—improve investors' risk sharing objectives, whether in the form of insurance or diversification. In this sense, the proliferation of investment vehicles would have a positive effect on global financial markets.

Hedge funds using arbitrage-type strategies take advantage of various misalignments or "mispricings" of similar instruments or instruments which are thought to have similar characteristics or underlying driving factors. They also follow strategies of profiting from macroeconomic imbalances combined with changes in "market psychology," in attempting to discern the types of events that might start a large trend or movement. It is notable that these opportunities for arbitrage occur even in well developed and liquid markets.

There is a tendency for market participants to follow destabilizing trading behavior such as participants buying after price increases and selling after price declines, or participants taking similar positions to those of other market participants rather than basing their decisions explicitly on prices. It seems that a similar pattern also occurred, for instance, in the episode of asset price inflation in the 1980s where past price increases determined expectations of future price increases. Once this process started, in the absence of a restrictive monetary policy, expectations of further capital gains seem to become an important aspect of further demand for assets.

Furthermore, the empirical tests presented in the document "Hedge Funds—Selected Issues" show evidence of some divergent positioning between hedge funds and other market participants, reflecting different beliefs or slow response. Other institutional groups alter their positions in the opposite direction to those of hedge funds, and these other groups appear to be slow to alter their positions and follow the hedge funds with a lag. One can draw from the experiences reported by the staff that provision of information regarding macroeconomic policy and financial regulation only seem not to limit the herding behavior.

These market inefficiencies add to the fact that there is an inherent difficulty in forecasting financial asset prices from publicly available information. These assets are connected with events in the future which involve significant degrees of uncertainty, to the extent that there is limited information to investors about exogenous factors which may lie beyond their immediate control (e.g., variations in commodity prices, interest rates and fluctuations in global economic activity).

There are also indications that the increase in global liquidity in the 1990s with major industrial countries pursuing relatively loose monetary policies may have contributed to the mispricing of financial assets, and may have been one factor for the turbulences in both developed and developing financial markets. In the emerging market crisis, international investors were encouraged to establish and maintain positions in these economies by low level of interest rates in main financial centers resulting from policies of keeping interest rates low so as to promote the recovery of these economies from the 1990s weak economic performance. In the 1992 ERM crisis and bond market turbulence in 1994, one of the critical ingredients was also cheap funding. As staff noted, international investors are most likely to take large positions when the cost of funding is low. Cheap funding also allows them to take and hold a position without worrying excessively about the cost even when they are uncertain about the timing of events.

In this environment of uncertainties and market distortions, as an alternative policy reaction, capital recipient countries may contemplate measures to limit the ability of economic agents to take positions in domestic financial markets. In dynamic financial markets, regulations to protect market integrity and/or limit systemic risk are necessary especially for large participants. Prudential policies —not specifically for hedge funds but for all market participants— have to be continuously improved and updated to take into consideration changing circumstances resulting from the introduction of financial innovations.

Mr. Toribio made the following statement:

The staff papers on "Hedge Funds and Market Dynamics" constitute an important reference for anyone willing to analyze modern financial trends and institutions. We should thank the authors for such an outstanding effort. As the staff documents underline, the concept of "hedge funds" has changed a lot since Mr. Jones's times (1949), and it is very elusive today. Their frontiers with other institutional investors are far from clear, and the variety of goals and investment techniques they are engaged in make it very difficult to find a common denominator for all of them.

But despite this ambiguity (and the density of the staff papers), let me refer to the five points suggested by the staff as issues for discussion, as many of my colleagues have done in their statements.

The first question for discussion underscores the proliferation of international investment vehicles and asks for opinions regarding their effects on global financial markets. It seems obvious to me that institutional investors (including hedge funds) have played a major and positive role in the development of modern financial markets. They have stimulated private savings and mobilized them in search of a balanced mix of yield, safety, and liquidity. The unintended result has been the creation of wide, deep, and very liquid markets and, through them, a more efficient allocation of financial resources. Thus, hedge funds—as other investment institutions—play a positive role and should not be subject to financial repression per se or, at least, we should be very careful in suggesting it.

The second discussion point relates to the distinction between hedge funds and other financial institutions. It also asks about possible market effects of those specific features.

Two characteristics of what we call "hedge funds" today are, in my opinion, especially relevant from the point of view of market dynamics: (a) the fact that they fall outside the usual field of supervision and regulation from financial authorities, given the small and limited number of investors in each one of them, and the absence of a general appeal to private savings at large; (b) Whereas mutual and pension funds are a refuge for medium and small savers, hedge funds—as limited partnerships—constitute the investment vehicle of persons wishing to "play high." Thus, they are perhaps more aggressive and imaginative than conventional institutional investors. These two distinguishing features—aggressiveness and lack of regulation—may have some relevance. Other characteristics pointed out by the staff papers (fee for performance, use of derivatives, leverage, liquidity requirements, offshore domicile, etc.) are either shared by other financial institutions or could be easily adopted by most of them.

To what extent the differential attributes of hedge funds allow them to engage in specific financial operations is hard to say. To my knowledge, there are no investment techniques which would be exclusively open to hedge funds and forbidden to other investors. Perhaps, the absence of regulation gives hedge funds a little more freedom and allows them an occasional concentration of assets which conventional funds, legally compelled to diversify investments, may not find acceptable. Hedge funds could be—and usually are—less conservative than corporate treasuries on proprietary trading desks of international banks. But beyond that, I fail to see how those marginal differences with other market players could justify a defensive attitude on the part of financial regulators.

I would agree (moving on to the third discussion point) to promote as much transparency as possible in the operations of hedge funds, including regular reporting. Let me add, however, that modern electronic security markets usually provide the supervising authorities with ample opportunities to know which operations are being performed and by whom. Surprisingly, some of the largest financial markets in the world are still based on sheer shouting, and other obsolete trading techniques, that do not allow easily for an instant detection of unusual performances. In that sense, an authentic "big bang" is still to come in some advanced markets. Old traditions, not hedge funds, are to blame for their shortcomings.

The fourth suggested issue for discussion rises the possibility of direct intervention to "limit the impact of hedge funds on market volatility" through higher margins and collateral requirements. I frankly do not understand why hedge funds should be singled out as a special source of volatility and/or as a candidate for financial penalties. Hedge funds are not the only players using some leverage. In fact, most of the regulations raised as alternatives by the staff paper are simple restrictions to short-term international capital movements which we have already discussed in a different context and which, if enacted, should be applied to all international investors, not only to hedge funds.

In any case, the staff are right in underlining the high costs of financial repression in terms of inefficiency and lower economic growth.

The fifth and final discussion issue refers to the possibility of limiting the herding effects of hedge fund operations. In my opinion, the studies about the role played by hedge funds in this kind of phenomena are far from conclusive. In the absence of a clearer evidence, little can be said about that problem. General, timely, and comprehensive information on the part of governments about the economic fundamentals would do much more to avoid herding effects in financial markets than any possible regulation of hedge funds activities.

Mr. Levy made the following statement:

I would first like to thank staff for their extensive and thorough study of the characteristics of hedge funds and their role in the international financial markets, a study which was carried out under a tight time constraint. It is perhaps somewhat disappointing, but the conclusion from the study is that we simply cannot blame hedge funds for all of the evils of the world, including the more recent Asian crisis.

As staff explains very clearly in the background study paper, the dividing line between what is and what is not a hedge fund is a hazy one and there are different possible definitions of a hedge fund. However, whichever definition is employed, it seems that hedge funds are but a small part of the whole universe of investors that operate in the international financial markets and that other sophisticated investors, most notably the proprietary desks of investment banks and commercial banks, use similar techniques and instruments as hedge funds. In addition, in the studies both quoted and conducted by staff there is little quantitative evidence that hedge funds play a significant role in leading the herd in financial markets, although I would add that a major limitation of these studies is that they are all based on data of positions taken in advanced economy currencies and exchanges. I would have liked to see an extension of these studies for emerging markets as well and would like to ask staff if data for such studies could be collected at least from some organized exchanges.

My conclusion from the paper is that too much focus on hedge funds per se while ignoring the role and activities of other perhaps more important market participants will not be very productive. Nevertheless, I regard the paper as being very fruitful, first for pointing out the role of hedge funds in the recent and previous market turbulences and second, for highlighting the techniques and strategies of hedge funds as an example of the activities of other investors as well. As other directors, I support publication of both the staff paper and the background papers.

In my view, the most serious issue raised in the staff paper is that of regulation and reporting and I would like to concentrate on their consequences for emerging markets. At the outset I would like to note that my comments do not only relate to hedge funds alone but pertain to other large investors as well. Staff distinguishes between three types of prudential regulations: [those intended for investor protection, for protection of market integrity and for systemic risk management]. The common denominator of the regulation motives is that they all represent the point of view and self interest of the investors in the country where the hedge fund is either stationed or where the markets operate. Thus, if a hedge fund or any other investor operates out of the United States, but takes a position in, say, Thailand, the impact of the position on the integrity and functioning of the United States markets is obviously zero and it may not concern any of the United States regulators. This problem is especially severe in emerging markets where the volume of trade is low and there exists the possibility of dominating or manipulating the local market. In the absence of some worldwide coordination among well functioning regulators, which seems rather utopian, additional direct reporting by the hedge funds to the home country authorities would not be very helpful. In addition to the reasons given by staff as to the ineffectiveness of such additional reporting and regulation, I would add that the home country regulating authorities lack the knowledge and ability to analyze the significance of positions taken in emerging markets. What would they do with the information that some hedge fund took a, say, $100 million position in some emerging market currency, which is a minute position by advanced economy standards but could very well have a significant effect on some emerging market? Therefore, emerging economies cannot rely on others for regulating their markets and at least a partial solution to the problem lies in the improvement of prudential regulations, transparency, accounting principles and reporting systems in the emerging markets.

First, organized exchanges and securities regulators in emerging markets should play a more active role in overseeing the functioning of the markets as is the case in many of the advanced economies, and I would add that improvement in governance would not do any harm as well.

Second, I agree with staff that the governments can contribute to the efficiency of the markets by providing reliable, detailed and timely information on the state of the economy, which will directly improve the efficiency of the operation of the government's securities markets, the foreign currency market and any other asset whose value depends on macroeconomic variables.

A much more difficult problem exists with regard to regulating some of the over-the-counter markets in emerging countries, most notably the foreign exchange market. In this case, I would not rule out a much more extensive reporting system from banks and other local market participants to the local regulating authority. Ideally, the regulating authority should be a completely autonomous entity and not part of the central bank, as the central bank itself is a market participant. The reporting should include the identity of the counter party to the local market participant, and the size, time and price of the transaction. While such a reporting system may not reveal the identity of the final position taker who could hide behind several intermediaries, especially when there are a lot of off-shore activities, it would improve the authorities' ability to determine whether some investors are attempting to dominate or manipulate the markets. One could argue that such an intense reporting system would deter potential investors from participating in the market and therefore liquidity would be reduced, but is this same argument not valid in the case of, say, an organized exchange where large investors are identified? In addition, if the alternative is capital restrictions, I would certainly prefer the more extensive reporting system. I would appreciate staff's comments on the issue of intensifying the reporting system on over the counter transactions in emerging markets.

Finally, capital restrictions were mentioned in the paper as one of the ways to limit the ability of hedge funds and other investors to take positions on domestic capital markets. The problem that I see with capital controls is that if they are moderate they will somewhat disrupt economic activity at normal times but will not be able to withstand severe disequilibrium at times of crisis, whereas if they are to be effective they could kill the whole market, even "non-speculative" activities. In addition, as staff shows, several past examples, such as the Mexican experience, prove that many times it is residents who take a position at a time of a run on the currency and it may not help to limit the short positions of nonresidents, who at times can even play a role of stabilizing the markets. The case of taxing short term capital inflows in Chile is being quoted as a successful experience. Are there any other such successes? I also wonder how one can effectively limit capital inflows through such taxation in an economy where there are traded derivatives? Are the proponents of such taxation also in favor of limiting the development of derivatives in emerging markets?

Mr. Spraos made the following statement:

Our topic today is labeled hedge funds, and the papers in front of us have done a very good job in analyzing and documenting the subject–including, as I understand it, some pioneering on-the-ground research.

But I have some difficulty in identifying the boundaries of our discussion today.

It is difficult to isolate hedge funds–misleadingly named anyway–from all the other financial market operators with a short horizon. The subject "hedge funds"shades therefore into the wider subject "short term capital movements." It shades also into the subject "capital account liberalization," which is hot in the Fund right now.

As many of the preliminary statements and previous speakers have observed, the paper in front of us clearly signals that the behavior of hedge funds cannot be sharply distinguished from that of other operators. More conventional financial institutions would typically have a total risk-exposure profile that is more conservative, but at the edges they could be just as adventurous. These edges are big, however, since these funds have huge resources at their command. Thus they can, and apparently sometimes do, overshadow the hedge funds in aggressive and quick-footed position taking.

Nevertheless, the hedge funds are closer to the pure concept of a speculator. I am talking here about the so-called macro funds: being less regulated, they have more freedom to take open positions, their prospectus comes with the warning that that is what they are in business to do, and their readiness and ability to leverage gives them disproportionate clout in the markets.

We have come a long way from the time, some 45 years ago, when Milton Friedman asserted that speculation is always and unambiguously stabilizing. He made this assertion in the context of currency speculation and in due course convinced most economists and influenced the ideology of the Fund. Now, in contrast, we talk of capital surges, herd behavior, multiple equilibria, etc., and observe with the naked eye staggering excesses in speculator-driven currency depreciations.

Sticking to hedge funds, what we know from the staff paper is that they do not always lead the herd, but they sometimes do.

A coincidence of views is not necessarily herding. It may arise because the evidence is so clear that most people read it the same way. Herding arises when the coincidence of views is not predominantly based directly on the evidence but on following others' interpretation of it.

The problem with herding in the latter sense is not that the leaders of the herd are wrong, though they may be, but that market reactions are lightning fast and markedly excessive, denying time to macroeconomic management to adjust in a measured way and forcing it to a permanently conservative stance in order to minimize the risk of market excesses. I hope we can recognize the difference between good management and fear-driven management of the economy.

What I am saying is that herding is detrimental even in the most benign of cases–that in which the herd follows the leader because he is known to be well-informed. Herding is a fortiori detrimental in the more malign cases, where the herd forms because there are gains from everybody doing the same thing or because the cost of turning out to be wrong on one's own is disproportionately high.

The econometric research that is mentioned in the main staff paper and is more extensively described in the Selected Issues paper suggests that, for the most part, herding does not occur and, when it does occur, it is quantitatively unimportant. But this is contrary to what the naked eye can see. The explanation is that hedging episodes are of short duration and are statistically overshadowed by the longer periods of calm. But they are no less malign for that.

It would therefore seem appropriate that hedge funds, as potential leaders of herds, should be subjected to some restraint.

I am not impressed by the counter-argument that any restraint would also restrict the buying of the previously oversold currency. This is like saying that I should not stop my gardener from digging unwanted holes in the ground because he is ready to fill them up partially afterwards.

The problem that I do see, however, is that hedge funds are not the only potential leaders of herds–which brings us back to the difficulty of considering hedge funds separately. True, it is not impossible to subject hedge funds to discriminatory treatment. They do actually enjoy discriminatory relief from investor protection regulations. But it is not practical to discriminate against hedge funds on the basis of the activities they engage in; they do not differ in identifiable ways from the activities of other market operators.

There is however one point, listed by the staff among the "issues for discussion," which, while de jure not discriminating, de facto will have a disproportionate effect on hedge funds and therefore can be appropriately considered even under a strict interpretation of our agenda. I refer to a rise in margin requirements. Macro funds are likely to be more margin-constrained than more conventional institutions. Thus a rise in margins will reduce leverage, to which macro funds resort extensively, and hence will reduce the total sums that can be thrown against a currency. So there is promise here. But, before we go further, we need to answer two questions: (1) does this measure have problems of implementation? and (2) if implementable, is it going to be effective?

On effectiveness, we have some information in front of us. Hedge funds, we are told, have a strong preference for liquid and deep markets because, if they cannot buy or sell without turning the market more than marginally against them, an otherwise profitable operation becomes unprofitable for them. I interpret this evidence to mean that a margin increase can be expected to be effective.

The second question concerns implementability. The staff do not address it in the papers in front of us. I would welcome a balanced presentation of the implementation issues.

In any event, I take the view that a margin increase should be high on our agenda.

Of the other points for discussion suggested in the staff paper, the one with specific bearing on hedge funds is greater transparency. I support bringing hedge funds into line with the highest reporting standards applicable to other financial institutions. But if better reporting is confined to advanced markets, it will only be partially useful to other countries. For this reason, as Mr. Levy has said, better reporting should be sought in nascent financial centers, which typically are very weak in this respect and which need information tailored to their needs. However, authorities in advanced markets could help by seeking–and by conveying–information from hedge funds as well as other operators which has systemic implications for other countries.

I conclude with the hope that there will be an opportunity for a wider discussion of short-term capital movements regardless of who originates them.

Mr. Singh made the following statement:

Like other speakers, I would like to thank the staff for their papers. Following the recent currency crises, hedge funds have been heavily criticized and depicted as evil spirits jeopardizing international financial markets. I welcome staff's efforts to bring the issue back to earth and would agree with an early publication of this report.

The first observation I had after reading these papers is that hedge funds are not as exciting as one could expect. Their principal distinctive feature is the fact that they do not fit into the subtle legal definitions of other fund categories. Thus, the question if a fund is a hedge fund or not depends on the national legislation. What is called a hedge fund in the United States may be called a normal emerging markets fund in some European countries. Moreover, hedge funds do not have a monopoly in any of the market instruments they use. Many institutional investors and international banks engage in exactly the same activities.

The perception that hedge funds are catalysts for unjustified shifts in investors' confidence raises two important questions: First, do hedge funds really lead the herd? And second, are they leading it into directions which are unjustified by economic fundamentals? Both questions are very well analyzed in the staff paper.

Although hard information on hedge funds is difficult to gather and, therefore, results of empirical studies should be taken with a grain of salt, the analysis provided here would indicate that these funds do not systematically lead the herd. Even if hedge funds have played an important role in particular episodes, as illustrated by the 1992 ERM-crisis, on average the evidence provided by the staff suggests that they are more often following than leading other investors.

The critique that hedge funds would not base their investment decisions on economic fundamentals and would therefore destabilize financial markets reflect more generally a skepticism about the well-functioning of international capital markets. Therefore, the sections in the staff paper which address the investment strategies of hedge funds and the question of feedback trading are particularly welcome. The main result of this analysis is that when placing their bets, hedge funds—and in particular macro funds—take a close look at macroeconomic fundamentals. In this respect, hedge funds are no exception to the main results of recent research on speculative attacks: they will certainly not attack a currency if the fundamentals are solid. Thus, hedge funds—and capital markets in general—should not be used as scapegoats when unsustainable policies collapse.

Hedge funds would even seem to be a stabilizing force in some cases. Unlike a mutual fund which may face withdrawals, a hedge fund locks in its investors for a substantial period of time and, therefore, will not be compelled to sell its assets in a bear market. I wonder, however, to what extent this last argument stems essentially from the private placement character of hedge funds and may not hold if such funds would open up to the public. Staff comments on this point would be welcome.

Overall, there does not seem therefore to be much evidence to justify the negative reputation of hedge funds. They do not appear to pose a significant threat to market integrity. On this basis, we do not see a need for action to limit hedge funds' market power. We also agree that it would be difficult to enforce a water-tight global reporting system.

With respect to investor protection, however, the report could have provided a bit more details. As long as hedge funds limit themselves to wealthy investors, as it seems to be the case in the United States and in the United Kindom, this issue may not be important. But in Switzerland, several hedge funds are publicly offered. In this case, it is important that hedge funds thoroughly inform potential investors about the risk they take by putting their money into these funds and that strict auditing procedures are applied.

We also regret that the discussion on regulation and supervision has been limited to the United States and the United Kindom. It is certainly true that much of the activity of hedge funds takes place in these two countries and that the legislation of many other countries follows their examples. Nevertheless, we would have been interested to learn more about the practice of other countries in which a hedge fund industry is already in place or emerging.

Finally, reducing herding in financial markets could be beneficial. If the reason for herding lies in information cascades, more timely and comprehensive provision of information to the public could limit this phenomenon. However, this argument has its limits. For an investor, the selection and interpretation of information remains costly, even if information is easily available. Thus herding will probably not be eliminated just by providing data to the public. If some investors have a reputation of better interpreting the data, their behavior will be scrutinized and followed.

Mr. Zhang made the following statement:

We welcome today's discussion on hedge funds and would like to thank the staff for preparing a comprehensive set of papers. This complicated subject is of interest to many of us. I agree with the thrust of the staff appraisal and would like to concentrate my comments on the role of hedge funds in the international financial market and the relative regulatory issues.

The development and proliferation of institutional investors have enhanced the depth and breadth of the international financial market. These institutional investors include commercial and investment banks, and mutual, pension and hedge funds. Hedge funds share many common features with other institutional investors as regards the techniques and instruments they use in their investment and portfolio management. Practically speaking, it is difficult to differentiate the role of hedge funds from other institutional investors.

Therefore, we should take a broader point of view to include all institutional investors in our discussion.

However, hedge funds actually enjoy many regulating advantages. The lax disclosure requirement for hedge funds is one of the major factors contributing to their mystery and compared with other institutional investors, hedge funds have greater freedom in using short selling, leverage, and other investment techniques. By employing such techniques, hedge funds can generate multiple effects on the financial market compared with their capital and together with the herding market behavior, they can make the financial market deviate from economic fundamentals, hence the situation facing macroeconomic regulators can be exacerbated. The 1992 ERM crisis is a good example in this regard. Therefore, it is necessary and important to improve the regulation on hedge funds to limit their possible negative impact on the financial market.

In this regard, raising the margin and collateral requirement, to our mind, seems to be a possible way to limit the use of leverage by hedge funds and other investors, although its effect is hard to assess. Short selling is the frequently-used technique by investors to attack currencies. To limit the ability of investors, including hedge funds, to take short positions, measures could be considered to limit financial institutions' ability to provide domestic credit and securities to nonresidents. Setting a minimum duration for, and taxing shorting-term capital inflows can help limit investors' speculative action. Chile has provided us with good experience in this respect and, therefore, I join the Japanese chair in encouraging the staff to a further review in this regard.

However, the most important measure to improve regulation and stabilize the financial market is to improve and increase the transparency of capital flows and the operation of institutional investors, particularly hedge funds. To improve the transparency of investors' financial operations, it is particularly important to tighten the reporting requirement on the large trading positions of all institutional investors. Measures in this regard include, large-position reports on over-the-counter transactions on a regular basis and the reduction of the minimum threshold for weekly and monthly reporting of foreign exchange positions. However, it is important for policy makers and supervisory authorities to monitor domestic and market developments closely, including the activities of institutional investors and fine-tune policies promptly in response to market changes. We can support the efforts sponsored by international regulators to study ways to regulate such activities. I share Mr. Zamani's view that the Fund should take a more pro-active role in ensuring the stability of international and regional financial markets. We support the view that the Fund should explore an SDDS-like mechanism for greater transparency of financial market players and their transactions.

Finally, we also agree with the staff that the most important policy action to enhance and guarantee market stability for the national authorities is to conduct sound and consistent macroeconomic policies.

Mr. Elhage made the following statement:

In today's financial markets, the well-written staff paper provides a wealth of data on the activities of hedge funds. It is well to note that the players involved in this segment of the financial market provided the main input for the paper. In spite of the high quality of the paper, I would not have thought that it ranked high as a paper suitable for Board discussion. Accordingly, we can be brief and address some of the main issues raised.

First, like other Directors it is our view that hedge funds are not much different from other investment vehicles and therefore may not require any special regulation. Like Mr. Ono, we believe they must be viewed in the context of the broader issue of institutional investors within the overall framework of international capital flows. Whether hedge funds do or do not contribute to financial stability is, as Mr. Shields implies, not very clear-cut. While this is probably not an opportune time to discuss capital flows, this Chair's position is well-known and is in my view confirmed by recent events. There are serious costs associated with short-term capital flows, particularly given their magnitude in financial markets.

Regarding the herd behavior which we have seen much of in the Asian scene, this could possibly have been engendered by the activities of the prominent hedge fund players or what the staff calls "information-cascade phenomenon." This is obviously a serious problem and can shift the market from a better to a worse equilibrium. While it goes without saying that the provision of information on government policies, the health of the financial sector, and so on, is desirable, we should not overstate the belief that the provision of information will render the markets rational.

Finally, if the paper is to be published and I am not in favor of publication at this time, it needs to be carefully couched in tentativeness. The influence of hedge funds on market dynamics is not yet altogether clear, neither should the accuracy and the completeness of the data provided by the key players be taken for granted.

Mr. Belay made the following statement:

The staff papers before us provide useful information on the role of hedge funds in international financial markets. We note that the hedge fund industry is growing in importance to the world investment community being facilitated by institutional changes in both the developed and developing countries that are taking place in light of the widespread efforts toward global integration of financial markets and increasing financial deregulation measures. We understand that the investment decisions of hedge fund managers encompass many different strategies aimed at diversifying their portfolio so as to generate more consistent returns than would be the case under pure equity or bond investments.

In the episodes of financial market turbulence since 1992, hedge funds are viewed by many as having played a significant role. However, staff analysis indicates that this has not always been the case. Both in the 1994-95 Mexican crisis and the 1997 financial turbulence in East Asia, hedge funds played a limited role. If they have played some part in precipitating the 1992 ERM crisis and the 1994 bond market turbulence, they might have done so not by the mere size of their transactions but by their role as market leaders in inducing other institutional investors to follow them.

The perception that hedge fund managers are well informed and therefore bound to make shrewd and careful decisions about future market trends could continue to prompt other less-well-informed investors to emulate hedge funds in making market moves in future. In such a catalytic role, hedge funds could precipitate market upheavals as experienced during the afore-mentioned 1992 ERM crisis and the 1994 bond market turbulence.

So far, hedge funds are small relative to other investors. However, they could grow in size and number with further global integration of financial markets and if the current regulatory environment which places few restrictions on their portfolios and transactions, relative to other institutional investors, continued unchanged. Even under those circumstances, the large size of their transactions may not become a source of undesirable movements in asset prices as hedge funds seem to be less inclined than other investors to engage in trading practices that exacerbate market crisis.

However, it would appear necessary to strengthen supervision and regulation in order to minimize the potential of market manipulation by increasing transparency and limiting the size of positions that any single participant, including a hedge fund, may establish in a particular market. In this regard, we note that enforcing transparency requirements for hedge funds would be particularly difficult because hedge funds are especially mobile and as such could locate in other countries where there are few or no prudential regulations. However, it does appear, even in such countries, the operations of hedge funds could be open to the collective oversight by the international community if some form of coordination can be established.

Let me now turn to the specific issues proposed for discussion. The proliferation of international investment vehicles, hedge funds being one of them, and the recent wave of financial innovations have been stimulated by a changing economic environment and by advances in computer technology. The rapid growth in the number of investment vehicles has changed the investment frontier in terms of fostering competition which, obviously, is necessary to restrict any one or a few investors from dominating or manipulating markets. In this connection, however, it is to be noted that, even in the environment where there is greater competition, market volatility would not be totally avoided as evidenced by recent episodes. Besides increased competition, greater transparency regarding the operations of investors and better information on the part of investors about governments' policies and intentions could therefore help to reduce instances of instability in financial markets. In particular, better information to the markets on government policies and positions of domestic financial institutions would limit the possibility that less-informed investors would follow the lead of hedge funds and thereby enhance the opportunity of minimizing market volatility.

It is to be noted from the staff report that hedge funds and other institutional investors engage in many of the same methods of operation. Moreover, among these other investors, many are investing in hedge funds. Therefore, making a distinction for policy purposes between hedge funds and the other investors may not appear to be warranted. However, it may be useful to bear in mind that hedge funds, because of the fact that they are especially mobile and have relatively few restrictions on their portfolios and transactions, are freer than others to use alternative investment strategies for the purpose of reaping high returns relative to risk.

Greater transparency regarding the operation of hedge funds, their counterparties and creditors could serve the purpose of making officials aware of the extent of hedge fund's role in influencing market trends. However, ensuring of such transparency is not likely to lead to an imposition of measures that could limit the scale and nature of hedge fund's operation because these investors are not yet large enough to dominate markets.

Raising margin and collateral requirements by banks and brokers would possibly limit the ability of hedge funds to take positions in financial markets. We note from the staff report, however, that it is not clear that discouraging hedge funds from taking positions would reduce market volatility. This is because hedge funds, by the very nature of their business structure and strategy, tend to engage in market practices that are less destabilizing, unlike other institutional investors. It is to be noted, in this connection, that attempts to raise margin and collateral requirements for investors, including hedge funds, could have costs in terms of financial repression with negative implications for economic growth and employment.

Mr. Al-Turki made the following statement:

Let me join other speakers in thanking the staff for preparing this well-written set of papers. While I do share staff's the view in most of the issues raised, I would comment on some of their questions.

The fact that a rapidly growing part of the financial sector such as hedge funds is not subject to reporting and disclosure requirements that apply to other financial institutions is indeed a source of concern. It is clear from the paper that information about hedge funds is limited. Information is sketchy not only about the activities of these funds, but there are also no clear estimates of the current number of hedge funds and their capital values. The staff underscored the difficulties in making such estimations. The concern becomes more serious given the important role that hedge funds can play in certain cases, such as the 1992 ERM crisis.

The differences between hedge funds and other institutional investors in and international financial markets remain unclear. While hedge funds' regulatory status provides more flexibility in investment and risk taking, activities of these funds overlap for the most part with other investors. Therefore, the important question for policymakers is not only how to deal with hedge funds but how to reduce destabilizing speculators regardless of their sources. The key to protect investors, bring about orderly behavior in the financial markets, and reduce erratic movements in prices is to minimize such a speculation. The lender for speculative transactions has to be also aware of the risks of its speculation business. In this regard, more transparency regarding the operation of hedge funds and their creditors, as well as higher margin and collateral requirements, would be a policy option worth considering. It is important, however, to keep in mind that these measures will not end all speculations and are not costless.

It is important not to fully blame speculators in general and hedge funds in particular for financial crises. Indeed, while speculators may reduce the lead time to take corrective action, the root causes of the problem are usually inconsistent economic policies. Therefore, it is important to address economic imbalances in a timely manner. Enhancing transparency regarding economic policies and regulations would reduce uncertainty and limit herding and its disruptive effects. However, once again, I believe there will always be players taking a lead in the market and others to run with the herd.

Ms. Lissakers made the following statement:

I think the paper presented by the staff serves a very useful purpose in demystifying hedge funds and their role in recent financial upheavals. I think it is pretty clear from the paper that hedge funds were not the central villains in the Asian drama, nor were they in the ERM crisis. They certainly seemed to have played a catalytic role, or a lead role in some instances of leading the herd. But I think with regard to Asia, it was pretty clear already last winter that the herd itself was on edge and pawing the ground and twitching its tail and waiting for some signal to move in a new direction, and the hedge funds, at least with regard to Thailand, may have played that role of breaking first from the pack.

One has to ask whether this role is beneficial or damaging to the international monetary system. I think one could argue that in the Thai case at least it was a crisis waiting to happen, because the authorities were not following the recommendations to move preemptively to cool off the overheating economy. So, if the hedge funds had not triggered a crisis last year, somebody probably would have triggered what could have been an even worse crisis, although it is hard to imagine that. The timing may have been different, but the sequence of events at least with regard to Thailand might have been different. In the case of Korea, it could have arguably had a different outcome, with different timing.

But I think overall one needs to recognize that the institutional investors that are somewhat quicker on their feet than the large institutional investors may in fact serve a very useful purpose in signaling a new direction. And while they may be the first out of a currency, they are quite likely to be the first in as well and may be the lead indicators of returning confidence. I think there is some indication that that may be beginning to happen already in a couple of the Asian cases. Hedge funds have a bit the image of vulture funds, which are not particularly appealing from an image point of view but serve a very useful social function of cleaning up the road-kill.

But I agree with colleagues who say that it is not, from an analytic point of view, particularly useful to just look at hedge funds, core hedge funds. They are not unique in terms of their activity. They are unique perhaps in the concentration of their activity in one part of the market, but their activities are really emblematic of larger developments in international financial markets generally. Their behavior and modus operandi highlight some larger systemic issues and concerns for policymakers in both the host countries to these investor institutions and to the recipients. One is the question of whether or not hedge funds should be subject to closer scrutiny, regulation, and supervision. Opinion is clearly divided.

The United States subjects the large trading positions that are exchange-traded to certain oversight and reporting requirements so there is some modicum of transparency in the exchange-traded positions. But, over-the-counter trade plays a large and perhaps growing role. I think there is an issue both for policymakers and indeed for the participants in the markets and particularly those who finance hedge funds—banks and other large institutional investors—about whether or not they should have a bias in favor of exchange-traded transactions as against over-the-counter-traded transactions.

My personal view would be that policymakers have good reason to favor exchange-traded over over-the-counter-traded transactions, for two reasons. One, it is possible to have greater transparency when you have exchange-traded activities. Transparency, I do think, is a public good and something that regulators should strive to maximize in financial markets for the health of the markets. Part of that is that there is really no market pricing in many over-the-counter-traded instruments.

The staff paper talks about leverage and the vulnerability of counterparties to the hedge funds and how they can manage their risk vis-à-vis hedge funds. Paragraph 72 of the staff paper says, "In order to manage the credit risks associated with lending to hedge funds, prime brokers and banks mark to market daily their positions vis-à-vis hedge funds." However, how do you mark to market when there is no visible market? What happens is they mark to model. If there was one refrain that was repeated in last week's capital markets group visit to New York, it was that the models performed extremely badly in the Asian crisis, the mathematical modeling.

One very senior official in a very large institution said "risk management is in complete disarray," and that message came from others as well. There is a lot of reconsideration, shall we say, about how market risk should be managed, and part of that market risk has to do with counterparty risk, particularly in derivatives activities in which hedge funds do play a role. My very superficial sense is that there is going to be a lot more fallout in the investor community from this Asian crisis than we have yet perceived.

The other concern that many market participants expressed was that the linkages among instruments and markets turned out to be a lot tighter and a lot more direct than many of them had expected or that the models suggested, that "diversification" turns out to be a lot less than we thought." That, again, goes to the leverage and the kinds of instrumental "daisy chains" that the modern markets are creating. Hedge funds are obviously participants, but I do not think they are a unique or driving force.

For policymakers in the receiving countries, the question of how useful are capital controls and speed bumps and so on, I think a lot of caution is in order. If you look at Korea, for example, the effort to shield the economy against intrusive direct investment and foreign investor direct control in the equity market led to the successive and very dangerous reliance on very short-term financial instruments. The Thai commitment to pegging the rate and holding that rate and the interest rate policy made shorting the baht a very attractive and profitable proposition. Somebody said that as late as May of last year it only cost about 3 percent to short the baht and it was virtually a fail-safe speculative position to take. So, you can set yourself up; you could make yourself a very attractive target. Sometimes trying to ward off foreign investors sets you up for a hit when you least expect it.

The ability of currency traders to take positions in the futures and options market can in fact be a protection against currency pressures. I think there is a big debate among the Mexican authorities, for example, about whether they were better off without a futures market and the peso, and in fact the authorities resisted that for a long time. But, again, if investors can take out an option against the currency, they may do that instead of simply selling their currency, which could trigger a crisis. So, having a deep futures market can in fact be a protection rather than a threat to currency stability.

So, in the end, from a policymaking point of view, one has to look at the broad market phenomena which the hedge funds are emblematic. I think probably at least we can set aside the focus and anxiety about hedge funds per se in future discussions.

Mr. Hansen made the following statement:

The issue we are discussing in the Board today first of all raises a question whether it was hedge funds that triggered, or precipitated, the Asian turmoil. Well, hedge funds are neither so large, nor so risky, nor such unique investment vehicles that they can be blamed for a currency crisis. The experience in the ERM, where they seemed to play a leading role, compared to

Mexico, where they did not play any role, and finally in the Asian crisis, where in Indonesia, at least, hedge funds took long positions and played a stabilizing role, indicated that hedge funds are not a one way threat to financial stability.

The size of the capital of hedge funds, which is between some 100 and 370 billion dollars, based on various estimations, falls very short to the giant mass of 20 trillion dollars that institutional investors manage. Furthermore, it is only the macro funds, which bet on the macroeconomic developments, that are of primary interest for the purposes of this discussion, and they make up a less than significant part of the total population of the hedge funds. Of course, the leverage that is used by hedge funds should be recognized. Notwithstanding the size issue, we could equally well have a discussion here today about pension funds or internationally operating commercial banks or another major group of institutional investors rather than hedge funds, as they all are players of the same global game of finance, with certain different characteristics, among them being risk taking and investment strategies. However, for policy purposes, I would be reluctant to draw a distinction between hedge funds and other institutional investors.

In fact, it could be argued that risky investment vehicles, such as hedge funds, have been useful and innovative instruments that have helped advance the frontiers of international finance, thereby facilitating discipline and efficiency in financial markets. For example, one could argue that the ERM crisis helped convince EU countries to move all the way to a currency union. Also, the outcome of the Asian crisis will be stronger policies and structural reform.

There is no doubt that timely and comprehensive provision of information about authorities' policies and intentions would increase the quality of the decisions made by the market participants. But, more importantly, policymakers can best protect their economies by not offering one-way bets in the form of inconsistent policies and indefensible currency pegs. Here the lesson is that the policy content matters more than the policy framework, although the framework must also be sensitive to the market environment. In general, exchange rates and monetary policy, debt management, financial market regulations, and fiscal policy, should all acknowledge the presence of short term capital flows in the new environment of global financial markets.

Regarding supervision, on the surface, it may seem imprudent that hedge funds are not subject to reporting and disclosure requirements of the sort that typically apply to banks and mutual funds. However, the staff paper gives one a basis to believe that there is a sort of "indirect supervision"of hedge funds, if I can call it this. I have in mind the fact that creditors and counterparties of hedge funds, such as commercial banks, are well regulated and supervised, and they transfer these regulations and supervision on hedge funds through their own cautious lending arrangements and operations with prudent risk limitations. The placement format, and the high wealth individual principle, have been considered sufficient. In any case, apart from banks and institutional investors, there are other investors that perform essentially the same function as hedge funds, some of which are individuals or family groups.

I think the danger here is that "over-supervision" might reduce the opportunities available to risk seeking investors on the edge of the risk reward frontier. It is not at all clear that such explorations always lead to bad outcomes; efficiency and growth are words that also come to mind when the stakes are high. Even if it was possible to impose unified supervision among the core croup of countries where hedge funds operate at present, it would be easy for such entities to move around geographically and carry out their operations in cyberspace. However, no matter where hedge funds are located, they will always need counterparts in the countries where they have an interest. Thus, it seems to me that prudent and uncompromised supervision and regulation of the domestic financial markets is of crucial importance in dealing, albeit indirectly, with the hedge funds.

Mr. Taylor made the following statement:

I do not think most of us were necessarily expecting anything very dramatic from this paper, but that, in no sense, is to be critical of it. I think the paper constitutes a very valuable clearing of the air, and that was a necessary and useful function. I think it is a useful addition and update to the stock of knowledge. Suitably edited, I cannot see why it should not be published; I would be in favor of that. I want to add extremely little to the discussion, because, as so many people have said, if there are issues here, they are of a much more generic kind, not specific to hedge funds, and they can perhaps be picked up in some discussions that we have got coming down the track, presumably including the capital markets seminar.

Just a couple of points. On information, it is very difficult to see why lower standards should apply to this kind of activity than others, which appears, to some extent, is the case. On the other hand, as I feel more strongly every day, more and more information means more and more information to absorb. The processors of information are pretty concentrated. Combined with the impact of technology, this does seem to lead somewhat to a diminished diversity of opinion and a concentration of instant decision making.

It is interesting to me that the subject of technology has not been the preoccupation today that it was a few weeks ago at the Willard meeting, for example. There is one particular form of herd behavior that I think is rather troubling, and that is the behavior of the rating agencies. I would like to join Mr. Zamani in the suggestion that these might be the subject of some examination at some reasonably early stage. As Mr. Spraos said, there are some troubling aspects of the situation to the naked eye, but I am not sure that they are best pursued in the context of hedge funds. I am interested in some of the ideas that he has put up to the staff, and I would be very interested in what the staff has to say about that.

One final point, and that is that hedge funds have now such a high profile that I expect they have access denied many other people. The managers associated with the highest profile funds almost certainly command the attention of bureaucracies and politicians. I wonder to what extent that gives them access to information not generally available to other market participants.

Mr. Milleron made the following statement:

I will also try to be brief; so many things were presented. We have a very interesting paper, and it is especially valuable because we are on an issue in which the concepts may not be so clear, information is rather poor, and the conceptual framework itself has to be made more precise. I would like to comment very briefly on these various themes.

First, the concept of hedge funds itself may not be perfectly clear; it is noted in the report and many people around the table mentioned this. Certainly the staff has to be commended for providing us with a definition. I tried to imagine whether or not I would be capable, with this definition, to say if a given fund is a hedge fund or not; I am not sure that I could do it. Perhaps the definition such as it is today is a kind of—may I say—residual category; and it is not neutral from a political point of view. If my interpretation is correct, we are on an issue in which we are talking about a possible scapegoat, and the scapegoat is the residual category. Is it correct to present it this way? I would like you to react about this.

The second type of remark or consideration is data. We do not have any data by size, if I am right and if I read the report. Is it really impossible to try to have data like that? It seems to me that when we discuss the possible behavior vis-à-vis the market, manipulating the market, knowing if really especially important agents could play a special role, it would be very useful to have such data if they could be made available.

I was also impressed by the table on page 19 of the Selected Issues paper. It is a table that presents hedge funds by domicile. Am I correct if I say that approximately 46 percent of hedge funds are located in offshore centers? Maybe that is not the case only for hedge funds. I would like to know whether there are determinants for that other than fiscal considerations. And should it not be taken into account if we think of a kind of prudential policy that possibly should be defined by the international community? Should this type of consideration be taken into account?

Third, and finally, let me say that, as far as I understand, certainly there are interesting works that are mentioned in this report. It is a very difficult theoretical issue, the problems of general equilibrium, in which you realize that you can have nonexceptional cases of multiple equilibria. We know that it is very difficult to manage in terms of policy; it could have deep consequences.

So, we have to be careful and we may have to accept the idea that there is a normal lag between the emergence of new theories and models and the implementation and translation in terms of policy orientations. Let me try, however, to address two or three of the questions that are mentioned in the end, the main issues for discussion, and I will conclude with that.

For me, from a static point of view, the answer to the first question raised in paragraph 124 is yes, no doubt the emergence of many international investment vehicles has to be considered as a positive aspect in the overall picture. However, I would like to raise a question at this point. Is it not a kind of decreasing return to scale in sophistication of financial products, and is there not something to say about that? Second, I like the document, because it takes the right approach of instead of going too far in defining categories, it takes the points of what is the behavior of investors or agents, and it is sufficiently policy-oriented.

So, I would say also yes, probably drawing a distinction between hedge funds and other institutional investors makes sense from an analytical point of view, if, in the definition, it is explicitly said that these hedge funds have much less—may I say—leverage constraints than other comparable types of actors or agents. But there remains the difficult question, evidently, of volatility. Mr. Spraos was perfectly right when he said that it was a crucial one.

Finally, the question of the provision of information concerning macro policies; it is very important, too. I would say in general, from that point of view, that information matters a lot. We probably should have that taken into consideration more in our overall picture. There are certainly relationships with what the Fund is doing with surveillance from that point of view, but it is not the only aspect. But there could probably be much more to develop on the role of information in our analysis of today.

Mr. Disanayaka made the following statement:

The staff paper on hedge funds is indeed informative and educative. We thank the staff for providing this useful paper, even though more appears to be still necessary in this area where information itself is quite not so comprehensive. I would also like to, at the outset, support that the study should be, if possible, extended not to hedge funds but to the picture of short-term funding. The market for short-term funds is a very important area, very interesting area. We may dovetail these studies into our surveillance exercises as well. I would support that hedge funds have to be studied in the context of the overall short-term liquidity flows, though I am aware that hedge funds take long positions as well as short positions, but still what is most important is their effect on short-term capital flows into these markets. I would wish that we encourage the staff to do a little more broader study, as Mr. Spraos and several others said, in the area of short-term capital flows in the context of not only hedge funds but other institutional investors as well.

This is a very complex subject. It is very difficult to come to any conclusions as to whether hedge funds serve any useful purpose in financial intermediation or only look for economies that are weak and that could be hit with considerable profit to the owners of the funds. These are areas where there is still some uncertainty.

It seems from the paper that, in the overall context, hedge funds may be having a limited role to play. However, the leverage that they would have in the market is quite considerable, as is seen from Paragraph 24 of the paper. As the hedge funds try to balance risks to a certain extent, they would also be playing a role to stabilize the volatile system, and one would not be worried about the hedge funds making profits in the process. It is only when the hedge funds start using the financial leverage to take advantage of an economy which may be on the brink of a crisis that their role in triggering one could become significant, like the herd itself was on edge, as Ms. Lissakers said quite clearly.

As by their very nature, hedge funds operate in not too transparent a manner. Whether they could enter a market which is small and create problems for them is an issue which requires to be analyzed further.

Paragraph 77 of EBS/98 states that hedge funds were active in the 1992 ERM crisis. But Paragraph 78 admits that the volume of transactions remains unknown. The paper goes on to add in Paragraph 80 that hedge funds did play a significant role in the bond market turbulence in 1994. Even in regard to the southeast Asian crisis, it could be assumed that hedge funds were active in these countries as a substantial amount of capital inflows had been taking place, and such capital movements could have taken place only on the expectation of high returns. As hedge funds normally look for high returns, they would have definitely been operating on not an inconsiderable scale in these markets. Paragraph 87 clearly states that hedge funds participated in the transactions in East Asia, although it is remarked that they were not dominant players. While it could be true that they were not dominant players, whether the operations of the hedge funds triggered the crisis is not clear. Perhaps more work may be required in this area in the coming years. So, I think the demystification process has to be studied a little bit further. It may be a little too early to pronounce the result, pronounce a judgment on them. I think our studies in the coming years will unfold as to how these players, among others, were instrumental in creating a certain amount of trigger.

As regards whether there could be international regulations for these hedge funds is again a subject which requires a more detailed study, as there seems to be differences in the reporting standards prescribed by the developed countries. In view of the free flow of capital that exists among the industrialized countries and large size of their financial markets, these countries would have found their existing rules governing hedge funds sufficient. It is not clear as to whether such rules are at all in existence in the emerging market economies. Even if the basic requirements of a reporting system are not there, it would be difficult for these economies to keep track of the activities of these funds, particularly when they move toward capital account convertibility. It would therefore be in the interest of everyone to undertake a more detailed study of the operations of these funds, particularly in the developing economies, including emerging market economies, and also to analyze the existing rules and regulations which may be applicable to them, and the modifications that may be required for purposes of establishing transparency in their operations and also to know the extent to which they are playing in the market.

I would add that this is a very important area where market information is very necessary. I know it is not easy for the home country analysts to know how they are operating the hedge funds. But I think for purposes of host country operations, these operations are very important. Some framework has to be built up for the host country operators so as to know, at least to some degree, how these hedge funds are operating as much as other short-term funds are operating. For that purpose, adequate mechanisms have to be developed.

Mr. Mirakhor made the following statement:

These are very good papers, and I support their publication. I associate myself with Messrs. Zamani and Abdullah, but would like to reiterate two points raised in their statement. Emphasis should be given to sound and prudent macroeconomic policies as well as to the availability and transparency of reliable and timely information on government policies. This is however only one side of the requirements for a well-functioning financial market. Less emphasized, but equally important, is the need for a mechanism that enhances disclosure and provision of timely, accurate, and transparent information on the part of market players, of which hedge funds are a component.

The second point relates to Mr. Spraos's comment concerning the importance of today's topic because of its bearing on the question of capital account liberalization. In this context, as Mr. Mori suggests, there is a need for consideration of possible control mechanisms that provide prudential safeguards against surges in short-term capital flows.

I have some queries that require staff clarification: the papers repeatedly note that accurate and reliable information on hedge funds activities are generally lacking. From the papers, and also from other literature, I understand that nonavailability of information is a constraint on empirical studies on the role of hedge funds in the Asian crisis. Therefore, my understanding of paragraph 120, page 55 of EBS/98/10, that .". existing empirical evidence directly relating hedge funds activity to price volatility is slim to nonexistent.." to mean that there is really not enough information for empirical studies to discern the extent of the role of hedge funds in the Asian crisis. I am therefore surprised to note that some colleagues have interpreted paragraph 120 to mean that "there is no evidence that hedge funds played a critical role in the Asian crisis." If my understanding is correct, it would require a leap of logic to drive such concrete conclusion from the available information.

Such conclusion could lead to assertions that unsupervised and unregulated hedge funds activities in the exchange market may in fact be good because they drive currencies "toward a level consistent with their fundamentals." This argument would be analogous to suggesting that the virus attacking a body with a weak immune system is good because it will drive the body toward a final, steady state equilibrium.

I like the coverage of the regulatory framework in the United States and the United Kingdom. Mr. Singh has already raised the issue of coverage of this type of framework elsewhere. Finally, lacking is also a comprehensive assessment of the efficacy of the U.S.A.'s and U.K.'s regulatory framework and the need, if any, to enhance or strengthen it.

Mr. Costa made the following statement:

At the outset I would like to thank staff for a very stimulating set of papers. I will only make three brief points on the general structure of the paper, on the main players we should look at in the event of a crisis, and finally on the impact of the macroeconomic policies of industrial countries.

First, although the paper prepared by staff conveys the idea that the hedge funds do not represent a disturbing factor in international financial markets and that they may even contribute to more stable markets, in the end this finding is rather inconsequential because what really matters is the fact that international financial markets are indeed subject to a high degree of instability and uncertainty. Therefore, if today we have eliminated a culprit we should be careful not to fall in the error of believing that we have eliminated the problem. The paper does at times fall into this sort of confusion because once you have stated that hedge funds are not a critical factor in financial market developments and that the position that can be taken by them pales in comparison with the position-taking capacity of other players, there is not much use in going through the investor protection, market integrity and systemic impact characteristics of hedge funds.

Indeed the paper becomes somewhat simplistic when it says that hedge funds do not pose a systemic risk because banks say so. In fact, banks are precisely the ones we should be looking at in order to assess systemic risk, particularly the proprietary desks of investment and commercial banks. In the same vein questions on greater transparency, or raising margins and collateral requirements regarding the operations of hedge funds, lose relevance in view of their actual role, besides other reasons listed in the paper.

Second, regarding the main players, it is clear that banks are the critical ones. However, it is also important to highlight the fact that, as pointed out in the paper, particularly during a crisis as confirmed by both the Mexican and Asian experiences, domestic market participants and not international investors played the leading role in triggering such crises. Domestic residents are certainly better positioned to assess the relevant information. I believe this is an important finding that points to the importance of political factors. It could be suggested that when domestic residents lose confidence in the government's commitment to implement sound and consistent policies, then the preconditions for a crisis are created. This may explain, incidentally, why mathematical models of risk assessment have performed badly in the Asian crisis, as Ms. Lissakers has just reminded us.

Third, an important finding of the paper is that currency crises can be traced back, among other factors, to the macroeconomic policies of major industrial countries that have resulted in an extended period of high international liquidity. Low interest rates in industrial countries are normally followed by surges in capital inflows to emerging markets, where returns and investment opportunities are higher. Notwithstanding the beneficial effects of financial flows derived as a straightforward extension of the well-known welfare-enhancing effects of international trade, sizable capital inflows to emerging markets are likely to exert significant upward pressure in the prices of financial and real assets, the real exchange rate and the current account deficits.

Economic authorities of emerging markets are left, therefore, with the dilemma of how to handle too much of a good thing while avoiding excessive domestic absorption and particularly an excessive appreciation of the domestic currency. Resorting to a tight monetary policy and sterilized foreign exchange intervention to avoid the latter is not a sustainable policy for emerging markets. Indeed, the authorities do not have the freedom enjoyed by major industrial countries to use monetary policy to advance their domestic goals, be them growth or the health of their banking system, without worrying over the impact on the exchange rate. As the paper shows, the origins of the Asian crisis are not unrelated to this benign neglect with respect to the exchange rate in major industrial countries.

Resorting to fiscal surplus as a way of containing domestic absorption is not too promising. Although a sound critical position is needed, it does not suffice to counteract the effects of capital inflows since the relative size of the public sector in emerging markets is much smaller than in industrial countries, the political costs of large surpluses are high and a large fiscal surplus may even stimulate further inflows. Therefore, given the lack of sustainable macroeconomic policies available to emerging market countries to cope with surges in capital inflows it is important to search for regulatory measures as little distortive as possible to avoid either excessive inflows or the effects of sudden reversals. It is essential in this regard to strengthen banks' regulation and supervision so that they may be in a position to withstand temporary spells of very high interest rates when needed. At the same time clear procedures to deal with liquidity and solvency problems of the banking system and the corporate sector, including effective bankruptcy laws, are required.

It may also be necessary to limit the ability of international investors to put on and take off positions with a minimum of transaction costs. In this regard the reserve requirements of Chile is a good example. It represents a sunk cost that severely affects the short-term profitability of the positions taken by investors and motivate them to look at the fundamentals of the economy rather than to the short-term arbitrage opportunities.

Finally, as other Directors, I am in favor of publishing these two interesting papers after taking into account the comments raised in today's discussion.

Mr. Daco made the following statement:

The staff usefully demystifies a topic on which much has been written. Indeed, hedge funds are sometimes suspected of being the central forces inspiring major currency attacks. The staff shows that this image is to a great extent false: hedge funds are relatively small, have no better information than other participants, often follow the markets instead of leading them, sometimes take long positions and occasionally lose money during episodes of market instability.

But even if the paper does demystify some aspects of hedge funds, much is still unknown. Their precise size is unknown. Estimates of their capitalization vary from $81 billion to $370 billion. Data on the size of their market portfolio are even more scanty and can only be estimated based on other estimates, of their leverage and the extent to which they use derivatives. Assuming, for the sake of argument, that leverage and derivatives make market portfolios worth three times the initial capital, and starting from the highest estimate of capital, namely $370 billion, then the value of the hedge fund portfolio could be as high as $1 trillion—a figure which is not so small by comparison with the $20 trillion that represents the total assets of other investors in mature markets. Such reasoning undermines somewhat the staff's argument that the limited size of hedge funds gives them only a limited ability to dominate the markets, especially the emerging markets' ones.

With all this in mind, I thank the staff for their insights into these complex issues, but am cautious about using their analysis as a basis for firm conclusions concerning the issues under discussion. Let me take up these issues in the order used in the staff paper.

Does the proliferation of international investment vehicles have a positive effect on global financial markets?

Hedge funds, like other investment vehicles, help make markets more efficient. By providing capital to the international financial markets, they make them more liquid and help them grow. Their investment activities provide signals that help improve price formation. In rare instances, however, hedge funds can lead the markets into speculative bubbles, cause them to overcontract, and increase markets volatility. These episodes are clearly detrimental to market efficiency, but except for the ERM crisis of 1992, there is evidence that hedge funds have not played much of a role in the major crises of recent years.

It is not in hedge funds, then, that we should seek the causes of market turbulences. A better way to avert market overreactions is ensuring that macroeconomic policies remain sound and consistent and that financial markets have a constant flow of candid information about countries' economic situations and prospects. We should explore the possibilities in this area further. The inquiry into the impact of hedge funds and other investment instruments on market efficiency also confirm us in our view that capital account liberalization is an appropriate objective but one which must be pursued at a pace suitable to the depth and maturity of the capital markets in individual countries.

Is it useful for policymakers to distinguish between hedge funds and other institutional investors?

On the one hand, the flexibility and relative freedom from regulation make hedge funds significantly different from other institutional investors.

On the other hand, the growing role of hedge funds is clearly not an isolated phenomenon. Their proliferation is part of a broader trend in which the capital markets and nonbank financial institutions of all kinds are playing a greater role in the process of international financial intermediation.

Would greater transparency about the operations of hedge funds, their counterparties, and their creditors significantly alter the dynamics of financial markets?

Information on hedge funds is very scanty. Greater transparency of hedge Fund activities can only enhance our understanding of market dynamics and market functioning, and help us identify and avoid potential problems. Of course there are limits to what information disclosure can achieve because hedge funds change their positions quickly and because it is difficult to ensure compliance in a global environment, but this is no reason to abandon the idea of improving reporting requirements for hedge funds but also for all off-balance sheet liabilities of commercial banks, and central banks.

Would the more timely and comprehensive information concerning macroeconomic policy and financial regulations limit the herd behavior?

Better information on countries' economic situations and policies is the key to better stabilization of market movements. The recent Asian crisis illustrates that poor information led to delays in deciding on the necessary adjustments, and the indecision greatly weakened market confidence in the region.

The staff also analyzes the possible effects of hedge funds on systemic risk and whether systemic risk policy should extend to hedge funds. Regulators in the United States and the United Kingdom are currently satisfied with the existing arrangements, since the institutions that act as counterparties to hedge funds are adequately managing their exposure to the latter. Mr. Shields has underlined that this argument might be oversimplified. I am also certain that regulators in these countries are aware that the capital belonging to "funds of funds" represents about one-fourth of all hedge Fund capital, which entails the risk that problems in one Fund may spread to the rest of the hedge Fund industry.

Limiting the positions taken by hedge funds in domestic financial markets would help reduce speculative asset-price booms and sudden reversals of capital movements, though attempts to control capital flows may have negative effects and slow the growth of capital markets. But since there are cases where significant damages were caused by market fluctuations, and cases like Chile's where capital controls were useful, further in-depth analysis of the topic is warranted.

In concluding, it may be said that we are only at the beginning of understanding and analyzing this phenomenon of globalized markets, as others have already noted.

Mr. Heinbuecher observed that his chair agreed with the points made by Mr. Askari-Rankouhi and Mr. Shields.

The staff representative from the Research Department noted that the staff had been cautious in drawing conclusions on the behavior of hedge funds, in view of the limited data available. Also, the available information was subject to large margins of error. Some of the shortcomings, such as the problems associated with offshore entities and unreported central bank liabilities, were familiar ones and came up generally in the context of international macroeconomic and financial issues. But, while data on positions were limited, other data were readily available. Thus, for example, the data on monthly returns of different hedge funds were either provided by the hedge funds themselves or were readily available to those with a Bloomberg or Reuters screen. In the case of some of the large macro funds, the data were reported on a monthly basis via the commercial services. But, in trying to ascertain the behavior of hedge funds, it was necessary to model their behavior based on correlations between observed exchange rate movements and the returns on different kinds of hedge funds. The assumption was that, if a hedge fund had taken a large short position on a currency that depreciated subsequently, it would record a profit. The results of some of those exercises were contained in the background paper. He would caution against drawing firm conclusions from those exercises alone; they should be combined with the information gleaned from market participants, regulators, and from other sources. With those caveats, he would move on to address the questions raised by Directors.

On the issue of limiting position taking by hedge funds, he would note that, as hedge funds were heavy users of credit, raising margin and collateral requirements would disproportionately affect them compared to other market participants, the staff representative continued. However, it was questionable whether it would be practical to impose such limits. As the staff had noted in the paper, hedge funds could circumvent those requirements by locating in jurisdictions where the requirements were lower, or they could locate offshore, and obtain credit offshore and provide it to a related enterprise onshore. Regulatory requirements on margins varied according to the type of instrument—they were higher on equities than on government bonds in the United States. Higher margin requirements on hedge funds could lead to greater use of derivative instruments, designed to circumvent those higher margin requirements.

As to whether higher margin requirements would increase or reduce market volatility, it should be noted that the empirical evidence from the United States—where margin requirements had been periodically raised and lowered—was inconclusive, the staff representative noted. In the wake of periods of market volatility, the relevant regulatory authorities had moved to raise margin requirements, which came into operation during less volatile periods. Therefore, it was difficult to tell whether the higher margin requirements were the result of higher volatility in markets or the cause of less volatility.

In response to Mr. Levy's question on the feasibility of reporting on over-the counter transactions, it ought to be possible to obtain data on those transactions if the authorities and the exchanges in question were willing to provide it, the staff representative considered. But it was important to emphasize that many of the relevant institutions were private and were therefore self-organizing exchanges. At the same time, some such data were already being collected. Since 1990, the Securities and Exchange Commission had been obtaining data on over-the-counter transactions on a confidential basis from various counter parties, in particular on the volume of their derivatives business. It should therefore be possible to do the same for currency spot and forward transactions.

It was difficult to generalize about whether hedge funds had played a large or small role in various market fluctuations, the staff representative noted. In some cases, hedge funds had been early to take positions; in others, they had been late. In some episodes of market turbulence, they had made profits; in others, they had lost money. The staff's finding was that, in the case of Thailand, compared with other institutional investors, hedge funds had not been early in taking a short position on the Thai baht. The evidence suggested that their positions might have been large, but they had been late to take those short positions.

On the issue of systemic risk, particularly risks associated with hedge fund counter-parties, it should be noted that, as hedge funds were heavy users of derivatives, it was particularly difficult to assess the systemic risks, the staff representative stated. However, macro funds—which were operating in currency markets—tended not to use complex derivatives, but relied mainly on "plain vanilla" instruments, whose characteristics were well understood for risk-analysis purposes. It was difficult to tell whether hedge fund managers had better access to information owing to their prominence. The same could be said for portfolio mangers of commercial and investment banks and managers of pension and mutual funds.

Some of the commercial services did provide data on individual hedge funds' capital under management, the staff representative noted. The data were, however, incomplete, as they were based on the willingness on the part of the hedge funds to part with that information. Moreover, it was questionable whether the information was meaningful, as hedge funds relied to a large extent on leveraging their capital—and hedge fund managers provided only limited information on that. That was related to the point made by Mr. Daco, namely, whether it was fair to regard hedge funds as small players compared with other institutional investors, considering the size of their capital and their considerable use of leverage. That was a valid point, and the paper emphasized the considerable diversity within the hedge fund industry. Only a small fraction of hedge funds invested overseas, and of those only a small minority invested in currencies. Much of the capital under management was in funds that concentrated on mergers and acquisitions in the United States and in market-neutral funds that invested in only one country.

The staff had noted in the paper that the regulatory authorities in the United States and in the United Kingdom did not see the need for significant changes in regulation of hedge funds on grounds of investor protection, market integrity, or systemic risk, the staff representative stated. The staff had spoken not only to banks—which might be sanguine about risks—but also to regulators, and had concluded that regulators considered that there was a need to strictly enforce existing regulations, and not to add new ones.

Another staff representative from the Research Department noted that the 1998 *International Capital Markets* report would focus heavily on the recent experience in Asia, taking a broad look at who the major players in the crisis were, how the crisis had evolved, as well as at the systemic policy issues that had arisen in the wake of the Mexican crisis of 1994 and the Asian crisis. Some of the issues raised by Directors would also be covered; in particular, the role of credit rating agencies—whether they had been leading market participants or lagging behind them—would be examined. The report would also discuss the role of controls and prudential regulations to manage short-term capital inflows, and would examine the experience of Chile and other countries that had used controls on short-term capital flows. The staff would also look at the question of capital adequacy requirements and the management of risks in financial institutions.

In response to a question by Mr. Hansen, the staff representative from the Research Department noted that hedge fund managers had indicated that tax and fiscal policies were important considerations in their decisions to locate offshore. The decision to locate offshore was also prompted by their desire to minimize reporting to the relevant regulatory agencies.

Another staff representative from the Research Department added that often hedge funds were located in offshore centers, but most of their activities were conducted in London or New York. While the fiscal issues and reporting requirements were important considerations in the decisions on locating the hedge funds, it should be borne in mind that they continued to do most of their business in the major financial centers.

Mr. Disanayaka asked whether the staff planned to study further short-term capital inflows.

Another staff representative from the Research Department noted that the staff would be looking at the role that short-term capital inflows played in the Asian crisis, as well as the issue of prudential regulations and/or capital controls in the capital markets study. Considerable empirical research was being done on the role of controls in limiting capital inflows, which included the Chilean experience and the experience of other countries. The staff would examine that literature in its report.

Mr. Spraos considered that there should be some way to limit the migration of hedge funds to offshore centers. He wondered, in that context, whether the Fund could promote universal rules that might be applicable in offshore centers, or whether it would be possible for regulators in onshore centers to impose more stringent requirements on leveraging that was based on borrowing onshore. Possibilities of that sort should be explored.

The Acting Chairman made the following summing up:

> Directors welcomed the opportunity to discuss hedge funds and financial market dynamics in a world of increasingly integrated capital markets. They felt that events taking place in East Asia rendered timely this discussion of the activities of hedge funds and institutional investors more generally.
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> Directors stressed that information on hedge funds is limited. Hedge funds, as private investment pools, are not subject to most of the reporting and disclosure requirements applicable to banks and mutual funds. This makes it difficult to construct a comprehensive enumeration of hedge funds, much less

to assemble information on their activities. More fundamentally, Directors noted the analytical and definitional difficulties of clearly demarcating the boundaries of the hedge fund industry, and therefore of estimating its size. They emphasized the difficulty of generalizing about its activities, given the great diversity of investment strategies pursued by fund managers. Some Directors, pointing to the fact that hedge funds are only one among many institutional investors and engage in many of the same activities and use many of the same instruments as other investors, suggested that issues regarding regulation and monitoring to secure market integrity should be discussed from a broader point of view, to include all institutional investors.

Directors noted that several commercial services gather information on the industry. Excluding funds of funds, such estimates suggest that hedge fund capital was in the neighborhood of $100 billion as of the third quarter of 1997. Of that, some $25 billion was in the hands of macro funds, which typically lever their capital through borrowing by a factor of 4 to 7. Directors also noted that, in comparison, the capital of other institutional investors, such as investment and commercial banks in the mature markets alone, exceeds $20 trillion.

Against this background, Directors expressed differing views on the impact of hedge funds on market dynamics. While agreeing that hedge fund capital is only a small fraction of liquidity in global financial markets, several Directors emphasized that the positions taken by highly leveraged hedge funds can be large relative to the scale of smaller emerging markets. They also noted the relative freedom and flexibility of hedge fund activities. Some Directors also argued that hedge funds can play an important role in encouraging herding behavior among investors, while others saw only limited evidence that hedge funds contributed significantly to herding, and noted their potential role as contrarians or stabilizing speculators.

Directors had differing views on the extent of the involvement of hedge funds in the Asian crisis. Several Directors did not see clear evidence that hedge funds were earlier than other investors to take short positions against Asian currencies, or that their trades were necessarily a signal for other investors to follow. They noted that while hedge funds had large short positions on the Thai baht, the same does not appear to have been true for Asian currencies in general. Because some governments and central banks employ capital controls and moral suasion to limit the ability of offshore counterparties to borrow domestic currency from onshore banks, other investors with better access to the domestic broker market may have been in superior positions to act as market leaders. This points to the likelihood that the entire constellation of institutional investors, and not merely hedge funds, had played a role in the market fluctuations of 1997.

A few Directors suggested that hedge funds had played a more important role in the recent crisis than indicated by the staff's paper, arguing that hedge funds at times had a strong effect on asset prices, particularly in light of the relative size of their positions in local emerging markets. However, Directors generally agreed that recent developments highlighted the need for policymakers to pursue sound and prudent macroeconomic policies that are transparent to markets, in order to protect their economies against sharp market volatility and speculation. In particular, they underlined the importance of avoiding offering one-way bets in the form of inconsistent policies and indefensible currency pegs; of maintaining strong, well-regulated, and competitive financial systems; and of providing timely and comprehensive information to the public about government policy and private sector financial conditions. While recognizing the role of better information about macroeconomic developments and policies in limiting herding behavior, several Directors, however, cautioned that experience suggested that the disclosure of market-sensitive information could on occasion trigger or exacerbate market volatility.

Directors expressed diverse views on whether hedge funds should be subject to additional regulatory and disclosure requirements. Some argued that hedge funds are already subject to appropriate disclosure requirements on large trades and positions, as established by government authorities and by self-regulating futures exchanges. In their view, given the relatively scant evidence of market failure associated specifically with hedge funds, the case for adopting new regulations is slim. A number of Directors, however, indicated that further options need to be explored to render hedge fund operations more transparent and assure officials and market participants that hedge funds are not dominating or manipulating markets. A few Directors called on the Fund to take a more pro-active role in promoting such transparency for all institutional investors and in helping to ensure the stability of international and regional financial markets, and suggested that consideration be given to an SDDS-type mechanism for greater transparency of financial market players and transactions. Some Directors warned that hedge funds are only one part of the larger constellation of institutional investors, so that any system of detailed portfolio and position reporting, to convey useful information, would have to encompass, inter alia, commercial banks, investment banks, insurance companies, and pension funds as well.

Some Directors suggested extending large trade and position reporting systems, such as those that already exist in the United States. They noted, however, that such reporting systems are more difficult to implement in an over-the-counter environment such as that of the foreign exchange market. Pointing to the crucial role to be played in such reporting by the emerging markets in which hedge funds are most active, Directors noted that, to be totally effective, reporting requirements would have to be applied by all countries. Otherwise, market participants who regarded reporting as onerous could simply book their transactions offshore.

A few Directors suggested that enhanced disclosure requirements could be combined with a policy of mandating minimum margin or collateral requirements to limit position taking in periods of market volatility. Several Directors again noted, however, that such requirements, to affect the operation of the markets, would also have to apply to banks, pension funds, and insurance companies, among others, and not merely to hedge funds.

Directors generally agreed that the staff paper, with appropriate revisions to take account of Directors' comments, should be published.

DECISION TAKEN SINCE PREVIOUS BOARD MEETING

The following decision was adopted by the Executive Board without meeting in the period between EBM/98/21 (3/2/98) and EBM/98/22 (3/3/98).

2. EXECUTIVE BOARD TRAVEL

Travel by Executive Directors as set forth in EBAM/98/44 (2/27/98), by Advisors to Executive Directors as set forth in EBAM/98/44 (2/27/98), and by an Assistant to an Executive Director as set forth in EBAM/98/42 (2/25/98) is approved.

APPROVAL: February 11, 2000

SHAILENDRA J. ANJARIA
Secretary